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Editorial

For the first time in many years, VETNET publishes a collection of short papers in an edited book of proceedings, which is available online and as a printed version. VETNET has had a long tradition in making ECER presentations and full papers open to a broader public. So, what's the purpose of having "a real book"? We see it as an opportunity for VETNET to increase the visibility of current research in vocational education and training - and as an opportunity for its researchers to talk about planned, ongoing and finalised pieces of work. VETNET lives, if knowledge is shared, discussed and challenged by others. The people involved are ready to cross boundaries in their theoretical and methodological thinking and acting.

The papers included in the 2018 ECER proceedings from Bolzano are written by established and well-known researchers, by doctoral students and early career researchers. They tell stories about young people and adult learners in vocational education and training, about institutional actors, teachers, trainers and coaches, and about the political, economic and social conditions that shape school-based and workplace learning, and teaching and training in initial, higher and continuous VET. Altogether, the papers reflect the rich culture of VET and VET research in Europe and abroad. The proceedings align with other activities of VETNET within EERAs annual ECERs and beyond.

Having the proceedings ready before the conference was an ambitious goal. We thank all the authors and co-authors for sharing their valuable insights into current trends in vocational education and training research.

Bolzano, 4 September 2018

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Decision-making Processes Among Potential Dropouts in VET and Adult Learning[1]

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Abstract

In a current project (2017-2020) about dropout among 18-24-year-old students in VET and basic general adult learning the aim is to study the students' thoughts and actions in relation to deciding to stay in or drop out of an educational programme. The study combined two sets of data: weekly student surveys and interviews with these same students. While the surveys provide a weekly snapshot of the students' thoughts regarding the probability of them continuing in the programme, their satisfaction with the educational programme as a whole, the specific lessons they attend, and the atmosphere at the school, the interviews contribute with detailed descriptions of the students' thoughts on the same matters. Findings: Based on the students' answers over an eight-week period, it was possible to trace a graph illustrating changes in the students' attitudes. These graphs can be placed within four categories of development: the stable, the positive, the unstable, and the negative. The latter can furthermore be differentiated as reflecting a stable decline, a fluctuating decline, or a sudden decline. In the interviews, the aim was to elicit the individual students' thoughts and actions at the points when their graphs took a turn. Conclusion: The findings show that the students' thoughts and actions concern matters both inside and outside the school. Furthermore, seemingly trivial matters in the students' lives are shown to have a potentially decisive influence on the students' thoughts about staying in or dropping out of a programme. These findings confirm the importance of focusing on students' decision-making processes not only in research on dropout but also in practice as inspiration for teachers and guidance counsellors.

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[1]   The paper is a shortened version of an article for IJRVET (Aarkrog et al., 2018).
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Keywords

dropout, decision-making, young adults

1   Introduction

Drop-out among young adults (18-24 years old) is high. A report from CEDFOP shows that dropout has been prioritized in EU policy since the adoption of the Lisbon strategy in 2000, the current aim is to reduce dropout for this group to below 10% by 2020.

Much of the extensive research about drop out focuses on institutional and individual factors and the relations between these, arguing that dropout must be seen as a long process (Alexander et al., 1997; Rumberger & Rotermund, 2012; Fine, 1991; Fine & Rosenberg, 1983; Brown & Rodriquez, 2009; Finn, 1989; Hodgson, 2007; Lee & Burkham, 2003; Archambault et al., 2009; Jimerson et al., 2000).

However, there is little research concerning students' decision-making processes in relation to dropout. The aim of the project is to improve strategies for preventing dropout by gaining knowledge about students' thoughts and actions related to decisions to stay in or drop out of an educational programme. The educational programmes included in the study are either vocational, situated in vocational colleges, or general, situated in adult education centres. The latter courses typically prepare for enrolling in VET.

The project concerns the following three research questions:

1. How do young adults in VET and general adult education typically decide whether they want to continue with the educational programme in which they are currently enrolled?
2. What leads students to change their minds about staying in or dropping out of an educational program?
3. What do students think and do during periods in which they alter their perceptions?

2   Methods

Theoretically, the project is inspired by the concept of teetering (Lessard et al., 2007). Teetering describes the oscillating processes in relation to decisions about drop out. Furthermore, the study of the students' decision-making processes is inspired by Harren's typology of three styles of decision-making. The styles illustrate the degree to which an individual takes responsibility for the process and to which this individual uses logic (the more rational), emotions and feelings (the more intuitive), or expectations of authorities and peers (the more dependent) as the primary approach in thoughts and actions during the decision-making process (Harren, 1979).

The empirical data includes surveys and interviews conducted with 31 students, who were enrolled in programmes at a total of six vocational schools and eight adult general education centres during autumn 2017. The purpose of the student surveys was to study, how the students' desire to continue in the specific educational programme develops over time. Assuming that the students' satisfaction with the programme in general, the lessons, and the atmosphere at the school has an impact on their desire to continue, a multidimensional construct was used including four questions:

1. How satisfied are you with this programme?
2. How satisfied are you with the lessons (the teaching)?
3. How satisfied are you with the atmosphere at the school?
4. How strong is your desire to continue in this programme?

The students answered these questions every week. Based on the students' answers over an eight-week period, it was possible to trace a graph illustrating changes in the students' attitudes.

The purpose of the interviews with the 31 students was to learn about their thoughts and actions at the points when the graphs changed. The interviews were semi-structured and concerned the students' thoughts and actions in relation to the fluctuations and directions of the graphs, including two lines of questioning reflecting the research questions above: 1. What happened at the time when you answered differently, i.e. when the graph or graphs changed? This included the students' explanations of the graphs showing answers to questions 1-3 in the survey, as well as referencing to other specific events at school or events occurring outside school, e.g. mental health or personal problems. (Research question 2 above). 2. What did you think and do at the time when the graph changed? (research question 3 above). Each interview was recorded, had a duration of ½ - ¾ of an hour, and was transcribed with a focus on the students' answers to these two lines of questioning.

3   Results

Based on an analysis of question 4: "How strong is your desire to continue in this programme?", four categories of development have been defined:

1. The stable development, i.e. students showing no development when comparing the initial position with the final position, values fluctuating slightly around the mean value (11 students).
2. The positive development, i.e. students who during the education become more certain that they will continue in the program (4 students).
3. The unstable development, i.e. students who oscillate however with no systematic change (4 students).
4. The negative development, i.e. students who at the beginning of the education have a high probability of continuing in the program, who however, become increasingly negative (12 students).

With a focus on the risk of dropping out, the study particularly focuses on the 16 students, who go through either an unstable development or a negative development.

Concerning the unstable development, the students in this category oscillate significantly over time in their answers to all four questions in the survey. They typically have problems both inside and outside school. School is to some extent perceived as a refuge when the external problems dominate. This can somewhat explain why the students stay in the programme.
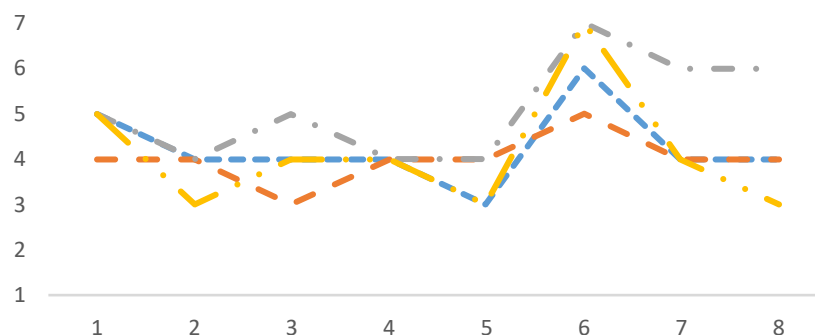
Note. Blue ••••••••••••••• : satisfaction with the programme; orange ▬ ▬ ▬ ▬ ▬ ▬ : satisfaction with the lessons, grey ▬ ▬ ▬ ▬ ▬ ▬ : satisfaction with the atmosphere; yellow ▬ ▪ ▪ ▬ ▪ ▪ ▬ : motivation to continue in the programme.

Figure 1   Mark, male student

The strongly oscillating graph characterizes students who are highly sensitive towards quite small changes, such as Mark, 22 years old (Figure 1), who is studying general subjects in order to enrol in an as yet undefined VET programme. Mark does not like maths lessons: "We have maths on Monday, and I answered the survey on a Monday, so I was just in a bad mood". Regarding his thoughts and actions in relation to the oscillating graph, he says: "I have good and bad days, often related to whether I can keep up academically; in particular with maths, which stresses me and pressures me emotionally. I might also have had a bad morning, or private problems, which depresses me; sometimes it is just trivial things. However, then I start to bunk off; I don't bother; I feel I'm wasting my time. I think that this doesn't make sense to me and I find something else to do. I feel blank."

The social atmosphere at school is crucial for Mark's satisfaction with the programme and his motivation for going to school and continuing in the programme, as can be seen in the sixth week, where the grey, the blue and the yellow graphs take the same upward direction. "I always think twice before just dropping out; I really like to be with my classmates." However, Mark is also influenced by other issues referring to his personality: "I want to be in control of my own life, and I need to obtain the qualifications". The teetering process for this student shows, on the one hand, that he is easily affected by 'trivial things' and that he is at risk of dropping out. On the other hand, he knows that he is in charge of his own life and that he is responsible for completing the programme. Mark completes the programme.

The category *negative development* has been divided into three subcategories: 'stable decline', 'fluctuating decline', or 'sudden decline'.

Concerning the "stable decline", the students generally struggle with problems both inside and outside school and suffer from physical or, most often, psychological problems. At the beginning of the programme, they are optimistic that they will continue. However, after a couple of weeks, the graph starts to show a decline.

Figure 2   Mona, female student

Mona (Figure 2) is 21 years old, has dropped out of several VET programmes, and is now studying a number of general subjects in order to enrol in a yet undefined VET-programme. Mona fairly easily gets into troubles with other people. Asked about the oscillating and downwardly sloping graph, she explains that in the fourth week she got into trouble with another girl: "I just did not want to be at school with that girl. I was away for two weeks because my grandmother died, and when I returned, I was told that she (the classmate) never wants to talk to me again." When asked about why the orange graph (satisfaction with the lessons) declines in the fifth week from 7 to 5, the explanation shows that she is involved in trouble among the girls in the class: "Someone from the class had told the supervisors that I and two other girls disrupt the lessons. I was called for an interview, and I just thought it was so creepy and that I would never do a thing like that (inform against somebody) to the others (classmates)."

Students with a *fluctuating decline* are sensitive towards events and experiences both inside and outside school. These can be positive but are mostly negative. A 22-year-old female student, Lila (Figure 3), has previously dropped out of several programmes and is now training for a qualification as a retail assistant. Lila suffers from psychological problems and in the third week when the yellow graph declines, Lila explains that she felt depressed: she could not get out of bed, she had problems falling asleep at night, and she began to doubt whether she would be able to complete the programme. She asked her doctor to adjust her medication, falling ill and staying at home for a few days.

Lila is influenced by the atmosphere in the class; the grey graph drops from 5 to 3 in the third week. She explains: "We don't speak to each other nicely in our class; classmates are rude to each other." She is also influenced by the lessons: in the third week, the orange graph declines from 7 to 5 and follows the blue graph in the fifth week, with the rating falling to 4. Lila explains: "We had too much teaching at the blackboard. A lot of us learn much better when we have the things in our hands. One of my classmates and I were allowed to work outside the classroom, and that helped me; I was back on track."
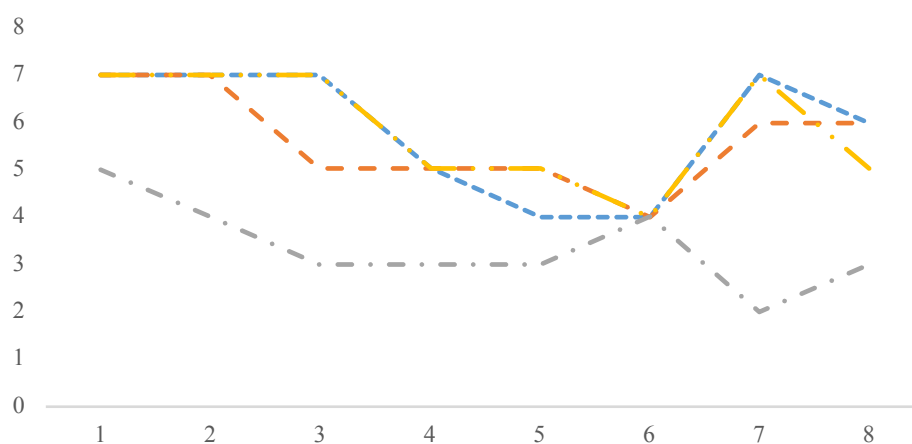
Note. Blue ················· : satisfaction with the programme; orange — — — — — : satisfaction with the lessons, grey — — — — — : satisfaction with the atmosphere; yellow — · — · — · : motivation to continue in the programme.

Figure 3   Lila, female student

Thus, Lila's oscillating graphs reflect a sensitivity to things like changes in teaching methods, meaning that the overall downward trend nonetheless shows fluctuations: having dropped from 7 to 4 during the first six weeks, the yellow graph climbs to 7 again in the seventh week before dropping to 5 in the eighth week. In Lila's case, psychological problems combine with her dissatisfaction and frustration regarding the classroom atmosphere and the lessons. She withdraws when she needs to consider her situation; she does not ask for help; she may listen to others' opinions, but she mostly listens to her gut feelings. At the time of collecting data, Lila has not dropped out of the programme.

Finally, a *sudden decline* means that the student's engagement appears stable for a period before suddenly declining significantly. Even though the students in this category perform quite well academically, they are unsure of themselves and have low self-efficacy, which may be due to a mental disorder. Like the other students with negative graphs, they do not take initiatives that might support them in continuing in their current programme.

Katja (Figure 4) is an 18-year–old girl who is training for a qualification as a painter and decorator. She lives in accommodation provided by the school and is performing well at school, the teachers having no doubt that she will be able to pass her exams. She has previously dropped out of another VET programme at the same school, where she neither had problems of attainment. She also thrives socially and feels at ease in the class. As the yellow graph (motivation to continue in the programme) shows, she is initially confident that she will continue; however, the graph already falls abruptly to 4 in the second week, rising gradually during the following weeks before suddenly falling to 1 in the eighth week. Asked about this abrupt drop, she says that she suddenly decided to drop out; however, she finds it difficult to explain why: "I thought about it a lot, but I did not have the motivation to go to school. Furthermore, I was sure that I would not be able to pass the exams. Rather stop than fail the exam". She wants to avoid a defeat, to play it safe and be the one who withdraws before she is told to do so.

Katja also argues for her decision by blaming the type of tasks that she would have to perform as a painter and decorator: "Sandpapering, standing on a ladder in windy weather; it's just not me. I want to work with wallpaper, colours, and patterns". She had the same kind of reasons for dropping out of the previous VET programme. Her explanations for dropping out during the interview do not entirely seem to fit the reality. She is good at schoolwork, and

according to her teachers, she would be able to complete the programme. Still, it seems as if she is easily out of the saddle, convincing herself that the right decision is to drop out. Her personal history may shed light on her thoughts, feelings and actions. She has suffered from parental neglect, as both her parents are drug addicts. She has difficulties making commitments, fearing that she will be let down. Furthermore, her problems with getting up in the morning, partly due to various physical and psychological conditions, result in a high rate of absenteeism. She tells that she takes anti-depressants and sleeps a lot. Katja drops out of the programme convinced that this is a wise decision. At the time of dropping out, she already knows which VET programme she wants to enrol in instead.
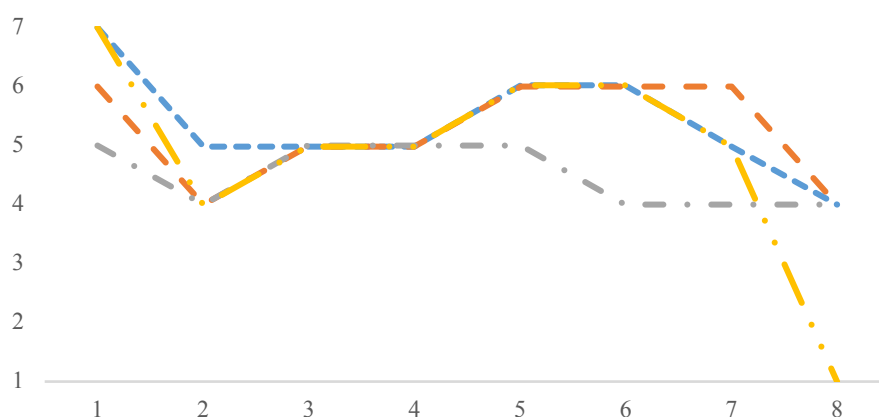
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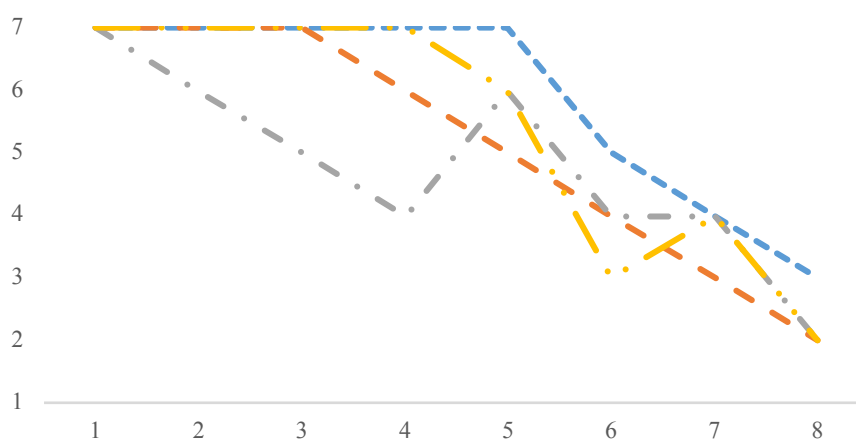
Figure 4   Katja, female student

Comparing the findings to Harren's typology of three styles of decision-making process - 'the more rational', 'the more intuitive', and 'the more dependent' (Harren, 1979) - it can be argued that many of the students' deliberations seem to be more intuitive than rational. Furthermore, the study points to the importance of taking the initiative to seek help in finding a constructive solution to one's problems. However, this needs to be tested in further research.

4   Conclusion

Based on 31 students' weekly responses to the question of their motivation to continue their studies, supplemented by three questions concerning their perception of the programme, the lessons, and the atmosphere at the school, the study explores the students' thoughts and actions in relation to events that have influenced their responses.

In line with previous research, the students' deliberations regarding whether to drop out or stay in their current programme can be described as a process influenced by a number of issues related to the school, current educational programme and to the students' lives outside school.

The results show that the students' responses follow different developments, some even and stable others sharp and abrupt, and yet others oscillating and turbulent. The study points to the importance of seeking help to find a constructive solution to one's problems. Some students will take the initiative to seek help; in other cases, the teacher or guidance counsellor will have to take the initiative to turn to the student.

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Learning in Simulation-Based Classes in Social and Health Care Programs

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Abstract

In a research project following a developmental project at five Danish social and health colleges, the aim is to study the students' opportunities for learning in simulations using robot dolls. Based on obser-views at the five colleges, the results point to issues in the three phases of simulation-based learning, briefing, scenario, and debriefing that are important for the students' learning. The important issue in the briefing is to establish safety through a thorough introduction to relevant theory and to the scenario room. In the scenario, the central issue is the balance between fidelity and disrupting of fidelity in relation to the students' opportunities for learning. Finally, in the debriefing, the central issue is to develop systematics for reflection. These matters are central in the further development of simulation-based learning and thus in the research project.

Keywords

technology-based simulation, social and health care, learning

1   Introduction

In a development project that is conducted in the period 2017-2019 at five social and health colleges in Denmark, the aim is to develop and try out simulation-based courses that will be based on technological simulations, i.e. using a robot, also called a mannequin or a doll. In a research project, which runs parallel to the developmental project, the aim is to study how the simulation-based courses influence the students' learning outcome. Learning outcome includes the students' motivation for learning and their ability to comprehend, reflect on, and apply the content of the courses in practice.

The first part of the study was a literature review (Aarkrog, 2018). This review shows that the phases of briefing and debriefing phases are crucial for the students' learning outcome. In the *briefing phase*, it is important that the students learn to identify the learning outcome targets to be reached during the simulation-based lesson (Chmil, 2016). Furthermore, the students should be introduced to the hybrid way of learning through simulation (Sjöberg et al., 2015) and finally, the activities in the briefing phase should have clear similarities with the activities in the scenario (Poikela et al., 2014). The *debriefing* should reflect what has actually happened in the scenario and be kept in a positive and direct form. It should enable the students to share knowledge to obtain a mutual perception of the patient's situation (Flatgård & Berg, 2016;

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Reime et al., 2016). Furthermore, the debriefing should ensure psychological safety (Edmundson et al., 2016, p. 66). Research about the *scenario* points to fidelity as the central issue. This includes physical fidelity referring to the physical context, conceptual fidelity concerning the relation of the elements in the scenario, and psychological fidelity referring to how much the simulation psychologically mimics real environments (Lioce et al., 2015).

In the developmental project the five colleges have developed the following six standards for conducting simulation-based teaching that include the three phases briefing, scenario, and debriefing:

1. Simulation environment: the rules for participating in a simulation. Before the simulation begins, the students should know the condition for acting in a simulation room, including the students' ethical and professional performance.
2. Simulation preparation: the students' qualifications; the students should have obtained the sufficient competences to be able to participate in the simulation, including the learning outcome targets for the simulation.
3. Facilitator: the teacher's qualifications; how should the teacher prepare herself for her role in the simulation? what are the facilitator's /instructor's or teacher's tasks in relation to the three phases briefing, scenario and debriefing?
4. Briefing: the contents of the briefing; the students should be informed about the contents of the scenario and the debriefing, including information about the learning outcome targets.
5. Scenario: the contents of the scenario; the students and the teacher should obtain knowledge about the scenario. Storyboard is used to describe the contents of the scenario and divides the scenario into five phases[1].
6. Debriefing: the contents of debriefing which includes that the students evaluate and reflect on their learning in relation to the learning outcome targets.

The research project includes all six phases however with a focus on the phases briefing, scenario, and debriefing. Thus, the purpose of the research project is to obtain knowledge about how simulation-based teaching influence on the students' learning including their motivation for learning and their ability to understand, reflect on and apply knowledge related to or included in simulation-based teaching. Furthermore, the purpose is to pinpoint challenges in relation to conducting the phases briefing, scenario and debriefing as well as in relation to the teacher's competences. Thus, the empirical data in the research project should provide information about the relation between the contents and forms of the three phases and the students' learning processes and outcome.

2 Methods

The empirical data includes obser-views at five social and health colleges (Kragelund, Moser, & Zadelhoff, 2015). Obser-view is a contraction of observation and interviews and implies that the researcher will first make observations and then conduct interviews with informants who have participated in the observed situations, the interviews being based on the observations.

The data-collection has included one obser-view at each of the five colleges. Based on the observation of the three phases briefing, scenario, and debriefing, a group interview was conducted with the students, who had participated in the simulation, i.e. two students treating the

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[1] Storyboard is a scheme that shows five phases of the scenario. The contents of the five phases reflect the learning outcome targets. Storyboard was developed by nurse Marjorie Miller.

patient and two students observing this. And individual interviews have been conducted with the teachers involved in the observed simulation.

3 Results

The results are structured in the three phases briefing, scenario and debriefing, including the standards 1-3 above, when relevant.

The observed simulation includes three phases, briefing (10 minutes), scenario (10 minutes) and debriefing (20 minutes. The briefing typically takes places outside the scenario room. The scenario and the debriefing take place in the scenario room. The teachers conduct the briefing and debriefing and observes the student in the scenario.

4 Briefing

In the briefing, the teachers give an introduction to the scenario and the debriefing. In addition, the briefing can include an introduction to the learning outcome targets. Observations of and interviews in relation to the briefing phase show that the teachers mainly focus on informing the students about the contents of the scenario and the debriefing. This includes introducing the students to the distribution of roles in the scenario, the time span for the scenario and to the equipment in the room. In one of the cases, the teacher refers to previous classes about topics related to the simulation.

According to the teachers, the students have been taught the relevant theory, e.g. COPD: Chronic Obstructive Pulmonary Disease, before the simulation, or they have been told to read about the theory (standard 2 above). Thus, at one of the colleges, the teacher has taught the students about the disease and its consequences a fortnight before the simulation. Asked about this, the students acknowledge that they have been taught some theory; however, they would like a brush up in the briefing. At another college, the teacher refers to the description of the case in which the students can also see the theory that they need to brush up in order to partic-ipate in the simulation. However, the students cannot recall to have been told to read this. Con-fronted with this, the teacher says that she need not tell the students to read it when they can learn that when reading in description of the case. Thus, the students and the teachers have different perceptions of the students' needs in relation to participating in the simulation. In general, the students would have preferred to be theoretically better prepared for the simulation.

A central issue in relation to simulation-based classes is safety in the simulation in partic-ular in the scenario and the debriefing. The interviews with the teachers and the students show that many of the students have reservations or even object to participate in the scenario and debriefing. Their main worry is that they make a fool of themselves in front of the whole class. In contrast to participating in classroom lectures, where the students to a great extent can choose to put up their hands, the simulations force the students to show their abilities. Another reason for the students' qualms is that the students have more respect for their performance in simulations because they are closer to tasks and situations in real life than is the traditional classroom teaching.

One way of establishing safety is to introduce the students to the scenario room and the doll before the actual scenario takes place (standard 1 above). The interviews with the students show that it has relieved some of their reservations to have met and touched the doll and the equipment that they will have to use in the scenario. Interviews with the students show that it is important for them before the simulation to have tried out the equipment, e.g. for measuring blood pressure. Actually, the students would prefer to have tried out the entire scenario before they enter the 'real' scenario.

The data shows that the students are not automatically motivated for simulation-based learning, even though many of the students in social and health care prefer to learn in practice. One of the teachers says: "*Most of the students will be opposed to this way of learning. It is*

transcendent for the students to participate in a simulation, partly because they are actors, partly because they are not ready to show their practical competences. The students fear to lay bare and to make a fool of themselves." Lack of motivation is related to the specific characteristic of simulation-based learning that the students are observed while interacting with the doll. They are observed by a teacher and in most cases also by the classmates. Sometimes the scenario is filmed. Furthermore, in simulation, the students are actors. They do not perform in real practices, as they would do in the workplaces; they act practice.

The results show that the briefing should predominantly focus on establishing safety in the phases scenario and debriefing. According to the students, safety includes a feeling of being competent, a feeling of self-efficacy and a feeling of being accepted by the classmates when making mistakes. The feeling of safety motivates the students for participating in the simulation, reflecting motivation theories by Deci and Ryan, where motivation relates to competence, autonomy and relatedness or Wlodkowsky's model for motivation that includes Inclusion, Attitude, Meaning, and Competence. In relation to this standard 1 and 2 are important. However, the activities related to these two standards should be repeated in the briefing or included in the briefing.

5 Scenario

The scenario typically involves four students. Two students treat the patient (doll), and two students observe the scenario and participate in the debriefing. The scenario room is furnished like a hospital ward with several beds. In one of the beds, a robot doll has been placed. A teacher is the doll's voice either placed in a technical room or placed at the head of the bedside. The scenario takes place at the bedside and begins when the student knocks on the door and enters the room. During the scenario, the student or students should accomplish a skill, e.g. assist putting on compression stockings as well as reacting to the patient's pains. Thus, the scenario focuses on the students' practical skills as well as their social competences.

In accordance with previous research, an important issue in relation to the scenario is fidelity. The observations and interviews show that the students are able to fully involve themselves in the scenario even though it is a doll they are treating. Actually, the students think it is easier to perform professionally in the scenario with a doll than with a classmate acting as a patient. One of the students even says: "*The doll is more lively than the classmate.*" When a classmate plays the patient, the students are more likely to burst out laughing, and they have difficulties in ignoring that fact that they are playing roles. Furthermore, they do not trust the student's knowledge about the decease. The fact that the teacher sits at the headboard doing the voice of the patient does not compromise the students' professional involvement in the situation.

However, fidelity depends on whether the technology works. The teachers at the five colleges do not have much experience with technologically based simulations, and one of the students observes: "*It was also the first time for our teacher, managing the sound and the camera…*"

If the doll suddenly stops breathing or rather making breathing sounds, the students and teachers step out of the scenario. In one of the observations, the teacher was doing the voice-over from the technical room. In the first part of the scenario, it was difficult to hear what the teacher said, and the student lost concentration on the doll and looked in the direction of the technical room. A few minutes later, all of a sudden, the doll made a very loud motor-like sound. This made the students and teacher laugh, and the scenario stopped. In the second round of the scenario, the teacher chose to sit at the bedside. This positively influenced the fidelity of the scenario. Thus, it is important for maintaining the fidelity of the scenario that the teacher is conversant with the technology. Even though it is a doll and a simulated situation, technical

problems will spoil the sense of realness in the simulation or the acceptance acting in simulated situations instead of a real situation.

Another central issue concerns the opportunities for learning in the scenario as well as in disruptions of the scenario. The students have a feeling of learning while acting in the scenario; when asked what they learn, it is difficult for them to recount what they have learnt apart from recalling what happened in the scenario, one student says: *"In the scenario, I leant to put on compression stockings. It reassures me that I have tried it, even though there were nails in the leg. It is so much better for me to try it out myself."* Interacting with the doll the students also communicate with the doll: *"You can see that the patient (= the doll) is getting worse and you try to do something and communicate with the patient to see if it helps. You will not learn to communicate until you are in the situation".* The scenario provides opportunities for trying out skills, manual or communicative skills. As in a real praxis, the students are being thrown into the situation.

Without disrupting the scenario, the teacher doing the voice-over may guide the student in the scenario: The doll, i.e. the teacher says that it is difficult to breathe; the student does not know what to do about this. The doll says: *"I had another social and health care assistant yesterday and she placed a pillow under my arms, and that helped a lot."* The student smiles and places pillows under the doll's arms. In the interview with the students, they express satisfaction with the teacher doing the voice-over instead of a student doing this. One of them says: *"It is good that the teacher and not the students do the voice of the doll. The teacher knows much more about how the patient reacts, and she can direct us to try out specific things. I was challenged which I would not have been if a student had done the voice-over."* However, it is important that the teacher sticks to matters that the patient would be likely to say. If not, the teacher disrupts the scenario.

The students also learn in disruptions of the scenario; the disruptions are instigated by the teachers as well as the students. The students disrupt the scenario if they are at a loss, asking the teacher for help. The teacher may also disrupt the scenario in order to guide the student; e.g. to find the right equipment. In the observed cases, the purpose of the disruption was never to make the students reflect on their performance.

In the interviews with the students and the teachers are asked about their opinion on disruption. The students' opinions differ in accordance with their perceptions of their competences in the scenario. If the students perceive themselves to be able to accomplish the tasks in the situation, they prefer a non-stop scenario: *"It would confuse me if the teacher made an interruption; I did not even notice the teacher during the simulation and neither the teacher who spoke for the doll."* At another college, the students do not feel competent in the scenario, and they ask the teacher to guide them. This kind of disruption which is due to the lack of competence among the students seems to be tied up with a lack of respect for maintaining the fidelity, a lack of seriousness in performance. Asked about whether the student noticed that the teacher did the voice of the doll, he says: *"I certainly noticed that."* Asked about the importance of wearing social and health care uniform in the scenario the same student says: *"It is not important in a simulation; in real life it is important".* In the debriefing, this student jokes about a situation in the scenario. In the interview he reflects on this: *"Maybe I should not have joked. However, afterwards, I am in doubt how that was perceived if it was all right. If I had had more introduction, I would perhaps not have made fun."* Thus, the student relates his feeling of incompetence with his lack of respect for the simulation.

Summing up, the students' performance in the scenario depends on the theoretical and practical introduction to the simulation. At one college, where the students have received a relatively thorough theoretical introduction, they perform in the scenario without disrupting the scenario. At another college, where the students have not been introduced to the disease, the

student hesitates, has little self-confidence and disrupt the scenario several times in order to ask advice from the teacher.

Likewise, familiarity with the scenario room and the doll before the scenario influences the students' performance. If the students have had an introduction to the scenario room having said hello to and touched the doll, they act more confidently in the scenario and without disruption than students who have not had that introduction.

6   Debriefing

In the debriefing, the teachers follow a standard that the five colleges have developed. According to the standard, the agenda of the debriefing includes three kinds of questions. First the teacher asks the students to describe what happened in the situation, then the students should analyse what happened including theoretical knowledge, and finally, the students should reflect on how next time they will perform in similar situations.

A central issue in relation to the debriefing is the difference between the students' expectations and the teacher's focus. Even though the teachers emphasize that the simulation is not an exam and that is okay to make mistakes, the students express a need for feedback. One of the students says: "*Wonderful to be reassured and be praised.*" At the same time, the students do not want the teacher to be too critical. The teachers are keen on not criticising the students and on letting the students reflecting and concluding. During analysis, the teacher checks the students' theoretical knowledge related to the scenario.

The students who have observed the scenario express that they learn a lot in the debriefing, perhaps because they were not performing in the situation and are therefore are not vulnerable, being not in focus for critique.

Concerning the teachers' competences that observations show that it difficult for the teachers to make students stick to each of the three phases of the debriefing. Furthermore, it seems too difficult to practice systematic reflection.

7   Conclusion

The results of the empirical study confirm the issues raised in earlier research in relation to the three phases briefing, scenario, and debriefing. However, the study also points to issues that should be further investigated.

In relation to the *briefing*, the main issue is how to make the students feel safe in the scenario and the debriefing. This includes the students' feeling om competence and their familiarity with the scenario room.

In relation to the *scenario,* the main issue concerns the balance between fidelity and learning. The fidelity of the scenario is influenced by two matters: that the technology works and that the students feel competent in the scenario. However, the issue to be studied is how disrupting fidelity influences the students' learning.

In relation to *debriefing*, the central issue is how the process of reflection should be accomplished in order to support the students' learning, including feedback on their learning process.

Standard 3 about the role of the facilitator is the central standard in the sense that the teacher/facilitator should be able to guide the students in accordance with the particular demands in the three phases.

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Success and Dropout Pathways in Vocational Education and Training

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Abstract

In this paper, we present the design, development and first results of the research project "Success and dropout pathways in vocational training educational system levels 1 and 2" which we are currently conducting in the region of Valencia (Spain). This project has as main objectives generating knowledge about Vocational Educational Training (VET) level 1 and 2 focusing on their students and the conditions that facilitate or hinder their educational itineraries and providing proposals aimed at reducing dropout at these levels. On balance, we expect to analyse the possibilities and limitations of these programs as a policy to deal with the school dropout and the early school leaving in our educational system. The first results obtained through the analysis of statistical data allow us to make a map of the educational offering of VET level 1 and 2 in the region of Valencia. In this regard, the distribution of the programs gives us information about the differential access that students have to the educational resources of the region. This is not only closely related to the educational and professional pathways, but also to the production and reproduction of social and educational inequalities within the educational system.

Keywords

school dropouts, vocational education and training, transitions, longitudinal studies

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1 Introduction

One of the most critical indicators of the Spanish educational system is the rate of Early leavers from education and training. In fact, our country has one of the highest rates of the European Union. More precisely, on the basis of the statistics offered by Eurostat, the rate in our country was 18,3% in 2017, while the European average was situated in 10,6%. However, Early leavers in Spain reached a peak ten years ago with the outbreak of the financial crisis, a crisis that had a serious impact in the social and political field (Table 1).

Table 1: Early leavers from education and training in EU28 and Spain (2007-2017) (% of the population). Source: Eurostat

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
EU (28)	14.9	14.7	14.2	13.9	13.4	12.7	11.9	11.2	11.0	10.7	10.6
Spain	30.8	31.7	30.9	28.2	26.3	24.7	23.6	21.9	20.0	19.0	18.3

As shown in Table 1, this indicator has been reduced since 2008, when it reached 31.7%. This leads us to one key idea to situate students' pathways in the socio-historical context they take place: the options they may find in the labour market seem to have a deep impact in the decisions they make in order to continue or leave their training. But this does not mean that it is a conjunctural situation: the Spanish educational system faces a continuous tendency in the rate of Early leavers that turns this problem into a structural situation that finds peaks at certain moments in which the economy improves or worsens.

Nevertheless, it should also be highlighted that the training and labour options that Early leavers may access to are quite limited due to the certificate they may obtain (or not) after their short educational biographies. In this regard, as the last report on the Spanish youth shows (Benedicto, 2017), the educational certificate obtained is still –even in the current situation of widespread precariousness– a protective factor in the school-to-work transition.

In order to face this alarming situation, the fight against Early school leaving and School dropout has become one of the main objectives of the strategic framework Education and Training 2020 (ET2020). In this regard, the common EU objectives set to address challenges in education and training systems[1] include: making lifelong learning and mobility a reality, improving the quality and efficiency of education and training, promoting equity, social cohesion, and active citizenship and enhancing creativity and innovation, including entrepreneurship, at all levels of education and training. With these challenges in mind, one of the most significant benchmarks refers to the rate of early leavers. More exactly, it is said that it should be below 10% in Europe, while in Spain the target is established at 15%.

This interest confirms the Spanish and EU's concern for post-compulsory training as a key in the transition processes between training and employment, since compulsory schooling is necessary but not sufficient to guarantee social and labour inclusion in the frame of active citizenship. Thus, the educational administrations maintain as primary objectives in the educational field the reduction of school dropout and early leavers rates and the increase of the educational level of the population. In this sense, they have incorporated comprehensive practices with which it is intended to address the diversity of educational situations and needs, as well as facing the most exclusionary dynamics of school. This has meant a diversification of the educational experiences and the itineraries generated. In a global sense, these experiences have to be understood in the socio-historical context that frames them and that we define as flexible

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[1] http://ec.europa.eu/education/policy/strategic-framework_en

capitalism (Alonso, 2001; Sennett, 2000). This context requires the internalization of some social patterns, such as adaptability or flexibility for the justification of success and failure in the labour and social inclusion. Therefore, we frame the educational itineraries and the school-to-work transitions in this context (Casal, García, & Merino, 2007; Tarabini, Curran, Montes, & Parcerisa, 2015). As researchers, this situation is on the basis of our interests to analyse the educational system and the pathways it promotes from a perspective of social justice (Abiétar López, Giménez Urraco, & Navas Saurin, 2016).

1.1 Researching Vocational Education and Training

Post-compulsory training and more precisely, Vocational Education and Training (VET), is key in our educational system as it promotes the options of continuing education. In this regard, the structure of our educational system allows the students who complete their compulsory path to continue in VET. In the case of those students who have not graduated (by obtaining the Secondary Education Certificate), they may access VET level 1 ("*Formación Profesional Básica*", Basic VET). This level enables continuity in level 2 ("*Ciclo Formativo de Grado Medio*", Intermediate Vocational Training and Educational Cycle). The students who obtain the Compulsory Certificate may directly continue in Level 2. This level enables access to Higher VET ("*Ciclo Formativo de Grado Superior*", Advanced Vocational Training and Educational Cycle).

The options of developing an educational path within the VET structure is considered a political strategy to reduce Early School Leaving and, at the same time, to improve the educational level of the Spanish population. Due to its relevance, the research we are presenting here focuses on studying success and dropout pathways in VET in order to produce knowledge that may foster successful educational proposals. With this aim, we are replicating the state-funded project Success and dropout pathways in Vocational Education and Training in Spain (EDU2013-42854-R) in the region of Valencia. The main project is led by the research group "Education and citizenship" of the *Universitat de les Illes Balears* (Spain). The *Universitat Autònoma de Barcelona* is also participating in replicating the project in their region. The project started in 2014 for a period of three years. Moreover, our specific research in Valencia is framed in a cooperation agreement with the Education Department of our region, which was signed in 2016 for a period of three years.

It is also worth highlighting that the choice of the region of Valencia as a territory of analysis is based on previous studies from the human geography field that show that Valencia is a representative geographical context (Azagra & Romero, 2007; Pitarch & Uceda, 2015). Moreover, the inclusion in the fieldwork of the whole region allows us to broaden the scope of our research, including populations that are not usually represented in VET studies and therefore adding value to this research project.

2 Methods

The longitudinal methodological strategy of the project is one of its greatest strengths, as it is a fundamental approach when analysing pathways and transitions because it "contributes to a better understanding of the biographical processes of young people" (Casal, Merino, & García, 2011, p. 1150). Our methodological strategy includes the following quantitative and qualitative methods:

1. Analysis of statistical data related to enrolment and graduation in levels 1 and 2 of VET in the region of Valencia.
2. Passing out questionnaires to students of these levels for two consecutive years. These questionnaires contemplate the students' engagement by specifying it in the four dimensions affective, cognitive, behavioural and academic (Appleton, Christenson, Kim, & Reschly,

2006; Reschly & Christenson, 2012). Moreover, they include sociodemographic characteristics, current educational and/or labour situation of the students, biographical aspects, and aspects related to the VET program.

3. Development of discussion groups with students and teachers in order to analyse the results obtained in the questionnaires and to study in depth the causes that lead to success or failure in educational itineraries.

In the design of the project we stratified the sample according to three criteria: first, the professional family, where we emphasize that there is the presence of the entire catalogue of sector branches in the region of Valencia except for 3 of them in Vocational Training level 2 and 8 in Vocational Training level 1. Secondly, we consider the geographical distribution, using as criteria the locations that are inside or outside the metropolitan area of the city of Valencia. The third criterion is the ownership, differentiating private centres (and subsidised as well) and public ones.

According to the official data provided by the *Conselleria d'Educació* of the region of Valencia, in October 2016 there were 21,246 students enrolled in Vocational Training Level 2 and 5,288 in Vocational Training Level 1. Having this data on the basis of the design of the sample, 1,240 questionnaires were collected in level 2. This means that the real error of the sample is approximately 2.7%. The sampling points have been distributed among 43 educational centres and 85 classrooms. In Level 1, 737 questionnaires have been collected, which means that the real error of the sample is 3.35%. The sampling points for this level have been distributed among 41 centres and 71 classrooms.

3   Results

We are presenting here the results obtained throughout the analysis of the statistical data regarding enrolments in VET. We combine these results with the information about the geographical location of the educational organizations that are involved in this training. This allows us to make a detailed description of the educational offering of VET level 1 and 2 in the region of Valencia. By so doing, we attempt to connect the training provided in a specific region with the youngster's pathways and the social participation they enable. First all, we present a description of the enrolments in both levels considering the professional branches of the programs (Figure 1 and 2).

The analysis of both graphs shows that there is a greater presence of quite theoretical professional branches, such as Administration and Management or Information and Communications Technology. This leads us to question whether the available educational offer responds to the interests that the students may have. This question is key to assess the engagement towards the studies they are studying. Therefore, it is considered as a strategic axis in the development of our research.

Moreover, it is worth stating that the professional careers offered are closely related to traditional "working class" jobs in terms of position (for instance, assistants) but also in terms of the sector they belong to. In this regard, there is a lack of training in new employment niches, such as those related to environmental issues. Therefore, the educational proposals to encourage maintenance at these educational levels should also be aimed at assessing the offer in terms of the relationship with the socioeconomic context in which students will perform their transitions to the labour market.

Focusing on the geographical distribution, the location of the programs presented in Map 1 (for level 1) and Map 2 (for level 2) gives us also some relevant information to know how VET is developed in the region of Valencia. More exactly, the distribution of the programs (organized in six groups in order to facilitate the reading of the maps) shows that young students of Valencia have differential access to the educational resources of the region.
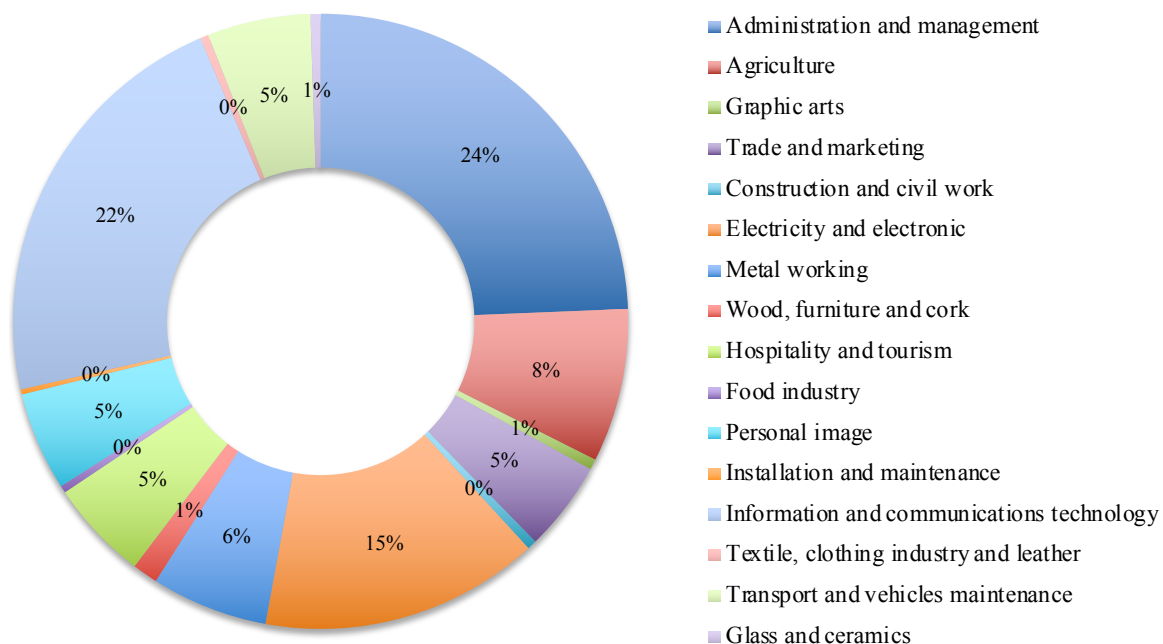
Figure 1   Enrolments of students in VET level 1 in the region of Valencia by professional branches, 2016-17
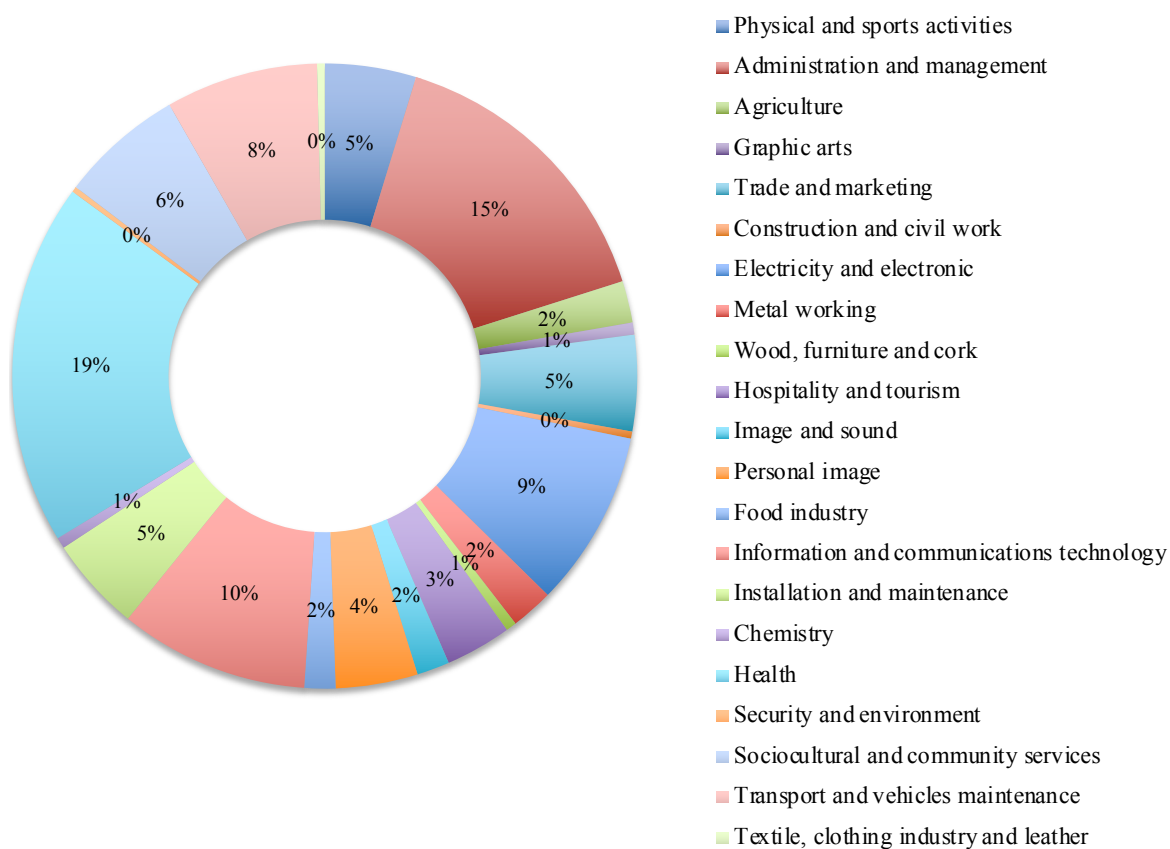
Figure 2   Enrolments of students in VET level 2 in the region of Valencia by professional branches, 2016-17
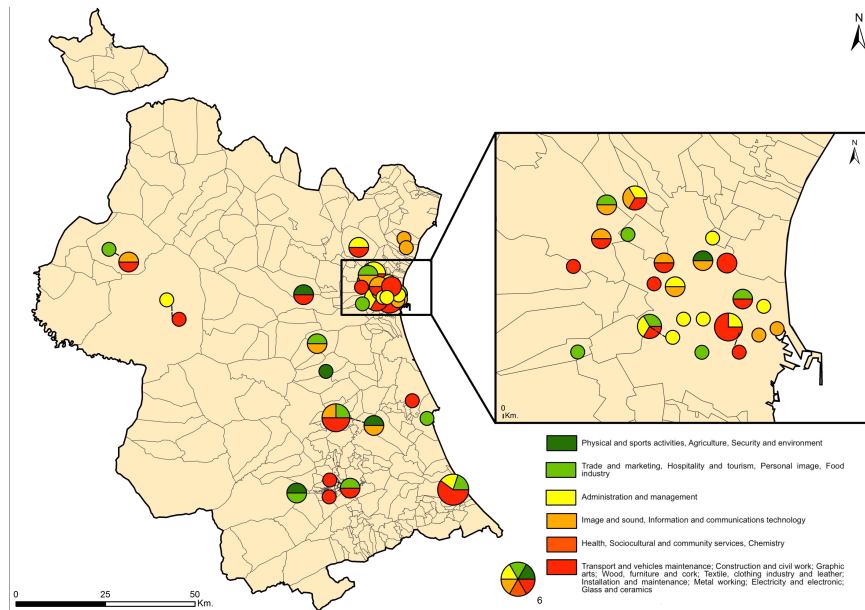
Map 1   Geographical distribution of VET programs (level 1) in the region of Valencia, 2016-17
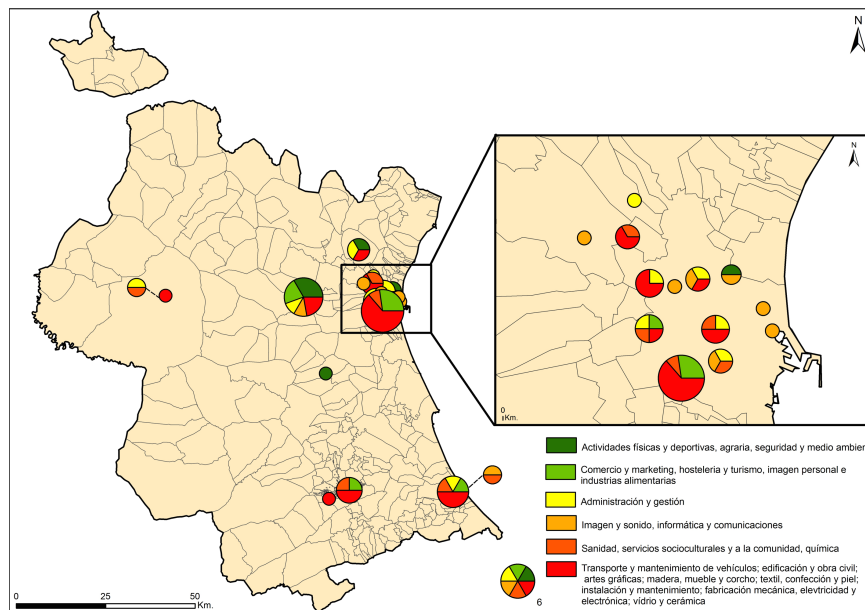
Map 2   Geographical distribution of VET programs (level 2) in the region of Valencia, 2016-17

This differential distribution is not only closely related to the educational and professional transitions enabled by the educational system, but also to the production and reproduction of social and educational inequalities. In this regard, not all the students have the same options to develop a professional career because, as stated in the first interviews conducted, there is a lack of mobility policies to enhance that students move to different locations.

Overall, both the available offer and its location lead to see that the political planning of VET in the region of Valencia produces an inequality of opportunities for their students. Of course, it is difficult to think that an education system designed for a whole population can serve the particular interests of each student, but it is also true that the policy planning could facilitate a more comprehensive system in terms of accessibility. In the same vein, we could also think of a revision of the programs offered in order to favour their closer relationship the territory, not only in terms of business demand but also regarding the opportunities that the characters of the territory may offer to develop career professionals.

4   Conclusion

Vocational Education and Training in the Spanish educational system offers students the possibility of developing careers that may improve their chances of a professional transition. In addition, as a policy to address school failure, it can be considered as a mechanism to favour the inclusion (social, labour and educational) of those students at risk of educational exclusion.

The results presented in this paper allow us to make a first, wide description of the situation of VET level 1 and 2 in the region of Valencia. In this regard, we want to emphasize how the political conditions in the development of VET (more exactly, the offering and its location) may have an impact on the pathways of the students.

The distribution of VET in the region shows that the opportunities of the students may be quite different due to the accessibility of the offer in terms of professional branches available and their location. This leads to the need of rethinking how VET is developed considering the careers offered to the students. Our firsts conclusions of the on-going project we are presenting here point towards the need of reconsidering the professional careers offered: Are they related to their interests? Are they related to the territory? Are they equal in terms of accessibility? These issues, which arise from the analysis of the data, are on the basis of our research. Moreover, we consider that they are fundamental to understand pathways in VET. Therefore, we aim to answer them considering several agents involved: the students we will follow for three years and the teachers and managers of the educational organizations. After all, these questions lead us to focus on the changes needed for really foster social and labour inclusion, just as suggested as a key benchmark of the strategic framework Education and Training 2020.

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Practices Promoting Inclusion of Adult Students with Disabilities in Kazakhstani Technical Vocational Education and Training Institutions (TVETIs)

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Abstract

Kazakhstan through its State Program on Education Development (2016-2019) has set a goal to make 80 percent of TVET Institutions inclusive by 2019. Although, the government adopted a number of international policy documents and reaffirmed its willingness to promote inclusion, adults with disabilities are still underrepresented within TVETIs. On the other hand, the extent of inclusion of Kazakhstani TVETIs is unknown. Therefore, the purpose of this study is to explore practices promoting inclusion of adults with disabilities within Kazakhstani (TVETIs). The study will attempt to answer this overarching research question: Which teaching practices promote inclusion of adult students with disabilities in Kazakhstani Technical Vocational Education and Training Institutions? The following sub-questions will help to answer the main research question: How is inclusive education understood within TVETIs? How is the inclusion of adult students with disabilities applied in TVETIs generally? Which practices are known to promote inclusion of adult students with disabilities in TVETIs internationally? Which of those practices could be applicable to Kazakhstani TVETIs and how those could (if necessary) be promoted?

Keywords

adults, disability, inclusion, TVET, students and colleges

1 Introduction

Departing from the Activity Theory by Engeström (2001) as a lens, this qualitative study will adopt Collaborative-Action-Research (CAR) as a research design. The participants will be selected conveniently to form a collaborative action research team composed of faculty and students. The research data will be collected in four phases of Action Research, i.e. Planning, Observation, Action and Reflection. During an action research cycle, the data will be collected by means of focus-group discussions, observations of lectures, interviews, document analysis and diaries. Triangulation of findings from the literature as well as empirical data will be

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conducted in order to achieve trustworthiness. The data will be analyzed through group interpretative data analysis and inductive analysis of all sets of data.

The study will develop the conceptual framework of inclusive education and contribute to the development of research methodology of Action Research design. The significant contribution of this study is that it applied Activity Theory as the facilitator of research where the CAR is the tool for implementing changes and Professional Learning Community (PLC) is the vehicle to explore inclusive teaching practices. In this study, PLC is a collaboration of five TVET teachers and the researcher who is continuously looking for learning opportunities; share their learning for developing the individual and joint capacity of the community with the aim to improve learning to students. Such approach connecting CAR and PLC within Activity Theory contributes to implementing meaningful changes in Kazakhstani TVETIs by maintaining inclusive education to adults with disabilities during their lifespan. The recommendations of this research, if accepted, will help to raise the enrollment of the target group population as well as its graduates' employability.

After the dissolution of USSR in 1991, the government of independent Kazakhstan started establishing a democratic state. One of the priority goals was to accept diversities in education by providing educational opportunities to all people. Furthermore, the country reaffirmed its willingness to promote inclusion by signing a number of international declarations. The most important ones are The Salamanca Statement and Framework for Action on Special Needs Education (UNESCO, 1994), The Convention on the Rights of Persons with Disabilities (United Nations, 2006). After ratification on the international level, the government of Kazakhstan introduced changes in the Constitution of Kazakhstan by aligning its values to the global ones. For example, the article 14 of the Constitution of the Republic of Kazakhstan states that *"No one shall be subject to any discrimination for reasons of origin, social, property status, occupation, sex, race, nationality, language, attitude towards religion, convictions, place of residence or any other circumstances"* (Parliam, 1999).

Finally, the government of Kazakhstan developed the State Program of Education Development in the Republic of Kazakhstan (SPED 2011-2020) (MoES, 2010) which has set a priority goal to make 80% of colleges inclusive by 2020. Although, inclusive education for adults with disabilities was prioritized by the government of Kazakhstan and much effort was applied, adults with disabilities are underrepresented in TVET system. As evidence informs, only about 2000 students with disabilities, out of about 500 thousand students, study in TVET colleges of Kazakhstan (Nuralieva, 2017). Moreover, about 400 thousand adults with disabilities are unemployed in Kazakhstan. These people cannot find job employment because they lack skills to join the labour market due to insufficient access or exclusion from education. Out of this number, about 70% of adults with disabilities can be trained, according to the needs of the labor market and they can become active members of the society (Koskina, 2013). Training and education required for attaining qualifications and skills can be facilitated through TVETIs in Kazakhstan, provided their capacity is strengthened as well as special conditions for inclusion are facilitated. As an important component of inclusion, the barriers influencing the outcomes of education should be reduced. Then, the enrollment of students with disabilities in Kazakhstani TVETIs will grow up which will be witnessed in the near future. On the other hand, the extent of inclusion of Kazakhstani TVETIs is unknown. Therefore, the purpose of this paper is to explore what practices promote inclusion of adults with disabilities in TVETIs internationally? Which of those practices could be applicable in Kazakhstan?

2   International context of inclusion in TVET system

This section will explore the existing practices of inclusion of adult students with disabilities within TVETIs internationally, more specifically in developed and developing countries. Such approach will help to understand of the current stage of inclusion in the Kazakhstani context

because comparison to global context will help to reveal the areas which need attention in order to promote inclusion of adults with disabilities within TVETIs.

Attitudes and values of different stakeholders play an important role in promoting inclusion within TVETIs internationally. They differ from different stakeholders depending on the context, more specifically whether it is developed or developing country. The governments of these two groups of countries consider TVET education as the path leading to job-employment and as the chain connecting employees with employers. As for the students, the empirical researches conducted by Malle, Pirttimaa and Saloviita (2015), and Webb, Bathmaker, Gale, Hodge, Parker and Rawolle (2017) reveal that students with disabilities in developed countries, the UK and Australia, use TVET education not only for the purpose of joining the labour market but as the "the back door to higher education". In other words, such particular students stay in TVET with the purpose of joining to higher education afterwards. They do it because such students do not fit the enrolment requirements of universities and they have chances to be enrolled to them after TVET education. As for the students in developing countries, such as Ethiopia, they join to TVET education in order to attain qualifications and skills which raise their chances to job-employment (Malle et al., 2015). Mostly, their aim is a meaningful job-employment and not the transit to further educational institution. As this paper claims the students' values differ internationally, the students from developing countries consider TVET education as the vehicle to the labour market, while the students from developed countries consider TVET education as the loophole to higher education. At the same time, the teachers and educational institutions have to accommodate the educational needs of the target group population regardless of their values and purposes.

According to empirical research conducted by Malle et al. (2015) in developing countries, such as Ethiopia, the staff was not ready to accommodate educational needs of adults with disabilities because of the teachers' lack of skills. The target group students highlighted that the education was not accessible to them, for example, the formats of materials and lessons were developed without taking into consideration their special educational needs. For these reasons, adult students with special educational needs could not participate and gain a meaningful benefit of study.

The other aspect, the TVETIs could not provide assistive technologies and learning materials which promote inclusion to students with disabilities in Ethiopia. Due to insufficient supply with accessible learning stuff the learners experienced barriers which restricted their ability to learn.

In addition, environmental barriers, such as the entrances of the buildings and sidewalks caused difficulties for navigation for students with disabilities in Ethiopia. The research argues, teachers who did not know how to accommodate the educational needs of adults with disabilities created environmental barriers. For example, wheel chaired students were seated in the class which is far from the entrance and difficult to reach. This example reveals that institutional barriers could create environmental ones, or sometimes they go together. Meanwhile, the environmental barriers were not mentioned by students with disabilities in developed countries. The extent of development of countries has put TVETIs into two different paradigms with completely different problems in nature.

Although there are various or even different cases from one country to another, the issue of access of people with disabilities to employability through Technical Vocational and Education Training (TVET) is crucial in both developing and developed countries. In developed countries, different stakeholders such as the government, employers and teachers promote inclusion which is focused not only on studying but further job-employment of students with disabilities after graduation.

People with disabilities have rather high employment opportunities after TVET in Australia. Policies providing incentives to employers coupled with support on the workplaces

helped to achieve inclusion of adults in employment. According to Australian Bureau of Statistics (2015), the number of people with disabilities is about 4.3 million or 18.3% out of the total population, and about 53.4% out of this number have employment.

As the section argues, there are huge differences between TVET in developing countries, Ethiopia as well as developed countries Australia and the UK. The differences of inclusion of adult students with disabilities relate to barriers and access to education, institutional structures, staff preparedness, funding and attitudes of learners towards TVET education. The students with disabilities in Ethiopia still face various barriers related to access to buildings, curriculum which the Australian and the UK students do not. As a result, the employment rate is low in developing countries in comparison to developed ones.

There are two reasons of low engagement of students with disabilities, first, because of the institutional and environmental barriers and second, the education is not aligned with employers' expectations in developing countries. Overall, the quality of education suggests that graduates of TVET in Ethiopia have less employability than their counterparts in Australia and the UK. It means that TVET institutions of developed countries have stronger ties with the employers than Ethiopian TVET colleges.

Collaboration of employers with TAFEs in Australia and FECs in the UK raises the chances of students with disabilities for further employment. The former institutions provide more inclusive curriculum and have better trained staff than Ethiopian colleges. As the data in this section argues, adults with disabilities participate in TVET education both in developed and developing countries; although there are some differences indicating on the need to further promote or even develop inclusive education in TVET. Low employability of students in developing countries indicates that institutional barriers in TVETIs restrict the chances for students to attain meaningful education. This paper will attempt to make suggestions related to Kazakhstani context on the issues of extent of inclusion within TVETIs. As the international evidence shows, inclusive teaching practices is the core of promoting inclusion within TVET internationally and this aspect should be explored within Kazakhstani context. Therefore, the purpose of this paper is to explore practices promoting inclusion of adult students with disabilities within Kazakhstani TVETIs. The qualitative research approach was chosen to explore the extent of inclusion in Kazakhstani TVET Institutions.

3   Methods

3.1 Qualitative research approach

Qualitative method is an approach that allows the researcher to access the invisible processes by focusing on the context of people's experiences and the process of everyday decision making (Hennink, Hutter, & Bailey, 2010, p. 9). In this study, the qualitative approach will help me to understand in-depth the practices used by teachers in inclusive classrooms by means of interviews: individual, focus group as well as observations of social events and lessons where adults with disabilities are engaged.

3.2 Theoretical framework

In this study, the collaboration of teachers and the researcher will lead to the creation of the Professional Learning Community (PLC). This means that the interactions among CAR team members is the basis for understanding, reflecting and developing inclusive teaching practices that raise the inclusion of adult students with disabilities within the classroom. Interactions lead to learning for both students and teachers, as the latter take into consideration students' needs and their perspective as learners. I will draw upon the five principles borrowed from Activity Theory by Engeström (2001). These theoretical principles will help in understanding how learning and teaching processes are facilitated.

Activity theory explains learning to adults, and it is premised on five principles. They include *activity system* as the unit of analysis, *multi-voicedness* of activity, *historicity* of activity, *contradictions* as the source for change and *cycles* as the form of transformation. In this study, two activity systems will be used to explore learning by teachers of PLC and students, the participants of the CAR. Another principle which will be employed by the present study is multivoicedness of activity. The division of labour creates different positions for participants in the community. They, in turn, have different opinions which can be a source of troubles and a need for change through dialogue and negotiations. In other words, different perspectives of participants will enrich the data. The historicity of activity is premised on that the activity system could be understood against its history. The purposefully selected organization has its own history, more specifically, the history of accepting inclusion as the principle and its promotion. It is important to explore how the notion of inclusion grew and how the history shaped the activity. The fourth principle, contradictions, can be explained that any change within the activity system can have some contradictions. They can occur when the organization introduced inclusion it required adopting new teaching techniques and probably abandoning the old ones such as segregating students according to their abilities/disabilities. Exploring the nature of contradictions inside PLC is an important source of data which will help to understand how inclusive teaching practices could be promoted within selected TVET college. The fifth principle can be explained that cycles in activity systems enlarge the capacity of every individual by making changes in every cycle because CAR participants can learn from their experience. All five principles will be applied as tools in order to explore the existing practice as well as to generate new ones which could promote inclusive teaching to adults with disabilities in TVET College.

The five principles adopted from Activity Theory by Engeström (2001) will help me to understand each activity system and relate them to the holistic picture of this study. Both, the professionals in the CAR team and their students attempt to learn in groups and create knowledge, in this study the two activity systems are considered as tools. The students can reflect on the implemented changes and make suggestions according to their educational needs. As Engeström (2001) suggested, that when professionals face challenges and ambiguous choices, they respond by creating tools to help them. One of the main challenges is how to create an epistemology for both activity systems. This will contribute to making new knowledge or new inclusive teaching practices which will satisfy both groups of learners in the learning community. This knowledge is central to both activity systems, and it is the object 3 on the picture. It can be explained by the graphic adapted from Engeström (2001, p. 136) (Figure 1).
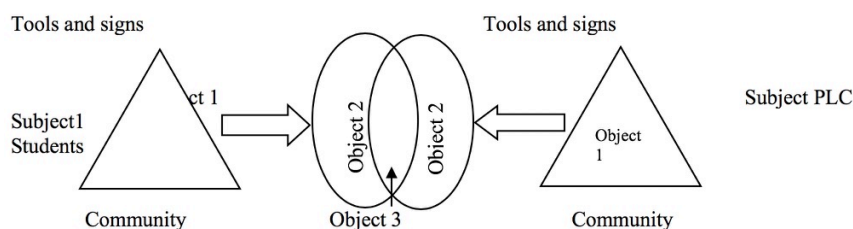
Figure 1   Two interacting models of activity theory and generating new learning space

As subjects, I have the group of teachers and the group of students. They both have the object 1 meaning that both subjects are learners in the learning community. The second object is that both teachers and students are committed to inclusive practices such as students in an inclusive environment and teachers facilitating inclusion. The object 3 is collaboratively

constructed learning and outcomes of learning. More specifically, two activity systems interact and contribute to the outcomes of both systems. For teachers, the result of interaction with student activity system is that they develop inclusive teaching practices which respond to the needs of students. For students, also the object 3 is the space where they learn by reflecting on the practices implemented by teachers in CAR. Thus, the students learn by giving teachers the opportunity to learn. The object 3 is what they try to achieve; it is complex of learning which is premised on activity theory. Action research here is the tool for achieving goals which looks into the dynamic process of meaning-making, accumulating practice which are explicit cycle processes implemented by the PLC. The CAR and PLC are the tools employed by Activity Theory for achieving the goal, which is to establish inclusive education as the process. Activity theory, specifically the way people learn individually and in groups, serves as the lens through which we analyse the data, the learning process and its outcomes created by two interacting systems as the prime units of analysis, the students and teachers.

As members of the established PLC, we will be empowered to reflect on the practices used in daily practice, develop new approaches in inclusive teaching. The next step, we will try to implement them in the classroom with the aim to generate the data through observations and focus group interviews, notes by the members of PLC in the TVET College. The focus of observations during lessons taught by one of the teachers, member of PLC, is whether the new practice is contributing to the inclusion of students of the target group or making any positive change in the classroom. The changes could be larger involvement of target group population into classroom studies, their participation and achievements. Then, we plan to have meetings where we, the CAR team members, reflect on the introduced action with the purpose to generate data, namely in collaborative environment refine the approach for the next action. We will share our suggestions on how to improve the used approach then, make a protocol of the envisaged changes to be introduced for the next stage in the collaborative environment. If any of the PLC members have expertise concerning improvement, then that particular member will share the knowledge on improvement.

In conclusion, these principles could help to explore how learning is being facilitated and relationships of two activity units. In this study, activity theory explains how PLC interactions through CAR influence on learning by students and helps to generate practices promoting inclusion. I will use the Activity Theory's five principles as a viable theoretical lens for our collaborative study of teaching practices promoting inclusion. These principles will frame our learning community exploration as the process of learning as well as a reflection of outcomes of the professional learning of PLC and students' outcome reflected in their participation and accomplishments.

4 Research design and methods

This study will employ a Collaborative Action Research (CAR) design. CAR as the process will help to identify the issue to be addressed, forming a plan to solve the problem, collecting the data reflecting on the effects of actions, reflecting on the results of action and creating actions to be taken (Levin & Rock, 2003, p. 136). Collaborative action research requires the collaboration of teachers and to be goal oriented in order to produce changes as insiders of the teaching process (Campbell, 2013, p. 1). This CAR is an attempt of teachers to investigate their own professional practice aimed to understand the nature and peculiarities of their work as well as produce accomplishments such as enhanced practices.

4.1 Participant's selection, data collection and analysis

As the sampling strategy, I will purposefully select one of the TVET colleges of Astana which is at the stage of implementing inclusive education for adults with disabilities. The CAR team will involve five (5) purposefully selected TVET teachers. The main criteria for teachers to be

included is that they should be engaged in teaching to adult students with disabilities within the selected college. The teachers and I will form the CAR team. The group of students will be recruited conveniently, the available inclusive group of students will be chosen. Data will be collected during the CAR stages as follows:

Planning stage, we will reveal the weaknesses in teaching practices and form the action plan for implementation. Then, we will decide on the roles of the CAR team, as it is required for a teacher to take action while other members of the CAR team to conduct observation during the lesson. The observation protocol will help to collect data on whether the action is making changes, if so, what changes will be required for the next cycle. After observation, we will meet and conduct interpretations of findings and decide whether our joint actions are making changes. Then, we will decide the rational to conduct another spiral of CAR. Finally, all the data will be analysed through the coding of interview transcripts and interview protocol analysis. All the data will be triangulated with the literature and reported in the findings as well as recommendations of this study.

4.2 Anticipated outcomes and conclusion

I have reason to believe that TVET education in the Kazakhstani context experiences institutional and environmental barriers described in this paper. The other aspect, the graduates of TVET education also have low chances for employability as in Ethiopia. Finally, the attitudes of Kazakhstani TVET education students could also be towards continuing education but not employment as in developed countries. The efforts of the government of Kazakhstan are incremental for including adults with disabilities into mainstream TVET education. At this stage, ensuring meaningful education aimed to further employment is required. The Australian practice focused on further employment is paramount for Kazakhstani context. Further employment perspectives will motivate target group students to join to TVET education and raise their employment in Kazakhstan.

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Closing the Theory-Practice Gap: Employing Authentic Video-Taped Lessons in Vocational Teacher Education

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Abstract

Students of education and teachers on-the-job alike state a huge disparity between university-acquired skills and those needed to cope with everyday tasks in schools, often leading to a communicated disregard of theory in general. This theory-practice gap can be explained in part by looking at different understandings of the concepts of theory and practice themselves. Higher education programs can address this by employing authentic video-taped lessons as a glimpse at school reality. Then, students can grasp theories by discovering the deep structures underlying the visible tip of the iceberg a video can offer. This paper reports the backgrounds and evaluation of such a seminar concept at the University of Hamburg. It concludes that videotaped lessons can indeed serve as focal points of a didactics seminar aiming to close the theory-practice gap, given a certain understanding of theory, practice and learning.

Keywords

authentic videotaped lessons, teacher education, theory-practice gap

1   Introduction to the problem: Theory and practice as perceived by teachers

Pre-service teacher programs have undergone many modifications during the past years, to better support students in developing competencies for facing workplace practices. Still, recent studies reveal that teachers in practice state little reference to theories they developed at university (Blömeke, Gustafsson, & Shavelson, 2015). This is due to a huge disparity between university-acquired skills and those needed to cope with everyday tasks in schools (Meijer, de Graaf, & Meirink, 2011; Yayli, 2008; Cochran-Smith, 2005; Korthagen, 2010; Roness, 2011). Respectively, students complain about the insufficient accessibility of theoretical models to be used for their own teaching practice and the associated acquisition of "inert knowledge" (Renkl, 1996). Facing this uncertain transition from knowledge to action, teacher training in many European countries is subject to criticism, although its effects have not been empirically investigated on a larger scale yet (Townsend & Bates, 2007).

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In this regard, our current study introduces a higher education approach of closing the gap between theory and practice as perceived by students, by employing the advantages of authentic videotaped lessons to create practice-oriented learning opportunities (Gomez et al., 2008; Brophy, 2004; Petko, Haab, & Reusser, 2003). Our teacher training concept focusses on enhancing the reconstruction of theory for the students' own prospect teaching purposes, as well as their professional understanding of theory and practice as necessarily linked concepts along a continuum of specifications and generalities, or cases and systems, rather than understanding '**T**heory' as a mere academic domain, inherently detached from '**P**ractice' perceived as school realities. Borrowing a stylistic device from Holt (2004, p. 23), we use the terms '**T**heory' and '**P**ractice' with capital letters as opposed to 'theory' and 'practice' in this sense: A distinction between what students 'do' at university as **T**heory and what teachers 'do' at school as **P**ractice neglects the fact that in both realms, there is both theory and practice in a more fundamental sense:

> "Even when theory is a goal in itself, it is not detached but instead is produced in the context of specific practices. Some communities specialize in the production of theories [such as academics, but also teachers - AA/MC], but that too is a practice. The distinction between theoretical and practical then refers to distinctions between enterprises rather than fundamental distinctions in qualities of human experience and knowledge." (Wenger, 2008, p. 48)

Figure 1 illustrates this concept of **T**heory and **P**ractice as enterprises versus theory and practice as qualities of experience and its problematic potential.
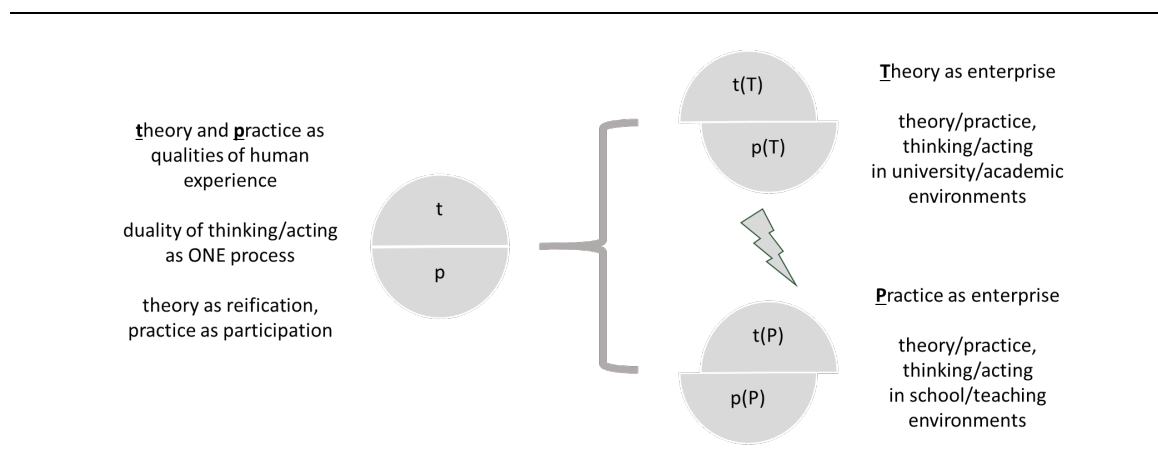
Figure 1   Coining the Theory-Practice-gap perceived by students of education

Drawing on this distinction, it is perfectly comprehensible that teacher students perceive a large, frustrating gap between the *practices at university*, i.e. the 'practice of Theory' p(T) they experience, and the generalized legitimated thinking systems, models and action plans relevant for school work, or the 'theory of Practice' t(P) university wants them to acquire for the sake of their individual professionalization. A disastrous consequence of this frustration is the aforementioned strong disregard of 'theory' in general by teachers, both students and active practitioners.

Thus, a main goal of higher education in teaching is the development of a reflective attitude towards *theory and practice as a vital duality of thinking and doing*, of reflection-in-action and reflection-on-action (Schön, 1983). Especially in a profession of high social momentum and responsibility such as teaching, theoretically legitimated "transformative reflection" (Biggs &

Tang, 2011, p. 45) is a necessity for professional, socially acceptable work. As Paulsen (1912, p. 38) put it:

> "The power of theory is the capability to gain experience, that is, to gain better experience than a mere empiricist; experience based on observation and examinations […]. Theoretical concepts are the eyes of the mind, better yet: telescopes and microscopes, since they require the natural organ of sight, but they focus, broaden and deepen the vision." (translation AA/MC)

The idea of theory as a toolset for 'better vision' can be taken literally. It is a viable approach to the perceived theory-practice gap. The implication for teacher education methodology is thus: Working with visions, vistas - videos.

By employing authentic video-taped lessons as focal points of teacher training, students' perception and understanding of classroom realities can be professionalized. Theorizing is then understood as exploring the underlying scripts and generalities (i.e., the theories) crucial to certain types of teaching situations as seen on screen and according to assumptions about lesson planning (plan-as-theory!). Videotaped lessons thus serve as **P**ractice cases, situative anchors, fleshed-out examples and episodic memory aids in higher education. In order to illustrate our statements and put them to the test, this paper reports a prototype concept for teacher training, developed and tested at the University of Hamburg.

2 Theoretical framework: A general model of teaching practice and learning practice

As for teaching content, we assume that a thorough understanding of teaching situations can be achieved by referring to a *general model of teaching practice and learning practice* (Tramm & Casper, 2018) as well as the constructive alignment of intended outcomes, activities and assessment (Biggs & Tang, 2011). Thus, the introduced video-based intervention follows a structured curriculum (further explained below) aiming at fostering amongst students an understanding of teachers and learners as two interwoven "communities of practice" (Wenger, 2008). These communities draw on shared knowledge, codified in both implicit and explicit theories about learning and teaching. This theoretical framework underlines the social complexity of teaching/learning situations and the experiential significance of thinking and doing as a basic duality of learning. Figure 2 shows the general model.
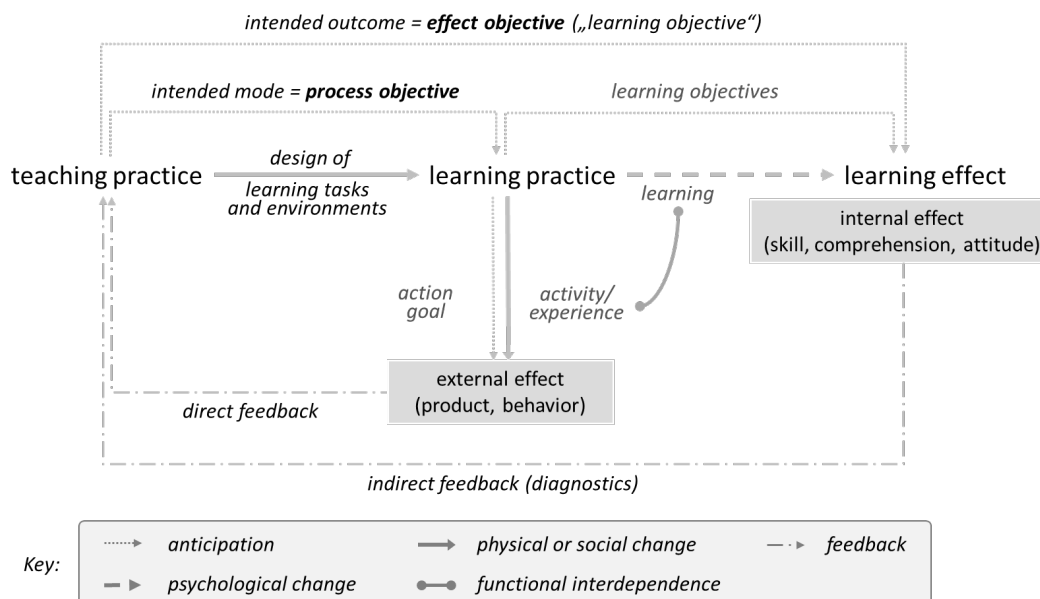
Figure 2   Hamburg Model of Teaching Practice and Learning Practice (translated from Tramm & Casper, 2018)

Here, the centre point of a teaching/learning situation is *learning practice*. In accordance with Biggs and Tang, we believe the desired level of teacher professionalization is an informed "focus on what the student does and how that relates to teaching. [This] is a student-centered model of teaching: the purpose of teaching is to support learning. No longer is it possible to say: 'I taught them, but they didn't learn.'" (Biggs & Tang, 2011, p. 20) The Hamburg model illustrates exactly that: teaching cannot *directly* lead to learning. Rather than that, teachers anticipate the intended outcomes or *learning effects*, which are *internal* effects and neither designable nor visible by themselves. Teachers can, however, have a direct influence on tasks and learning environments which initiate various *learning practices*. A perspective on learning practice is the indispensable key: By setting action goals and engaging in meaningful activities, learners gain experience and 'learn' in a cognitive sense of developing and establishing relevant dispositions. Thus, learning practice leads to both internal (psychological) effects and external effects, such as visible products (e.g. a worksheet or student presentation) and observable behaviour (e.g. actions and communication performed by students). Since only learning practice can be influenced directly by teachers (not 'learning' itself) teachers have to perform a double anticipation:

- What do I have to do as a teacher in order to enable students to do something
- which I believe/anticipate to lead to the internal effects I intend as learning outcomes?

Referring to this model legitimates our contents/the syllabus, and also the method of employing authentic video-taped lessons as focal points of teacher training. The model suggests differentiating between visible and invisible aspects of teaching and learning practices as shown in Figure 3.

	visible (surface)	invisible (essence)
teaching practice	design of tasks and learning environments teacher behaviour (in school environments) written lesson plans …	anticipation of processes and effects assumptions about learning and the functional interdependence of doing and thinking lesson-planning process as thinking out-of-classroom challenges, social contexts and behaviour …
learning practice	learning activities external effects: products and student behaviour (in school environments) …	psychological changes internal effects: dispositions generated through learning out-of-classroom challenges, social contexts and behaviour …

Figure 3   Examples of visible and invisible aspects of teaching and learning practice (AA/MC)

Even though this is only a list of examples, it illustrates that the visible is only the tip of the iceberg in teaching and learning. However, it is the obvious, the immediate, *the practical* access to the essential processes hidden beyond. By learning how to see beyond the surface of a lesson and by reconstructing intentions, anticipations, psychological processes and planning-as-thinking/plan-as-theory, students of education gain a deep understanding. In reconstructing, they *theorize themselves* and 'discover' core concepts of didactics out of individual initiative, rather than just being 'confronted' with fixed theories and models, handed down to them as bold and unshakeable truths. This latter idea of *theory-as-good/theory-as-conveyable-content* leads to the aforementioned disregards. Such 'manufactured theories' are far from student experience. Students then end up 'having to' remember them only in order to pass university – with no need to remember them any longer after the respective exam is done. In accordance with the constructive alignment of intended outcomes, activities and assessment (Biggs & Tang, 2011), the concept introduced here

- intends to foster the ability to theorize about visible aspects and artefacts of lessons
- by guiding students through activities of theorizing about videotaped lessons
- assessed through a term paper in which they comment on an authentic lesson plan as a visible artifact and analyze its deep structures by referring to didactic concepts.

3   Research questions and methods: A DBR mindset

Based on the outlined theoretical framework, this study explores the following research questions: How can authentic video-taped lessons be used in higher education teacher training, in order to

1. establish a professional understanding of theory-practice coherence and enrich discussions about didactic theories and models?
2. develop professional analytic skills in observing and evaluating lessons as well as enhancing lesson planning skills drawing on elaborated construction criteria?

3. assist the development of didactically justifiable mindsets about teaching?
4. prepare student teachers for on-the-job experience?

The study presented follows a design-based research methodology (DBR Collective, 2003; Reinmann, 2005), including the development, interventional testing and evaluation of an innovative seminar for students in the Master of Education program for vocational and business teachers at University of Hamburg.

3.1 Intervention: A video-centered didactics seminar

The innovative seminar concept was implemented in winter semester 2017/18 to prepare teacher students in vocational training (business studies) for their upcoming school placement, which is obligatory for all student teachers at the University of Hamburg. 60 Master students took part in 3 parallel seminars with 13 sessions (2 ½ hours each). Aiming for the goals stated above, two authentic video-taped commerce lessons from a local vocational school in Hamburg were provided online, accompanied with the respective lesson materials such as worksheets and student products. Furthermore, all seminar materials including literature, observation tasks, analytic frameworks, reflective questions on students` individual learning and reading-writing tasks were provided and organized by using an online learning platform. The seminar syllabus was constructed as follows:

1. Introduction (administration and intro to the concept and the videos)
2. Lesson phases and the perspective of learning practice
3. Choreographies of teaching and learning methods
4. Developmental theories 1: challenges of thinking and cognitive conflicts
5. Developmental theories 2: challenges of reflection and moral dilemmas
6. Normatives of education 1: learning for understanding vs learning for reproduction
7. Normatives of education 2: creating tasks and contexts for understanding
8. Didactic analysis and transformation of matters of education
9. Inclusion, individualization and adaptive learning and teaching
10. Professional lesson planning

For every session, study tasks were developed with strong reference to the videotaped lessons. For example, the first task was to identify distinctive phases students could 'see' in the videos. For this, no literature or didactic reference was given at first. The individual perspectives were then discussed in the next session, leading to the common understanding that "there's much more happening than we can see on screen", motivating students to check existing didactic models of lesson phases in order to discover concepts to deepen their understanding of latent intentional phases.

The focus of all tasks and discussions was the elaboration and professionalization of students` subjective theories (schemata) of learning and teaching, the enhancement of perception and observation skills in teaching situations (reflection-on-action; reflection-in-action) and the promotion of lesson planning skills with a final group product of refined lesson plans for the learning matters presented in the videos.

3.2 Evaluation results

Formative evaluation was carried out and documented in team meetings for session development and reflection. Summative evaluation was carried out by employing the faculty's standardized evaluation process. An in-depth assessment of analytical and reflective skills shown in student term papers has to be carried out in the coming months since a majority of term papers is still in progress.

The faculty's standardized evaluation in the form of a quantitative questionnaire (7-Likert scale) was utilized to assess the three parallel seminars (total n= 59), focusing on the effectiveness of the newly integrated elements regarding our main intention to close the theory-practice-gap.

Referring to the accessibility of theory by using authentic examples a mean (m) for seminar 1 (m=4.5), seminar 2 (m=5.9) and seminar 3 (m=5.4) was scored stating positive effects of the video-based seminar concept in this regard (Table 1).

Table 1   Theory made accessible by the use of examples

Seminar 1
n=17; mean= 4.5

Seminar 2
n=22; mean= 5.9

Seminar 3
n=20; mean= 5.4

1= does not apply, 7= fully applies
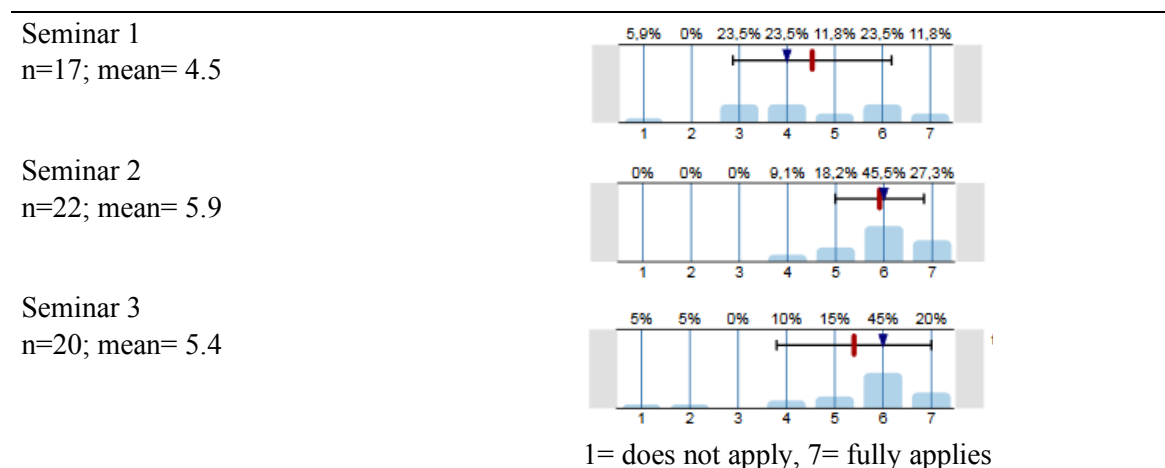
Furthermore, the perceived importance and meaning of seminar topics (didactical theories and theoretical models) for teaching practice resulted in a mean for seminar 1 (m= 4.3), seminar 2 (m=5.9) and seminar 3 (m=5.4) indicating a positive acceptance by the students (Table 2).

Table 2   Meaning of topics is made clear, and importance was pointed out

Seminar 1
n=17; mean= 4.3

Seminar 2
n=22; mean= 5.9

Seminar 3
n=20; mean= 5.4

1= does not apply, 7= fully applies
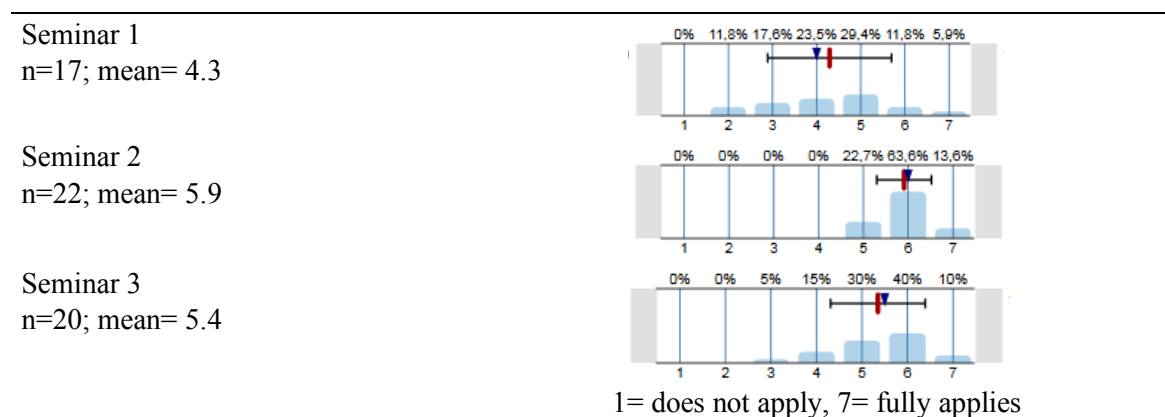
Additionally, a link between theory and practice was successfully achieved by the usage of videos referring to a mean for seminar 1 (m=4.2), seminar 2 (m=6.0) and seminar 3 (m=5.7) (Table 3).

Table 3   Link between theory and practice is successfully achieved

Seminar 1 n=17; mean= 4.2	0% 5,9% 35,3% 17,6% 23,5% 11,8% 5,9%
Seminar 2 n=22; mean= 6.0	0% 0% 4,5% 0% 13,6% 54,5% 27,3%
Seminar 3 n=20; mean= 5.7	0% 0% 10% 0% 20% 50% 20%
	1= does not apply, 7= fully applies
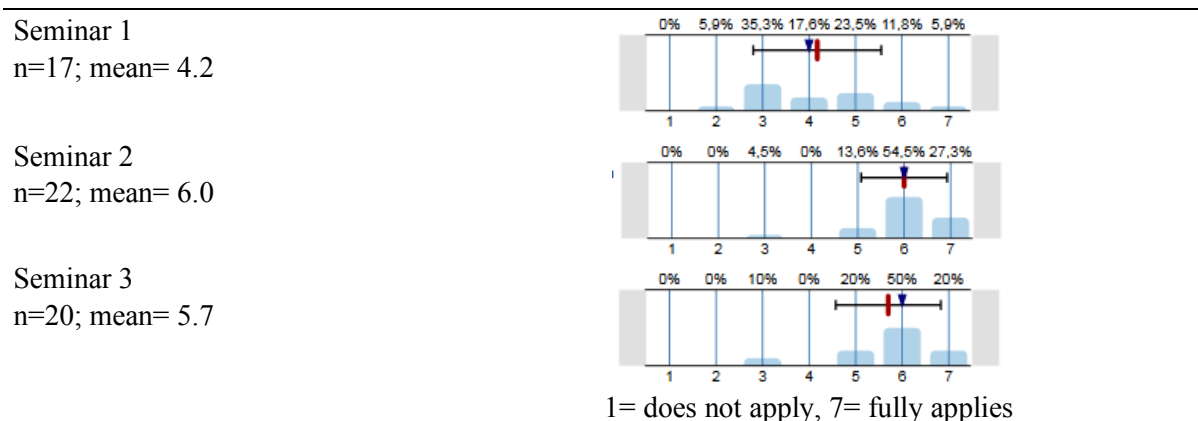
Overall the usage of videotaped lessons was positively rated by the students of seminar 1 (m=5.6), seminar 2 (m=6.0) and seminar 3 (m=6.1) showing positive effects of integrating this media into the seminar structure (Table 4).

Table 4   The seminar includes meaningful usage of media

Seminar 1 n=17; mean= 5.6	0% 0% 5,9% 17,6% 11,8% 35,3% 29,4%
Seminar 2 n=22; mean= 6.0	0% 0% 0% 13,6% 9,1% 36,4% 40,9%
Seminar 3 n=20; mean= 6.1	0% 0% 5% 0% 25% 25% 45%
	1= does not apply, 7= fully applies
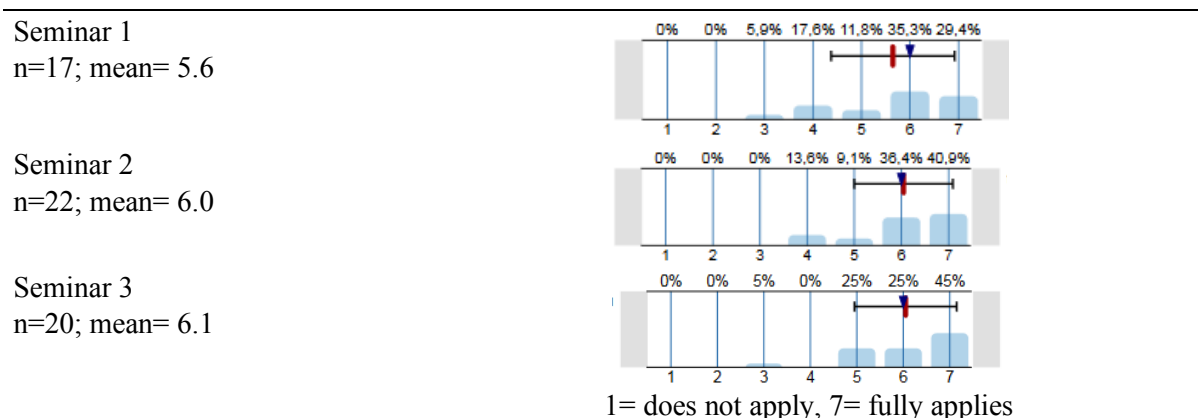
In order to understand the tendency of lower average results for seminar 1, it has to be stated that this seminar was mainly attended by students from domains other than business studies (due to administrative reasons). Consequently, the videos were not as 'authentic' and harder to refer to for this group of students, regarding their domain-specific knowledge, typical school experience and aimed-for-practice as teachers of a certain vocational domain. Nonetheless, this group also shows very high means regarding "meaningful use of media". Overall, the integration of videotaped lessons shows very positive effects on students' perception of theory-practice coherence, considering these quantitative data.

The open-qualitative part of the evaluation led to the following results concerning videos (again sorted by seminar groups, translation from German AA/MC):

Seminar 1:
- *"Great idea to use videotaped lessons."* +
- *"Link to teaching practice."* +
- *"The continuous reference to the videotaped lessons is a link to teaching practice. It makes understanding didactical models way easier as well as to logically analyze and adapt them in lesson planning."* +
- *"Illustration and work with the videos!"* +

- *"Focus on videos was too strong. At times it was hard to complete the task by using short video sequences as info was missing." -*

Seminar 2:
- *"Great idea to structure the seminar alongside the videos."* +
- *"Video-taped lessons were not really suiting the purpose."* –

Seminar 3:
- *"I really liked the videos. They provide a clear picture of what is going on during the lesson."* +
- *2 x "Working with the videos!"* +
- *"I really liked the videotaped lessons"* +
- *"The videos showed that the seminar is relevant for teaching practice and therefore increased my interest. Great preparation for the upcoming school placement."* +
- *"Linking theory and practice through the videos."* +
- *"Working with the videos was very helpful as all theories could be applied."* +
- *"The videos really provided a connection between theory and practice."* +
- *"Usage of videos was very good: provides possibilities to reflect and comprehend didactical decisions."* +
- *"I liked the connection to teaching practice that was provided through the videos. Would have liked to work on both videos."* +
- *"Videos were not suitable: especially the phase of the lesson showing pupils doing group work and presentation!"* –

This feedback provides a good impression of student perception, which is paramount for our main intention. However, to achieve insights into the effective development of the students` analytical and reflective skills, an in-depth assessment has yet to be carried out. This leads to our discussion of limitations.

3.3 Limitations

The findings presented here have to be understood within the limitations of this kind of study. Since a design-based research project such as this aims to develop prototype concepts, any evaluation primarily aims at further development of the prototype. While a working prototype is not a means of research in itself, academically speaking, it is still an integral, even fundamental part of educational research - and an approval of academic quality as well. Measuring the effect of the intervention as opposed to other concepts is not the focus. Rather than that, criteria for quality education are developed by testing and remodelling innovative concepts. However, comparative data might offer important insights. Thus, we consider it a strong limitation that evaluation data of previous didactics seminars was not attainable. Since the standard faculty evaluation is personalized to lecturers, there is no official and anonymous possibility to attain evaluation data. Only personal contact, trust and continuity could enable that kind of longitudinal research. Unfortunately, we experience that continuity, both in persons and educational concepts, is not guaranteed at most higher education facilities. This leads to the second strong limitation, the lack of a control group. Since we developed and tested this concept cooperatively with a team of lecturers for three parallel study groups, it would have been irresponsible to deliberately confront one of the groups with a concept we would believe to be less expedient 'just' for research purposes. With this in mind, conclusions can be made only with respect to the inner logic and consistency of the teaching concept.

4 Conclusion and outlook

Within the stated limitations, the expected outcomes were affirmed. The preliminary findings of both quantitative and qualitative evaluation data reveal a strong positive effect of the video method on the students' perception of theory-practice coherence. An established professional understanding of theory-practice coherence and enriched discussions about didactic theories and models are detectable in classroom discussions and qualitative feedback. Referring to the qualitative seminar feedback, student teachers repeatedly stated the usefulness of the innovative seminar concept to prepare for and gain insight in on-the-job experience.

In order to evaluate the development of didactically justifiable mindsets about teaching as well as the development of professional analytical skills, an assessment of term papers needs to be carried out, which is lined out already but was not completed at the time of writing this proceeding due to the incomplete set of term papers to date.

As a conclusion, the first evaluation of the new seminar concept shows that videotaped lessons need to fulfil a set of criteria to best support positive effects regarding the main goal of linking theory and practice:

- Videos need to be authentic and domain-related in terms of showing relevant lesson context in line with the students' vocational specialization.
- Information, which is not provided in the videos themselves, but part of the visible structure of teaching and learning practice, such as worksheets and student products, need to be provided through additional material in order to support and ensure the completion of study tasks. In order to support students in 'discovering' essential concepts, authentic complexity is more important than reduction.
- Study tasks need to be specific in formulation, but complex and open in terms of processes and products. If the aim is to enable students to perceive relevant actions in complex classroom situations and to identify theoretical models or didactical concepts as deep structures therein, higher education concepts need to follow an approach of constructive alignment: Intentions, study tasks and assessment should all follow the same core principle. In this case: beginning with visions, vistas, videos of authentic lessons, guide students in 'theorizing' on their own and in 'discovering' theory, rather than 'confronting' them with something to remember – and forget – after the exam. Thus, students get a chance of experiencing that theory is a quality within practice, not a self-sufficient brain game opposed to it.

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Black Students in VET: Learner Experiences in an English Metropolitan and Provincial Setting[1]

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Abstract

Building on our earlier research this paper addresses the lived experience of black students in VET. It samples nine young people (male and female, 16-25), drawn from a northern provincial and metropolitan English city. It addresses, what has in recent years become an under-researched area, the lived experience of African-Caribbean and mixed heritage youth in VET. The paper points towards the salience of analyses of social capital, metropolitan and provincial cities as well as labour market conditions on these processes. In addition, it seeks to locate the discussion within its socio-economic context as well as the manner in which race is both historically and contemporaneously embedded in the division of labour.

Keywords

VET, race, labour market, management science, Taylorism, Fordism

1 The marginalisation of race and VET

This neglect is partly a consequence of researchers focusing on schools and higher education, principally as a potential route to upward social mobility and the manner in which these aspirations are constrained by racist practices. There is perhaps another reason for the neglect of VET which relates to the capitalist division of labour and the way this is entwined with racist processes. Research that has addressed the labour process in the US and the transition from Taylorism to Fordism, has illustrated the manner in which race is central to such processes rather than being an atavistic hangover from the past (Roediger & Esch, 2017; Doray, 1988). Doray refers to a 'rational madness' which in part has been reflected in Fordism but also in a racialised division of labour. Different racialised groups were deemed to have particular

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[1] We would like to acknowledge the significant contribution of our Interviewers, Jason Ardey and Serena Johnson.
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dispositions that aligned with particular types of labour. The difficulty faced by theorists who proposed such arguments is that they could not agree on any particular racialised hierarchy, or indeed who was to be included. Different groups such as the Irish, Jews, Slavs, Swedes and Black Americans were racialized and compared against one another in terms of their capacity to perform various types of manual labour (Roediger & Esch, 2017). Not dissimilar processes were present in Europe. We need only consider the manner in which the UK and the French drew on labour from their former colonies, with Germany utilising Turkish guest workers (Castle & Kosack, 1973). Goulbourne & Solomos (2003) commenting on the 1970s/80s, citing Ward and Jenkins (1984) remark, how at that time the participation of ethnic minorities in the labour market and wider society was thought to be shaped by dispositional values. They note,

> there are two strong models of participation of minority ethnic communities in British society: the Jewish (represented as being socially, economically, and politically successful, and well integrated into the upper echelons of society) and the Irish (generally represented as being less successful and mainly outside the mainstream of British society). Subsequent groups … followed this dual pattern (Goulbourne & Solomos, 2003, p. 333).

Asians were assumed to have followed the Jewish model whereas African-Caribbeans were aligned with the Irish model, being firmly placed within a racialised working class. There are a number of consequences that flow from this form of racialisation. Key amongst which is the positioning of African-Caribbeans within the working class, which is reflective of the essentialism of earlier historical accounts. The link between class destinies and VET may also in part, explain the neglect of the latter in critical analyses of race and education. Wallace (2018) draws our attention to the association of whiteness with the valorised cultural capital of the white middle class which serves to marginalise the capital of the black middle class (see Rollock et al., 2015). Whilst Ward and Jenkins (1984) were writing in the 1980s and Goulbourne and Solomos (2003) refer to analyses drawn from the 1970s/80s, Wallace's more contemporary ethnography provides examples of school teachers unthinkingly associating blackness with underachievement. Joseph, one of his respondents, commented:

> There's a … black identity that my white teachers try to strap onto us… They expect us to fail … they expect us to struggle money wise… they expect us to fight each other … When we challenge or exceed their expectations, it's like they can't even recognise us [as black]. (Wallace, 2018, p. 474)

For Wallace white teachers failed to recognise the cultural and social capital upon which black middle-class students could draw (and see Yosso, 2005).

Socio-economic context

In the EU, and indeed globally, the route to economic competitiveness is said to arise from the development of a knowledge economy. Education policies frequently emphasise the need to prepare young people for the putative fourth industrial revolution, enabling them to fully mobilise their talents, contribute to wider society and avoid social exclusion. Such notions have become a hegemonic feature of international policy debates. In this context, VET has been depicted as integral to economic and social justice agendas, with a significant body of education research addressing the way in which European systems aim to develop in young people the competences, skills and dispositions required at work (Mulder, 2017).

Papers location

In previous papers (Avis et al., 2017a, b) we mobilised Leonardo's (2005) conceptualisation of *race ambivalence*, which argued that whilst race is 'unreal' in that it is an incoherent scientific category, its effects are nevertheless real. These papers examined English research on relationship between race, ethnicity and VET, much of which has lain dormant since the structural accounts of the 1970/80s. Significant questions emerged from the literature: the marginalisation of black youth in VET, their allocation to low-level courses, and 'warehousing'. The latter concept, first developed in the 1970s, refers to the way in which particular fractions of working-class youth were effectively 'parked' on youth training schemes and low-level VET. They were, to use Blacker's (2013) term, effectively 'eliminated' from the labour market, a process particularly applicable to black (Caribbean, African, mixed race) male youth (Roberts, 2009).

Our earlier statistical analysis suggested that patterns of participation are changing with young people from certain ethnic minorities now less likely than their white counterparts to be on VET courses (Avis, Orr, & Warmington, 2017). This is a change from the earlier situation in which black youth were overrepresented in English further Education and significantly in low-level VET (and see Allen et al., 2016). Whilst our small-scale exploratory case studies found that there was some evidence of both continuity and change in relation to the experience of black youth in English further education and VET, there was also some evidence supporting our claim that in recent years there has been a "whitening" of FE. This should not, however, downplay processes of racialisation that impact upon FE/VET. FE remains an important educative site for black youth, and if we are to concern ourselves with questions of social justice, we need to address patterns of racialisation and their intersectionality with class and gender as part of a political praxis. The most recent statistical release suggests that the total participation rates in FE/VET in England have fallen by 30 per cent from 4.7 million in 2002/03 to 3.3 million in 2015/16 (ESFA, 2018). This is compared with participation rates among people under the age of 30 in HE that have risen steadily since 2006 and were 49 per cent in 2015-16 (DfE 2017a). Among 16- and 17-year olds in England in 2016, 32.5% were in state-funded schools, 11.5% were in sixth-form colleges, and 30% were in FE colleges (DfE, 2017b, p5). These statistics suggest the increasing marginalization of Further Education in the English educational landscape. However, the data it provides on the 'whitening' of FE is inconclusive (ESFA, 2018).

The current paper

The current paper moves beyond our earlier research by addressing the social capital available in black communities that facilitates the transition to VET. There is a worry with this type of analysis that Goulbourne and Solomos (2003) alert us to. Discussions concerned with the social capital and allied dispositions available to particular ethnic groups can readily fold into a deficit model that resonates with essentialist constructions of racialized groups. Reynolds (2013), whilst acknowledging that social capital can be ambiguous, draws our attention to the way it enables transitions to VET and beyond. Not dissimilarly Modood (2004), in a discussion of British South Asian and Chinese communities, draws on the notion of 'ethnic capital' which serves as a community resource. This leads us to consider the way the opportunity structure young people encounter is impacted by region, locality, the labour market as well as its positioning in a metropolitan or provincial city. Ball et al. (2000) draw our attention to the particularities of London as a global/metropolitan city. In a number of respects, such processes map onto European experiences and raise questions about specificity. Roberts (2009) for example, in a discussion of East and West Germany points towards the qualitatively different labour market contexts faced by young people in these distinct regions. Such arguments need to be

nuanced to take into account labour market conditions and the way in which these are played out in relation to race and ethnicity. Martin and Morrison (2003) note the spatial and constructed nature of labour markets as well as their porosity. Alongside a local labour market that features low waged intermittent work, or no work at all, there may be others lodged within a global labour market of high skilled/waged work. Such labour markets may overlap but will also be subject to ongoing change and construction. Thus, within a social formation, areas of full employment, high wages and putative skills gaps/mismatch sit alongside regions/localities characterised by multiple disadvantages and the lack of decent jobs. Similarly, Thelen and Busemeyer (2011) illustrate the shift from collectivism to segmentalism in German VET, whereby the latter refers to training that solely addresses the specific needs of employers.

2   Method

The interviews explore black learners' lived experiences, enabling examination of their routes into VET, pedagogic experience, their orientation towards the vocational and their specific experiences of Further Education colleges (the main provider of VET in England). By utilising semi-structured interviews, we were able to pursue particular lines of inquiry arising during the interview, allowing us to develop a fuller understanding of interviewees' interpretations of their VET experiences. The interviews were coded and thematically analysed. This is as yet a small-scale exploratory study for which we make no claims for generalisability or representativeness. Nevertheless, it offers some illumination and relatability to the experiences of black youth in metropolitan, provincial cities and disadvantaged contexts and with those who face similar circumstances elsewhere in Europe.

3   Findings

We found, for instance, that some of the black students we interviewed relied on 'cold knowledge' sources such as Google for initial information on VET pathways. Joe and Sarah, respondents from the provincial city, stated,

SJ: How did you know about the course?
Joe: I literally just looked online… I just typed in like 'Fitness Courses', and the Uni popped up and it said like an NVQ.
Sarah: I just did a lot of research online.

Not dissimilar comments were made by respondents in the metropolitan city. Charles commented,

Charles: But perhaps I was encouraged, maybe not explicitly, to undertake a vocational course, but that kind of meant that particular style of learning was something that was encouraged, particularly in my sort of GCSE years, so Year Ten and Year Eleven, that kind of hands-on learning approach and that actually reflected some of the courses that I took in GCSE

Nathan drew on his aunt who suggested the course he should take.

Nathan: To be honest, no teachers actually took me and said look, this is what you should do, or this is what I think you should do, or anything like that. It was just, they were just happy that I finished GCSEs, that I was kind of out of their hair.

Whereas some of Michael's teachers suggested a number of options as did his girlfriend:

Michael: First, my girlfriend at the time helped me there, sort of steered me in the right direction and a couple of the other teachers that were sort of giving me my options really …A-Levels, they weren't really my thing …it had to be something sport related, it had to be back to my roots basically and what I know. So, the BTech, it sort of fitted every criteria and it ended up being the perfect place for me really…

For some of our participants, the decision to enter FE/ VET was part of a push-pull dynamic. They had either decided that an 'academic' A-Level route was not for them or they felt dissatisfied with the school environment. Ty reflected on his decision to take up a sports (boxing) apprenticeship:

Ty: To be honest, there was no alternative. I had to, I felt like I had to do it because if I stayed at my High School, because I wasn't well behaved at my High School, so if I stayed at my High School, I don't think I had a realistic chance of succeeding or attaining well. So I think for myself, I had to look at it, right, I've finished High School, my GCSEs don't represent what I'm capable of, so I really have to go out there and I really have to start shaving a career pathway for myself. However, these alternatives, they were all my decision, I mean there was no influence at this stage from my parents, family or friends…

Michael: A-Levels, they weren't really my thing and I wasn't really looking to do anything else in terms of the A-Levels. It was, it had to be something sport related…

Such comments recalled Thompson's (2009) suggestion that for some working-class students, decisions to enter FE are shaped as much by students' sense of what they *cannot* achieve as what they *can* achieve. Charles commented on the relationship between his school experiences and his perception of himself as someone suited to VET:

Charles: I think I've always been quite a kind of hands-on or practical learner …perhaps *[at school]* I was encouraged maybe not explicitly to undertake a Vocational Course, but that particularly kind of meant that particular style of learning was something that was encouraged, particularly in my sort of GCSE years, so Year Ten and Year Eleven, that kind of hands-on learning approach and that actually reflected some of the Courses that I took in GCSE.

While generally happy with his decision to take a Level 3 NVQ in Health Care, he had felt some initial ambivalence about the status of VET pathways and FE colleges.

SJ: …what expectations did you have of that particular Qualification *[NVQ3]* at the time?

Charles: I think just to give me a good basis or a good understanding of kind of …healthcare and where I wanted to perhaps try to develop a career. I think I expected it to, perhaps I expected it to be a bit, like going to a Further Education College, perhaps I expected it to be a bit like looked down upon, if that makes sense, particularly like where you had a lot of people doing A-Levels and so on and so forth. But I think for me and for what I was trying to achieve, I felt like that was, that was quite a good route.

However, we also found that, having opted for FE and for VET programmes, some of our participants had a sense of dislocation, feeling that their particular work/ skills interests were marginalized. Black students in fields such as hair and beauty sometimes found that their specific interests were not catered for, and that their VET qualifications left them on the periphery of the sector (e.g. renting chairs in salons).

SJ: How did you feel, you said on both (hairdressing) courses, you were the minority, how did you feel about that? Or did it not impact on you?

Maya: In the Beauty, it didn't impact as much, but in the Hairdressing it was, because like, when you have to work on each other, like they had no clue about my hair, like what to do with black hair, so yeah, that was hard… even the training dolls you use, it's all like European hair… From family experience and stuff, I am quite good with African-Caribbean hair, but you know, you want to know, what's the point if you're not going to even know how to do your own hair?

SJ: So how come you didn't take the course that taught about African-Caribbean hair?

Maya:	They do actually offer it at the College, but the woman who taught it was on long-term sick and they kept saying oh we're going to employ someone else, but they never ended up doing it, and I don't know if that's just because there wasn't a need for it, or just they weren't bothered.
SJ:	How did you feel about that, when you heard that?
Maya:	Annoyed, I just wanted to do it *(laughs)*, really, really. It angered me, but there was nothing you could do, and I did look into another African-Caribbean course in [provincial city]… there aren't any, or there weren't at the time.

Maya was constrained by provincial city's opportunity structure which offered very limited access to training for African-Caribbean hair. It seemed as if the opportunity structure and social networks available to our metropolitan young people were qualitatively different and provided greater access to training. Ty talked about the way in which a teacher at his school had encouraged him to go to college. This respondent felt that if he had remained in school, he would have 'messed about'. At college, he studied boxing and built up a close relationship with his personal tutor who offered him helpful advice and who was very keen that BME students succeeded. He stated,

| Ty: | [the college course] was heavily populated, BME and Asian populated area, so I had a lot of, I had a lot in common with everyone on the course, the students and especially the staff and my Personal Tutor. |

Whereas the African-Caribbean hairdressers were in a minority on their course. Maya mentioned that "I think there were about twelve to fifteen people in the class. There were two black women, me and Barbara". In some respects, these accounts reflect on the opportunity structure found within local ecologies. Consequently, these affordances for networking and developing forms of community-based social capital will vary over time and place (Kerr, Dyson & Raffo, 2014).

In addition, some of these accounts bore some relation to research into VET in the 1980s that suggested black students were less likely to have direct proximity to 'real' workplaces – that is to say they were socially and culturally distanced from the workplace. In this instance, work experience was provided in simulated environments in FE or the premises of private training agencies. Joe, for example, was very quizzical about the training he had received from a private training agency.

| Joe: | The teachers very much sort of get on with it, do you know what I mean and then they had to go and do something else, so it wasn't really one to one, it wasn't really hands-on or anything like that. It was just you there, an environment for you to learn in, on your own, off your own back. If you wanted to do it, you could do it, if you didn't, you didn't, because it was government funded. So, I think that because of that reason and because of the attitude they had, they weren't really pushing you if that makes sense. |

4   Conclusion

The study develops our understanding of the experiences of black students in VET. It relates these findings to empirical work not only in the UK but also to continental Europe (see for example Colding, 2006 and Szalai et al., 2009). It allows us to consider the significance of theoretical analyses of the VET experience of black youth with other minority ethnic groups in Europe, enabling an examination of both specificity and continuity. Importantly, in this paper, we have touched on the salience of analyses of social capital, metropolitan and provincial cities as well as labour market condition on these processes. In addition, the study also enables a consideration of the salience of gender and class on these processes. The study anticipates further qualitative and quantitative work in both the UK and Europe, building upon this and earlier research.

Appendix

Table 1   Respondents

Name	Age	VET	Part-time/Full-time	date graduated	Qualification	Funding
Joe	25	Level 2 Fitness Level 3 Recruitment	Part-time Part-time	2010 2016	NVQ	State
Sarah	24	Level 2 Hairdressing Level 3 Special effect and media make up	Part-time Part-time	 2015	 NVQ	 State
Clare	19	Level 1 Hairdressing Level 2 Hairdressing Level 3 Hairdressing	Part-time Part-time Part-time	on-going		State
Maya	25	Level 1 Hairdressing Aromatherapy, Swedish massage Level 2 Beauty therapy	Full-time Part-time	2013 2014		State State
Charles	29	Level 3, Health and Social Care, BTEC National Diploma		2007		State
Ty	22	Level 3, Sport, Exercise and Coaching, BTEC National Diploma	Part-time	2014		State
Nathan	25	Level 3, Sport, Health and Fitness, BTEC National Diploma		2011		State
Michael	25	Level 3, Sport and Exercise Fitness, BTEC National Certificate		2011		State
Carl	28	Level 3, Leisure and Sport, ACCESS		2011		State

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Higher Level Vocational Education: The Route to High Skills and Productivity as well as Greater Equity? An International Comparative Analysis

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Abstract

This international comparative analysis of higher level vocational education examines developments across five countries: England, Germany, Australia, Canada, and the USA. The authors consider how current developments address two key policy concerns: an emphasis on high skills as a means of achieving economic competitiveness and raising productivity; and the promise of increasing access for students hitherto excluded from higher education. We address these questions in relation to specific country contexts, in order to highlight similarities and differences in developments within the European arena and in a wider global context. We locate our analyses in an understanding of the different political and socio-economic conditions within different countries, which render particular reforms and innovations both possible and realizable in one context, but almost unthinkable in another. We argue for the need to recognize and embrace diversity in provision, while using comparison across countries as a means of challenging taken-for-granted assumptions of how things are and what is possible within individual country contexts. Such comparative analysis is a prerequisite for answering questions of policy transfer and learning from others.

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Keywords

1   Introduction

New, distinctive forms of higher vocational education are growing rapidly across a range of countries, as demonstrated in the 2014 OECD Review *Skills Beyond School*. They respond to two key policy concerns: an emphasis on high skills as a means to achieve economic competitiveness and raise productivity, and the promise of open access for students hitherto excluded from higher education. In specific country contexts, both within the European arena and in a wider global context, there are both similarities and differences in developments, for different political and socio-economic conditions within countries render particular reforms and innovations both possible and realizable in one context, but almost unthinkable in another. Undertaking an international comparative analysis of current reforms provides the opportunity for policy learning through a critical understanding of differently evolving provision of higher vocational education, that refuses assumptions that policy borrowing from apparently successful countries offers a straightforward model for others to adopt. In the contributions to this paper, we emphasise the impossibility of imposing uniformity across European countries and argue that there is a need to recognize and embrace diversity while using comparison across countries as a means of challenging taken-for-granted assumptions of how things are and what is possible within individual country contexts.

The paper brings together the work of researchers who have undertaken research in five different countries: England, Germany, Australia, Canada and the USA. This work is brought together through a focus on the following key questions:

- What (if anything) is distinctive about evolving forms of higher vocational education?
- How are these forms of provision positioned in relation to existing university HE?
- How do questions of distinction and status play out in different country contexts?
- Whose interests are served by higher vocational education?
- What are the implications for equity and inequality in new and evolving forms of provision?
- What can be learned in the European arena from this international comparison of higher vocational education?

The next four sub-sections offer a summary of key arguments put forward in the different contributions to the symposium.

2   Developments in higher level vocational education in different country contexts

2.1   'Keeping them in their place'? The limited growth of applied degrees in colleges in liberal market economies

Applied degrees in colleges emerged as a distinct form of provision in many Anglophone countries around the turn of the 21st century. This includes foundation degrees and vocational degrees in England, applied baccalaureates in Canada and the United States, and vocational degrees in Australia. There are three rationales put forward for this provision. Firstly, it can expand access to higher education (HE) for disadvantaged students; secondly, it can result in HE aligned with the needs of the workplace; and, thirdly, it is cheaper for governments and individuals compared to university provision (Wheelahan, 2016). Those of us researching the emergence of this provision thought that it had the potential to grow and be a key mechanism to

underpin universal systems of higher education (Bathmaker et al., 2008; Skolnik, 2012; Whee-lahan et al., 2009). However, instead, growth has occurred through expansion of enrolments in universities. Two research projects led by Wheelahan in Australia (Wheelahan et al., 2012, Wheelahan et al., 2009) and one project in Ontario, Canada (Wheelahan et al., 2017), as well as research by other colleagues in Australia (Webb et al. 2017), Canada and the US (Skolnik, 2012), and the UK (Bathmaker, 2016) have led to theoretical reflections on what have been the limitations on the growth of college HE. Two key limitations can be identified: first, govern-ment ambivalence and intermittent aspirations for differentiation; and second, government mar-ketisation policies that compel colleges to compete with universities in a stratified and hierar-chical market structured by positional goods. Trow's (1974) framework of elite, mass and uni-versal HE and Marginson's (2016) framework of high participation systems provide useful tools to explore the emergence of universal HE systems. These frameworks are complemented by neo-institutional theory to explore pressures towards isomorphism and credentialism in these countries (Scott 2014), along with Clark's (1983) 'triangle of coordination' which allow an exploration of the roles of the state, the market and academic coordination of HE. What is found, is that the hierarchical nature of HE systems keeps college-based HE in its place as a lower status route for disadvantaged students. In universal systems, starting positions are une-qual and different forms of participation in HE confer different levels of social and economic advantage. HE systems in Anglophone liberal market economies are structured as a positional good in a partly zero-sum game. Government structured HE markets elicit pressures towards isomorphism and credentialism with college degrees compared to university degrees and are found wanting, while government accreditation requirements contribute to imposing 'univer-sity models' of the degree on colleges.

2.2 A distinct and separate future or a distinctive part of HE provision: the future of college-based higher education in England

While there is no coherent vocational tertiary sector (Wolf, 2016) in England, unlike many European counterparts, England's further education (FE) colleges are not only the place where most initial vocational education and training occurs, but also a location for Higher Education (HE) courses, mostly vocational (degrees in childcare, diplomas in engineering), which have been provided for over a century (Bailey & Unwin, 2014). The proportion of college-based HE (CBHE) within overall HE in England has remained stable at close to 10% for decades (Avis & Orr, 2016), whether CBHE has been actively promoted by government or not. Despite this, CBHE in England is in a contradictory position. Colleges claim that their courses are authentic HE, comparable to those offered in universities (Lea & Simmons, 2012), while at the same time claiming their courses are distinctive from university provision because CBHE widens partici-pation to HE for local people and provides high-skilled workers for the local economy (Widdowson, 2017). These claims, moreover, are often repeated by national policymakers (Parry, 2016). This is an important moment to review such claims, with new policy proposals encouraging on the one hand, a key role for colleges in promoting a highly competitive market in the HE arena (DBIS, 2016), whilst alternative policy proposals are intent on creating a binary divide between academic and vocational education pathways (DBIS & DfE, 2016).

Marginson's (2016, 413) concept of "vertical 'stretching' of stratification in competitive [high participation systems of HE]" provides a basis for analysing current statistics, policy and research, and considering the implications for the future. The available evidence indicates that students on CBHE courses are more likely to be mature, part-time and to live in areas that have lower participation in HE than students on university courses (ETF, 2016, 22-23), suggesting a distinctive widening participation role. There is, however, much less evidence of the connection between CBHE and the local economy, despite the vocational focus of most of these courses. Nevertheless, that vocational CBHE courses have persisted for so long, suggests that they have

an important role to play as part of a wider tertiary education system, but this role may not be one that centres on a distinctive vocational and labour-market oriented focus.

2.3 What does Higher Vocatinal Education bring to HE that is distinctive in Australia?

In Australia, demand-led growth of higher vocational education in non-university college providers of vocational education (VET) has allowed non-university college providers to enter the higher education system and offer Batchelor degrees normally associated with universities (Kemp and Norton 2014). As the growth of vocational institutions providing higher education is a major international development in the field of higher education (HE) (Trow, 2006) answering questions about the effects of this growth on social mobility through the case of Australia has increasing wider relevance to the growing European field of scholarship on college based higher education (Kuhlee & Laczik, 2015) because policy in Australia frequently refers to and draws on European systems. Bourdieu (1977/1990) and Bernstein (1990) have each developed understandings of education as fields or sites of cultural and structural mechanisms that mediate the maintenance and reproduction of social inequality, which inform the research that has been conducted in Australia in a current project of HE in vocational institutions (Wheelahan et al., 2016).

Thematic and critical discourse analysis is used to uncover the messages associated with the marketing of undergraduate degrees and the presentation of teaching, curriculum and assessment to students in the three largest publicly owned non-university providers. Data analysed from three case studies include: semi-structured interviews with senior college staff, curriculum leaders and marketing managers; media/marketing materials, institutional strategy and curriculum documents and government-collected enrolments data. The analysis explores how providers position themselves to support social mobility and who participates on their programs and whether the position these providers play is different from Anglophone or German-speaking country models (Graf, 2013; Powell et al., 2012). The analysis shows tensions and ambiguities in institutional missions and effects. New government owned non-university providers of Bachelor degrees present mixed messages by claiming to provide a distinctive form of applied higher technical knowledge and a mission to redress system inequalities for those from low-income families without experience of higher education. Participation data reveal a different account; the majority of students recruited are from a wider range of social groups, including international students and those from more affluent backgrounds trying to maintain their social advantages. This analysis of how vocational institutions are seeking to be distinctive providers in higher education provides a further significant contribution to understanding whether the system is becoming increasingly vertically stratified and stretched between providers in different global contexts (Marginson, 2016; Wheelahan 2016).

2.4 Work-based Higher Education in Germany at the nexus of employer interests and university standards

In contrast to the market-oriented higher-education systems in the sections above, Continental European states have maintained their considerable investments in a range of opportunities in vocational and higher education (Powell et al., 2012). However, tensions have deepened over who should pay for rising costs and who can access learning opportunities in higher (vocational) education, exacerbated in an era of increasing status competition via educational attainment, as education has become the key positional good for labour market integration as well as status attainment and reproduction.

In the face of such challenges, which alternatives exist to combine accessibility and support and secure transitions from education and training into employment? One prominent possibility, pioneered in Germany in the 1970s, are "dual-study" programs. These hybrid programs fully integrate phases of higher education study and paid work in firms; students are

simultaneously trainees, often in larger firms with possibilities for internal advancement (Graf, 2016). In the short term, firms receive inexpensive labour, they also benefit from personnel trained in the relevant organizational and technological context. Yet, firms invest not only in recruiting and training motivated future full-fledged employees. They also collaborate with higher education institutions to develop specific curricula and meet university academic standards. Employers and educators cooperate to provide coursework in "dual"-learning settings: on campus and in the workplace to shape a labour force oriented toward current challenges and opportunities in specific sectors, such as engineering and economics or business. Dual-study programs manifest ways in which employer interests and investments reshape advanced skill formation, producing new skills.

The example of contemporary developments in Germany provides an innovative approach to simultaneously strengthen education and the economy (Graf et al., 2017). Co-developed and co-financed by employers, these programs have many advantages. Benefits include encouraging employers to at least partially fund their own skill supply; the burden of financing higher education is shared by the state and firms.

Who gains access to this innovative form of vocationally-oriented higher education, especially within stratified education systems? Grounded in neo-institutional analysis and on the basis of expert interviews and document analysis, the relationship between higher (vocational and professional) education and firms in Germany has been subjected to detailed analysis, focusing on the rapid expansion of dual-study programs, and emphasizing the importance of employer interests and university standards and distributional conflicts in the politics of skill investment. The analysis provides an opportunity to present lessons that other countries might learn from these hybrid programs that have developed in Germany over the past several decades.

3   Discussion and concluding points

Across the different country contexts discussed above, current policies and practices contain the traces of the historical differences in the structures of each system. The ways in which Marginson's (2016) notion of the vertical stretching of higher education systems plays out across these different national spaces depends in part on their historical antecedents. The analysis of different systems offered here indicates clear differences between the Anglophone liberal market economies and the more organised markets of the DACH models (Germany, Austria, Switzerland) (see for example Verdier, 2017). However, this is not to suggest that current developments involve a simple binary. The developments in Germany illustrate the increasing pressures of competitive marketisation whilst still engaging employers in shaping advanced skill formation. In England there is the persistence of a wider educational and widening participation role for VET in spite of government policy pressures on the sector to respond more to vocational needs, and in Australia and Canada regulatory changes have enabled market expansion, but there are tensions with other policies, such as student funding, which have privileged university expansion. All these have had unintended consequences on who has taken up the new opportunities in higher vocational or college-based higher education. Yet, across all countries discussed here, there are elements of increased liberal marketisation, as well as evidence of government shaping markets with a significant role for employers, albeit often in a tertiary system that retains distinctions between vocational and academic pathways.

In relation to how providers present and articulate the value of higher vocational education in contexts of increased credentialism, claims to distinction often appear as chimeras, with idealised rather than realised claims to distinctiveness in terms of new and different students, different relationships with industry compared with universities, and different forms of learning. What is also evident from the work presented here, is that this is an emerging field for research and international comparison and more is needed. In particular, theoretically driven research

that explores the trajectories of different systems, by conceptualising the opportunities for expansion of higher vocational education within understandings of the practices of different providers, employers, governments and students, would provide insights that can inform the development of future policy and practice.

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Creation, Maintenance, and Disruption. Occupational Associations and Their Heterogeneous Institutional Work after the Swiss VET Policy Reform

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Abstract

Collective skill systems rely on institutional arrangements among a multitude of actors. In Switzerland, occupational associations are responsible for defining the occupations' training content and creating apprenticeship positions. They are important for fostering companies' contribution to VET, representing their members' interests in the national arena, and working together with public authorities to design and implement VET policies. In the aftermath of the Swiss VET policy reform of 2004, all occupations needed to be reformed and the number of occupations reduced, for example, by creating occupational fields. The increased pedagogical requirements and administrative workload put small occupational associations under pressure. However, after ten years, different outcomes (creation, maintenance, and disruption of occupations) are visible. With the theoretical framework of institutional work and based on a qualitative comparative case study, this contribution depicts the reform processes of three different occupational associations and identifies commonalities and differences between the three cases.

Keywords

institutional work, VET policy reform, comparative study, occupational associations

1   Introduction

Collective skill systems are vocational education and training (VET) regimes characterised by employers' associations' involvement in organising training, the provision of portable, certified occupational skills, and dual training (alternation of school-based learning and work-

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based training) (Trampusch, 2010). They rely on institutional arrangements among a multitude of actors (Busemeyer & Trampusch, 2012). Policy reforms might put these institutional arrangements to a stress test or disrupt them.

In Switzerland, the Confederation is responsible for vocational law and the enactment of training ordinances; the cantons implement the law and supervise vocational schools and host companies. Labelled as a "parastate administration" (Linder, 1994, p. 129), public authorities have delegated public tasks to private actors. Hence, 155 occupational associations (*Organisationen der Arbeitswelt*), which have been identified as key actors for establishing or transforming VET systems (Culpepper, 2003; Thelen, 2004), are responsible for defining the occupations' training content and creating apprenticeship positions. In Switzerland, their organisational form is not regulated. Firms and host companies' membership is voluntary.

The Swiss VET system is based on a new VET law, which was enacted in 2004. This VET policy reform has been characterised as self-preserving (Trampusch, 2010), meaning that the inherited path of the dual VET system was followed. However, it also included various novelties (Bundesrat, 2000; Maurer & Pieneck, 2013). All occupations needed to be reformed, which demanded increased pedagogical requirements and administrative workload. Further, one aim was to reduce the number of occupations by merging similar ones into occupational fields. This should broaden occupational profiles to improve mobility on the labour market. Additionally, intercompany courses were required and, to create general binding, sectoral training funds were newly possible.

The reform's implementation was neither fast nor automatic. To adapt their training regulations to the new law, occupational associations needed to conduct thorough analyses of the training content (BBT, 2007). The reform of 300 occupations was closely accompanied by public authorities (Berner, 2013). In the end, the number of occupations was reduced to around 230. However, against expectations, some small occupations were maintained, and new ones created.

Size matters because it is associated with available resources and influence in policy-making. The occupational associations' size is strongly related to the number of apprenticeship positions they provide. Less than 20 train more than one thousand apprentices per year, whereas around 140 are responsible for the remaining 210 occupations. Among them, around 90 occupations are estimated to train less than 100 apprentices annually (Mitterecker, 2016). Together, the small occupations provide around 40 per cent of apprenticeship positions (SBFI, 2015) — a proportion that is relevant for maintaining the Swiss VET system.

So far, most studies about the influence of associations in institutional processes have focussed on influential associations (Micelotta & Washington, 2013; Trampusch, 2010; Wettstein et al., 2014). The role of small and less resourceful associations has rarely been studied (Lawrence et al., 2013). Regarding the Swiss VET reform, small occupational associations found it most difficult to implement it owing to their comparatively limited resources. Therefore, this contribution addresses a research gap and intends to deepen the understanding of the practices of small organisations in changing organisational environments. We address the following research questions: Which different practices did small occupational associations develop to deal with the recent Swiss VET reform? How can the diverse outcomes (creation, maintenance, and disruption of occupations) be interpreted?

2 Theoretical framework: Institutional work

The institutional work perspective (Lawrence & Suddaby, 2006; Lawrence et al., 2009, 2011, 2013) deals with various forms of institutional change and tries to understand the role of actors in these processes. It states that institutions need to be purposefully and actively created, maintained, and disrupted, and focuses on the knowledgeable, creative, and practical work of individuals and collective actors attempting to shape institutions.

Institutional work involves reflexive awareness and effort. It addresses cultural-cognitive, normative, and regulative pillars of institutions (Scott, 2008). Cultural-cognitive elements are shared understanding or scripts that guide action. Normative elements include values and norms. Regulative institutions consist of rules and regulations. Although it is possible to analytically distinguish between the three pillars, they are empirically interrelated elements of institutionalisation.

An occupation (*Beruf*) can be conceived of an institution (Lawrence, 2004; Abraham & Hinz, 2008). It represents "a systematized combination of formal knowledge, know-how and experience, not geared to any single workplace and is bound up with a particular system of wage relations" (Clarke et al., 2013, p. 944). It is collectively organised, related to occupational labour markets, and needs to be normatively, cultural-cognitively, and legally defined (Nicklich & Fortwengel, 2017).

Institutional work relates *creating* an institution to institutional entrepreneurship (Eisenstadt, 1980; DiMaggio, 1988; Battilana et al., 2009). Institutional entrepreneurs are "organized actors who envision new institutions as a means of advancing interests they value highly yet that are suppressed by extant logics". (Greenwood & Suddaby, 2006, p. 29) They are individual or collective change agents who initiate and implement divergent changes despite pressures towards stasis. Divergent changes break with the institutionalised template for organising, which is a field's shared understanding of the aims to be pursued and the appropriate methods to be followed.

From the perspective of institutional work, institutional *maintenance* is not the uncontested, relatively unproblematic, and taken-for-granted reproduction of institutional order (Micelotta & Washington, 2013) but "involves considerable effort, and often occurs as a consequence of change in the organization or its environment" (Lawrence & Suddaby, 2006, p. 234). From this point of view, institutions are actively reproduced, and hard work might be necessary to ensure their stability. Therefore, it is important to understand how actors can stabilise their practices in changing contexts. Incumbent actors often mobilise resistance against regulatory change and try to re-establish the status quo or work to adjust and adapt to inflected institutional arrangements.

Finally, institutional work of *disruption* refers to deinstitutionalisation, which is a "process by which the legitimacy of an established or institutionalized organizational practice erodes or discontinues". (Oliver, 1992, p. 564) In this case, organisations fail to continually reproduce previously legitimate or taken-for-granted actions. This might be the case if changes in the political field, in government laws and societal values, or functional economic considerations, call the legitimacy of a traditional practice into question. Then, deinstitutionalisation might be a proactive and conscious response by organisations to changing circumstances or the result of environmental changes over which they excerptlittle control and respond only passively or subconsciously.

3   Method: Qualitative comparative case study

We explore our research question by using a qualitative comparative case study (Merriam, 2009; Patton, 2005). The aim of case study research is to conduct an in-depth analysis of the phenomenon in question. Therefore, qualitative inquiry typically focuses on relatively small and purposefully selected samples.

Purposeful sampling selects information-rich and illuminative cases that offer useful manifestations of the phenomenon of interest (Patton, 2005). Thus, we purposefully selected three information-rich cases in a maximum variation sampling. This kind of sampling strategy allows for capturing variation, as well as describing common themes that cut across variation. The selection criterion is the maximum heterogeneity of outcomes (creation, maintenance, and disruption of occupations) after the Swiss VET reform.

The cases selected were the associations responsible for the artisanal weaver, cable car mechanic, and piano maker occupations. They represent three of the smallest occupations in the Swiss VET system and, therefore, allowed for identifying the types of institutional work in which small organisations can engage. However, the outcome of their institutional work was different. Whereas the cable car association could act as institutional entrepreneurs and create new occupations, the weavers maintained theirs against all odds. In contrast, the piano makers represented a case of disruption because they could not uphold the legitimacy of retaining their individual occupation and needed to merge with similar occupations.

The case studies were based on document analysis and theory-generating expert interviews with key representatives of the occupational associations (Bogner et al., 2009). The analysis of the different sources served to reconstruct the occupational reform processes (Langley, 1999). In the following, we start with the case of disruption as a most likely case, given the normative demands of merging small occupations into occupational fields. Then, we depict a case of unexpected maintenance, and, finally, a case of creation.

4 Results

4.1 Disruption: Case study of the piano makers and tuners

The case study of the piano makers is an example of disruption because they needed to merge with other occupations. Today, musical instrument makers deal with the maintenance, repair, construction, and sale of instruments. They were among the first that were reformed, and the new apprenticeships started around 2007. In 2016, 12 apprentices started training.

The state initiated the reform by letting the piano makers know their occupation had been identified as too small and, therefore, needed to merge into an occupational field with other small occupations working with wood. The concerned occupations had various meetings and managed to find a compromise. They formed two sub-groups: instrument makers and woodworkers. In this process, the piano makers did not look for alternatives, such as replacing the apprenticeship with further education or sending apprentices to a well-known school abroad, as they were convinced of the high value of their dual training.

The various associations also needed to merge into an umbrella organisation of musical instrument makers and build a new office. The association of the piano makers still exists today as a part of the umbrella organisation and consists of 270 members, all professionals and holders of apprenticeship diplomas. Most people who work for the association do so voluntarily or with a small remuneration.

The new association started with the drafting of the regulations. In this process, the public authorities forced them to give up their own occupational titles, which was very painful. Even today, there is no new occupational identity of musical instrument makers, and the piano makers still want to return to their former denomination.

The piano makers' association perceived public authorities of the Confederation as inflexible. To increase their influence, they built a political network by choosing a member of parliament as president.

The reform's implementation was costly. The umbrella association created a new office to deal with the reform, new pedagogical documents needed to be written and translated into three national languages, and a national training centre had to be established.

Only after visiting twelve locations did the association successfully find a place for the training centre. This was a VET school for agriculture, which faced a lack of apprentices, and the responsible canton was interested in filling the void with the musical instrument makers. Additionally, the new training regulations foresaw inter-company courses that needed new machines and materials. Only by mobilising personal networks did they acquire sponsors and could finance the equipment.

Financing the training centre and the umbrella organisation increased costs. Therefore, new modes for financing needed to be developed. One solution was to introduce a general binding sectoral training fund. Now, every firm active in repairing or building musical instruments needs to pay into it, whether it trains or not. As this is a sector with few firms, they need to pay comparatively large fees. This resulted in conflicts, for example, the cancellation of memberships. There was even a lawsuit with a professional who refused to pay. The court decided in favour of the association, which was perceived as an important step in stabilising the new financial mode.

4.2 Maintenance: Case study of the artisanal weavers

The weavers' occupational association maintained their small occupation (Strebel et al., 2018). Today, artisanal weavers design and weave fabrics on looms for clothing, accessories, and home textiles. In 2016, nine people started training. The occupational association consists of 360 members who are mostly individual VET diploma holders. The members' participation in working groups is mostly voluntary and barely remunerated.

The VET reform was perceived as an existential threat because of the seemingly high requirements for updating training regulations. Especially, the timeframe of five years to update regulations was too short, and the association lacked resources for drafting a new ordinance. Simultaneously, cantonal authorities closed down a VET school that provided weekly VET courses in weaving and a number of school-based apprenticeship positions.

At first, the weavers complied with the public administration's requirement to merge with others. They evaluated to create an occupational field with similar occupations. However, in the end, they did not find an occupation with which they could merge.

Instead, the weavers' association evaluated alternative solutions for training (nationwide-recognised continuous education certificates or individualised continuing education) and even the possibility of abandoning its apprenticeship. In the end, they decided to maintain their apprenticeship. This decision was justified as follows: Inquiries showed their VET diploma holders were successfully integrated into the labour markets and their practical skills were valued. Further, a VET certificate guaranteed a certain wage level for weavers, which might not be the case with other certificates.

After cantonal authorities intervened in favour of the weavers and federal authorities extended the deadline for VET reform, the weavers decided to maintain their apprenticeship and engage in the reform process in 2007. While defining new curricula, new elements were introduced. More weight was given to design, training in customer service, and sales. Moreover, the name of the occupation was changed, and more school days were introduced, which increased training costs.

Implementing the new ordinance was demanding, as pedagogical materials needed to be developed for the newly created inter-company courses and workplace trainers and exam experts had to be trained. The weavers' association, owing to its limited resources, needed to mobilise voluntary member support to fulfil these tasks.

To mobilise voluntary member support and encourage firms to provide apprenticeship positions, the association used mechanisms such as valorisation and demonisation to foster compliance. Members who voluntarily contributed to the implementation were rewarded through social events and the provision of free further training opportunities. Their contribution was regularly praised in the association's publications. Contrarily, people that did not join events were mentioned as negative counter-examples. Further, they used informal channels and face-to-face meetings that proved to be best-suited for persuasion and consensus-finding. Concerning the participation of host companies in training, the association actively promoted exchange and consensus finding by creating forums for informal exchange and by fostering networks

among members and host companies. It is in such forums and networks that informal group pressure was used to foster compliance.

4.3 Creation: Case study of the cable car mechanics

Surprisingly, the cable car association created new occupations and acted as an institutional entrepreneur in a time when the number of occupations was to be reduced. Today, cable car mechanics are responsible for maintaining and servicing of cable cars. In 2016, 35 people started with the new apprenticeship.

The cable car association is a long-standing employer association that employs staff and has a high degree of organisation and a well-established network with 388 member firms. Before creating their apprenticeships, there only existed a continuous education format for graduates of other occupations, further qualifying them as certified cable car specialists.

In the early 2000s, the occupational association developed the idea of creating a new apprenticeship. They argued that diploma holders from other occupations were no longer suited to deal with complex cable car technology and mere technicians often lacked customer service skills. Therefore, they wanted to create two apprenticeships integrating elements of various occupations (electrician, mechanical engineer, motor mechanic) and add training in tourism-related subjects. Because they expected to train only a few apprentices, they planned to create a new training centre. In 2003, the results of a member survey showed that up to 60 firms were ready to train apprentices and most supported the centre's creation.

In 2004, the public administration granted permission to start drafting training regulations. In particular, the association convinced public authorities that their skill requirements could not be met by other occupations, the number of companies was sufficiently high to offer apprenticeships and a labour market for the future cable car mechanics, and that they provided perspectives for youth in mountain regions.

To implement the new regulations, the association created its own training centre. With this decision, they limited risk for the cantonal authorities, which are legally responsible for the school-based part of VET. The association financed the development of training regulations and the centre through various sources: a newly created, non-compulsory branch fund, additional funding to support economic development in mountain regions, and contributions from private foundations. This gave them more autonomy from the cantons, as well as the full financial risk because the cantons sending apprentices would only contribute to the costs of vocational school courses. Further, the association found a location for the new training centre in a mountain municipality, who wanted to revive its local economy. Finally, in 2006, the association started training new apprentices.

However, although the association prepared their firms with information about training, trained future workplace trainers, and monitored the firms, implementing training proved to be difficult. Particularly challenging was the financing of the training centre, gaining host companies, and finding apprentices.

The decision to organise courses in an association-led training centre had important financial consequences. It created an incentive structure for member firms to engage in training. If they were not offering sufficient apprenticeship positions, their association had to cover the financial deficit. Initial calculations had foreseen at least 20 apprentices annually, so the training centre would become self-supporting. Faced with a low number of apprentices, the association needed to take measures for their project to survive. The focus now clearly shifted away from actual firm needs towards having enough apprentices to financially self-sustain the training centre.

Among others, they successfully negotiated an agreement with the cantons to increase their contributions for the initial years. They also increased normative pressure on companies. Another explanation for the low number of apprentices was the lack of visibility and social

recognition of the new occupations. Therefore, the association engaged in occupational marketing to attract school-leavers. Finally, when the first graduates became cable car specialists, they could start training apprentices on their own, which facilitated further institutionalisation of training in firms.

5 Preliminary conclusion

The selected cases depict practices developed by small occupational associations to deal with the recent VET policy reform in Switzerland. However, there were three different outcomes. Whereas the piano makers could no longer legitimise an independent occupation and needed to merge with others, the weavers maintained their occupation. Further, the occupation of cable car mechanics was created in an institutional environment, in which the number of occupations was to be reduced.

Comparing the three cases allows for identifying the following commonalities. They show that creating, maintaining, and disrupting occupations requires effort and demands that associations conduct cultural-cognitive, normative, and regulative institutional work. None of the depicted processes has been easy or smooth. Without active collective actors and their institutional work, those occupations would not have been created, maintained, or—even in the case of de-institutionalisation as a single occupation—upheld as a specialisation within a broader apprenticeship scheme. They needed to invest in cultural-cognitive (i.e., theorising skill deficiencies and the need for apprenticeships and new training centres), normative (i.e., increased normative pressure on companies to train and create an attractive image of the new occupation), and regulative (i.e., drafting training ordinances and curricula and creating branch funds) institutional work. Often, voluntarily working individuals or smaller groups were key to success. This high engagement can be interpreted as being normatively driven. These actors have been convinced of the high value of dual apprenticeships, which can also be interpreted as a deeply anchored cultural template in Switzerland.

Further, the provision of the occupations was not functionally necessary owing to immediate labour market needs. In every case, alternative training opportunities existed, such as on-the-job training, continuous education within or outside the VET system, or training opportunities in neighbour countries. These occupations exist today as a result of the inventive and strategic institutional work of collective actors who were able to position themselves within the new legal framework. As the cases show, labour market needs were actively constructed and argued with towards members and external stakeholders.

Preliminary results, which still need to be further elaborated on, show functional differences in the following dimensions: dealing with members (coercion versus valorisation/demonisation), funding (voluntary or obligatory branch funds versus mere member fees), negotiating with public administrations (for example co-optation of politicians), organisation (professionalised or relying on voluntary work), and timing of the reform process.

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Open Learning Resource Structures in the Activation of VET Learners

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Abstract

This paper analyses the open structures in the VET practice and the methodological impact of the interactive-collaborative approaches in the new learning environment focusing on inclusion and exclusion. According to the different levels of student motivation and the inhomogeneous nature of learning content support, the teaching and learning of the new VET content require methodological solutions other than the traditional ones, in which the interactive methods are increasingly supported by the developing learning environment, and cooperation bears a considerable pedagogical development potential. According to our research activities, the Open Content Development (OCD) model, which was based on the results of several learning content digitalizing projects, was built upon the recognition of the change in the teaching-learning paradigm. Our paper explores the possible steps of supporting the under-motivated and highly sensitive group of students through a pilot program dedicated to using inclusion and exclusion aspects and improving the methodical knowledge of teachers.

Keywords

content development, new methods of learning, inclusion in VET

1   Introduction

The transformation of the labour market, especially after the Millenary, made it rather clear that the traditional systems of professional qualification were no longer able to shape the system of employment. Most of the work activities contain rapidly changing elements determined by technological and economic aspects (Beetham & Sharpe, 2013), and the dynamics of the changes are difficult to be forecasted. There is a transformation turn going on in VET, the old structures are no more able to respond to the new challenges (Nore, 2015). We are less and less able to manage these changes within the rigid frameworks of the qualification systems and closed structures. This topic has strong VET didactical features (Gessler & Herrera, 2015) and

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is partly connected to the endeavours that strive to shape the alternatives of the traditional VET curricula in a learning environment determined by modern ICT in the learning process and in the construction of the curriculum, as well (Colons & Halverson, 2009; Benedek & Molnár, 2015, 2018). Developing Open Educational Resources (OER) with students' participation means a potential of content and methodology. The applied ICT solutions (open source and ICT supported Learning Management System (LMS), memory independent management of complex visual elements and the flexible management of micro-contents) is capable of surpassing traditional, school- and notebook-based teaching. Concerning the problem of involving/excluding VET students, also discussed by the Gothenburg Summit, we should refer to the new initiative of the European Commission adopted in January 2018 to improve the European citizens' key competencies and digital skills and to promote common values (Declaration, 2018). The Digital Education Action Plan outlines how the EU can help people, educational institutions, and education systems better adapt to life and work in an age of rapid digital change by making better use of digital technology for teaching and learning. The new EU initiatives include supporting schools with high-speed broadband connections, scaling up a new self-assessment tool for schools on the use of technology for teaching and learning and a public awareness campaign on online safety, media literacy and cyber hygiene.

In developing new vocational training concepts, a personalized approach is generally applied. Vocational training has a unique position in progressive educational systems, mainly because the duration of training is much shorter than in non-vocational programs. This uniqueness is manifested in the way vocational programs prepare students for the social division of labour in the broadest sense. Our network-based action research put the next questions: how can we develop and structure open educational resources (OER) in the VET learning practice using an open project approach and how can we involve and motivate students to be more active in the learning process?

2   Methods

Our research deals with the questions of seeking new teaching methods for VET students allowing their participation in interactive content development. During our efforts to develop Open Education Resources (OER) within the framework of our experiment implemented in 2015-2017, we found that student participation offered great potentials in relation to the VET content and the methodology, as well.
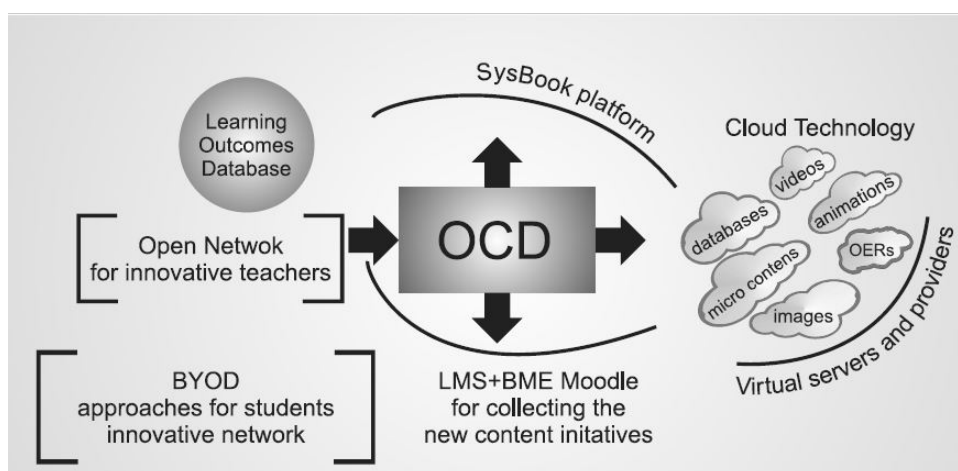
Figure 1: Learning environment of the OCD model

The main didactical objective of our project started in 2016 within the frames of the methodological research initiated by the Hungarian Academy of Sciences (HAS) was to establish an open network that was built on the Learning Outcome (LO) elements of the traditional VET curricular structures and involved innovative developer teachers. In order to impel students' participation, during the development process we consciously built on the potential hiding in BYOD device usage, since according to our previous survey, 93 percent of the VET students had smartphones. Figure 1 presents the environmental conditions supporting our work in the development process. The teachers' and students' networks established during the initial phase were framed with the help of the Learning Management System (LMS) that supported the training of the teachers joining the innovation and also archived the micro-contents that were built on the LO requirements and were considered as development outputs. Another perspective element of the 4-5-year development process is that, by extending the memory and bandwidth limiting the current school applications, we offer cloud services for the schools that provide virtual servers supporting the systematization and archiving of the micro contents as well as school-level development work; the technical background for this is provided by the cloud technology applied by the HAS.

The central element of our development work is the improvement of the pupils'/students' motivations and collaborative learning methods. Underlining the LO references as input factors is important so that we can assure compliance with the traditional curricular requirements in a content environment where, according to our survey, documented (traditionally printed) learning materials or schoolbooks are lacking in 35 percent and according to the estimations of the teachers teaching in VET, 40 percent of the available school materials are not up-to-date. This is a professional opinion containing subjective elements. However, we can clearly state that for the teachers teaching mainly theoretical subjects and their students the permanent modernization of VET content and providing access supported by ICT platforms mean a big challenge. Figure 2 presents our OCD model that can be implemented with ICT support and online evaluation the input factors of which, in addition to the LOs representing content standards, are the innovative activities of the teachers and the pupils/students. Of course, the determination of the output factors indicating the impacts of the methodological developments was important, as well. These are, on the one hand, the newly developed micro contents that can really be objectified, basically, possess OER features and are available on platforms supporting open learning. Concerning the students, active learning participation can be regarded as an important output, during the course of which the professional competences and high-level motivation are developed. Regarding the sustainability and the permanent development of the model, other important outputs are the enhancement of the developer competencies of the teachers working in VET and the establishment of the new methodological culture.
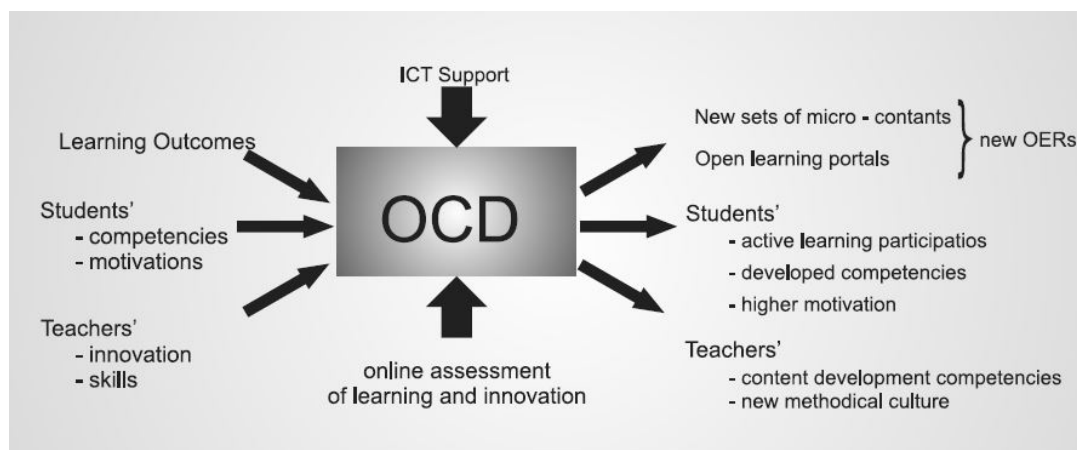
Figure 2   Inputs-outputs of the OCD model

Interdisciplinary approaches are increasingly acknowledged; however, we should note here that accelerating technical development results in the continuous restructuring of the technical culture and the educational contents. These traditionally focus on information, so a strong competition may be foreseen between traditional curricula focusing on quantity and new ones representing a more complex approach. This contradiction may only be resolved by educational institutions if they are willing to modernize their knowledge transfer system that is traditionally rigid and divided into subjects and to create the didactics for the new, integrated approach.

Regarding its nature, our methodological research is action research. Of course, it also includes theoretical analyzation that uses the latest results of the topics of the learning environment and interactive-collaborative online learning as the base for the process of open content development. In terms of the traditional didactical triangle (Resource–Teacher-Student), this process does not consider the Learning Resource – exactly because of its chronic lack or its dynamic transformation / development in VET – as a ready and instant content description, and so opens or takes the process of content development as open. In this process, the (practising) teachers, and what makes an outstandingly important interaction potential, the students can participate and create micro contents connecting to the learning units fixed by the curricula.

Our action research can also be called a network research since in the first phase of the research a voluntary based cooperation network of the ten VET institutions ready to implement the research concept was established; 6-8 teachers of each institution were trained in the general methodology of open content development and the construction of micro contents within the frames of a 30-hour blended learning course. The training that was implemented in a 30:70 percent contact-distance education form was supported by an educational platform (Moodle) where the learning materials, methodological support and the contents developed by the participants were uploaded. This process allows permanent evaluation and feedback. In the following phases of the research, the teachers who are in possession of the methodology invite their students to join in open content development during their own classroom lessons. The action research does not only aim to complete the already existing content elements with learning units and micro contents of a new type but to develop the teachers' methodological knowledge, as well. Another important aim is to examine the micro contents that were created through new procedures from the aspect of genre and multimodality.
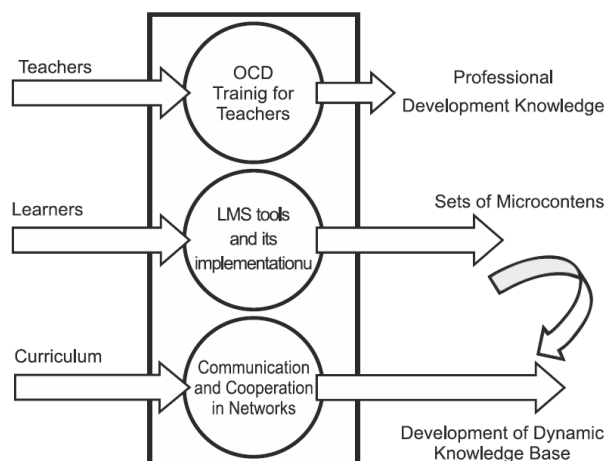
Figure 3   Creation of new results by the OCD model

As shown by Figure 3, the three input elements were: the teachers contributing to the innovation, the students connecting to them at the lessons and during the creation and the elaboration of the content elements and the learning material to be changed in its content and methodological elements.

3   Results

According to the experiences of the first two academic years, we can state that the main challenge, and a factor determining future steps, as well, was the cooperation established with the VET schools and the teachers joining the innovation process. Modern communication technologies bridged over physical distance, but because of the 24-26-lesson burden on the teachers and their additional school engagements, measuring the teachers' attitudes became a decisive element. This, in fact, can considerably affect the professional content development knowledge that is essential on the teachers' side. According to the first experiences, this task can be solved in a more concentrated way within our teacher training programs, therefore from the autumn semester in 2017, introduction to the methodologies of micro-content development and students' independent micro-content tasks have been initiated at several courses (*Introduction to System Theory, Educational Theory, Digital Pedagogy*) in VET teachers' further training at our university.

During the application of the OCD methodology, the teachers had the possibility to involve the students into content development, and to analyse whether the creation of content elements (micro-content) of a new type resulted in significant changes in the students' performance, or affected their willingness to learn, and how all this reacted upon their own pedagogical work.

In this process and within the given educational frameworks, in addition to the systemization of the theoretical bases, the targeted preparation of the teachers, their involvement in the content development and the newish development of the teacher-student cooperation, implemented by content development and the construction of micro-content, was also given attention. In the network of vocational training institutions being formed within the frames of our vocational methodological project, 84 teachers of 9 schools have joined our training and development in the course of which we have been able to analyse the process of collaborative work between the teachers and between the teachers and the students, as well. By giving a critical and VET-focused overview of the interactive-collaborative pedagogical approaches, the lecture undertakes to give a model description of the interrelations necessary for the analyzation of the

model of this process and the practical results and so to create a system of aspects for further empiric researches. The project offers solutions for the everyday practical problems of VET and provides a theoretical and methodological background for the digital development and modernization of educational content. Within the frames of the open content development (OCD) model updating the vocational teachers' methodological knowledge (Benedek-Molnár, 2017), we had the opportunity to involve students into learning content development, and to examine whether the creation of content elements (micro-content) of a new type brought about significant changes in their performance, affected their willingness to learn and whether it reacted upon my own educational work. In the first phase of the research, we made oral and written interviews, and I compared the results of the tests and repetition of the students involved in the project to my former results as well as their peers' results. The survey proved the next presupposition: the participants' results improved, and they were able to recall and apply the learned material more effectively later, as well, and so became much more self-confident and active during the lessons. In parallel with the development work, one year ago we had initiated a measurement of the teachers' attitude (Molnár & Papp, 2018), and then one year later, especially with the intention to analyze the students' collaborative features, we implemented a query-based attitude survey.

The OCD project invited the teachers who were ready to teach in an interactive and cooperative way, i.e. in an online learning environment. To get the teachers' feedback regarding their attitudes towards ICT based learning environment and interactive, collaborative methods, we used a quantitative questionnaire (N=149) in the autumn semester of 2017. Concerning the teachers' attitude, the weight of using computers is an important indicator. More than half of the responding teachers use computers during their work or in classroom work more than 5 hours a day. Each of the teachers in the sample uses computers every day – for 1-5 hours, which is a remarkable time.

The answers we have gained so far clearly prove the conceptual starting points of the OCD model: during the learning process, most of the students prefer ICT tools or materials made with ICT tools to printed materials. On the basis of the results also introduced in teacher training, when searching for or creating digital content VET students use the ICT tools available in their learning environment at a continuously growing rate, they take the e-diary as an important reference and say they are open to non-traditional teaching and learning methods. It is notable that besides the online collaboration becoming more and more frequent between the students, the common work of teachers and students has started to strengthen, as well. Owing to this, the passive student role may become replaced by interactivity, the students logical and system-based thinking is improving, their digital competencies are developing. When analyzing the students' products, we can see that the linear content structure of the school books is becoming replaced by mind maps and images in their thinking.

At present, besides the measurement of the teachers', and from this year on, the students', attitudes other results of the development process suitable for further analysis are the pieces of micro-content elaborated during the innovation process. The number of these is continuously growing, at the moment it is 120, including the elements connecting to practice and archived during the teachers' further training and the exercises elaborated at the mentioned courses in teacher training. As for the four-year period of the project, it is a realistic aim to have the description of a dynamic model allowing a more detailed documentation of the development process and possible to be analysed. Probably, a VET learning content development tailored to the model would be more effective in attracting teachers open to innovation and in offering a development alternative surpassing today's traditional teaching and learning classroom paradigm for the students open to interactive, collaborative learning.

As for the students' survey, we have received 138 responses. The respondents attend vocational secondary grammar schools in Budapest and in Kecskemét; 73 percent of them are

girls, 27 percent are boys, and most of the responders (82 percent) are between 18 and 21. The responders include traders, tourist guides, financial administrators, assistants in special education, touristic organizers and sales representatives and enterprise and wage administrators. From these results, it is clear that ICT devices have played an important role in the learning processes of these VET students. 89 percent of the responders gave mark 4 (42 percent) or 5 (47 percent) on a 5-grade scale. The very same students prefer using their own devices (mark 4: 29 percent, mark 5: 54 percent). 84 percent of the students use their smartphones in everyday learning, and in addition to this, the daily or weekly use of own laptops and school computers is typical. Home desktop computers are still being used, however, they are more and more often replaced by laptops; many of the students take them to school and use them for taking notes. Surprisingly, only a few students use tablets, e-books, and notebooks – these have almost fully been substituted by smartphones.

Examining the reasons, it has turned out that the students are so keen on using ICT tools for learning because the learning materials gained or made here are accessible independently of place and time, the notes can later be completed and re-edited and the materials can easily be saved and copied to several places; according to many, gaining information is faster and learning is more effective and lifelike with these devices. Most of the responders use their ICT tools for keeping contacts with their parents (69 percent), friends (95 percent) and classmates (83 percent) as well as for various hobbies (watching films: 78 percent, listening to music: 84 percent). One of the most positive results of our survey is that using ICT tools for learning purposes is significant. 93 percent of the respondents have a look at the e-diary through their smart devices, 66 percent of them also keep contacts with their teachers, which can be considered the base for future successful collaboration. 73 percent of the students regularly search for digital learning materials (this is necessary owing to the imperfect and out-of-date schoolbooks and the lack of printed materials), and 43 percent of them also produce this type of content. Later, it will be worth examining how many of those producing digital learning material content for themselves, in what form and for whom make their products available. We think that getting to know, forming and perhaps changing their readiness and motivation to 'publish' is a key factor for OCD. In the query, we also asked the students about the frequency of the various forms of work applied by the teachers at the lessons. It is clear that lecture style work, the teacher giving presentations, is still the most typical form of teaching, 54 percent of the teachers apply it every day and a further 30 percent every week, contrary to an independent investigation, elaboration, pair or group work that is generally applied once a week. Setting out from some other answers and general conclusions of the query, we think that this weekly application concerns the same teachers and the same lessons, so some of the teachers regularly activate their students and various methods, while others divert from traditional lecture style teaching rather rarely. The students, however, require diversity and are open to the methods deviating from the traditional lines (mark 3 on the 5-grade scale: 23 percent, mark 4: 37 percent and mark 5: 39 percent); this attitude can be built on since the students are partners in change and renewal.

The impact of OCD and our research is the daily usability of the results in theory and practice. Active content development reduces the passive role of students in VET and develops their logical and system-oriented thinking. Using their mobiles and computers improves their digital competencies without having to attend IT courses. We present some examples of content development that will show how the students' logic differs from that of the traditional, linear curriculum.

4 Conclusion

The basis of our OCD model is that vocational curricula and schoolbooks can't keep up with the fast changes, but electronic content development may help. Our aim was to involve the students into the procedure, to achieve a more successful and social learning process, tell them

about the usage of micro-content in terms of mobile learning while contributing to positive changes in the class community. To achieve these aims, joint work with the students, coordination of their digital content development activities, regular contact keeping, and direct communication were key factors and were primarily implemented by means of the social media platforms they favour. It was an everyday experience of the involved teachers how different the students' behaviour online was, they handled conflicts better than personally and were more open, brave and helpful to each other than usual. For the students it is extremely motivating if they have the possibility to form and elaborate the learning material according to their own logic, can visualize and make explanations to each other through examples from areas of their own interest; meanwhile, the teacher can continuously evolve both professionally and methodically.

Owing to the features of action research, the expected results of our research can be perceived already in the first phase (2017-2018). The evolution of the VET schools' network is much more dynamic than expected, the network of 12 schools that was planned to be created during three years has already been born, which indicates the interest in this process. 74 teachers joined the 30-hour blended training that was determined as the precondition of formal participation, which means that 5-7 vocational teachers joined the development program in each school. The number of the micro-content units related to the vocational learning units and elaborated by the teachers is now over one hundred, and as a result of the teachers' work, the first results of the students' learning content development have also appeared in our model of open learning content development. On the one hand, the representational characteristics of the micro-contents created within the frames of open content development have become searchable in several dimensions. On the other hand, the nature of the micro-contents, the applied presentation methods (e.g. adopting dynamic pictorial presentation – flashes, videos) and the illustration of structures on mind maps clearly indicate characteristics that point to perceivable differences regarding inclusion/exclusion. Our examination within the network of the 12 pilot schools offers well adoptable methodological potentials in the topic of inclusion and exclusion. It eases the activation of the disadvantaged students potentially dropping out – some of them with social disadvantages while others with learning difficulties having evolved in the previous school grade – as well as their joining in the development processes and offers the opportunity to apply the cooperative pedagogical methods in the teaching process of vocational subjects.

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Promoting Work-Based Vocational Education Provisions: Case Studies and Lessons from Arab Region Countries

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Abstract

There is growing interest in work-based experiences being part of vocational education and training (VET) provisions for young people to assist their readiness for work and working. To understand the range of factors promoting or inhibiting such provisions, cross country comparisons are often instructive. In this paper, the findings from a review of work-based learning VET programs in nine Arab region countries are presented and summarised. Comparing these educational provisions across countries within the same region, albeit with diverse institutional arrangements, sometimes turbulent recent histories and economic transformations permits illustrations and elaborations of such factors. The findings illuminated the complex of factors, characterised by interdependence, that reform efforts and government and societal initiatives need to consider these factors as being collective and interrelated, rather than only being addressed in isolation. Implications for the European context include an elaboration of factors that shape the provision of work-based learning for young people in vocational education. A salient finding is also the apparent mismatch between models of work-based learning that are proposed by sponsoring countries and their fit with these nine countries.

Keywords

work-based learning experiences, vocational education, Arab region

1   Introduction

Globally, there is growing interest in work-based experiences being part of vocational education and training provisions for young people to assist their readiness for work and working life (The European Lifelong Guidance Policy Network, 2014). In seeking to understand the range of factors promoting or inhibiting such provisions, cross country comparisons are often instructive. In this paper, the findings from a review of work-based learning programs in nine Arab region countries are presented and summarised (UNESCO, 2018). Comparing these educational provisions across countries within the same region, albeit with diverse institutional arrangements and, sometimes turbulent recent histories and economic transformations permits illustrations and elaborations of these factors.

The method comprised a comparison of case studies prepared by country-based experts using a common framing of topics for reporting and a comparative longitudinal analysis across these topics. These topics included i) national context; ii) provisions of work-based learning programmes in vocational education, iii) governance arrangements, iv) stakeholders/

partnerships roles and contributions, v) finances and vi) country-specific recommendations for enhancing the role of workplace learning experiences.

The conceptual framing was to delineate and associate complexes of institutional (Searle 1995) and personal factors (Billett 2009) that represent and explain what promotes and constrains the enactment of workplace learning experiences. It was found that a complex of factors shapes the prospects for enhancing work-based learning arrangements for young people in Arab region countries. These comprise: (a) government stability and co-ordination, (b) economic certainty and stability, (c) developed VET systems, (d) maturity of social partnerships, and v) societal sentiments about VET, the occupation it serves, and practice of learning through work. This last factor has received limited attention in previous reports and reform efforts, yet is foundational to realising an enhanced individual, institutional, and societal commitment to VET and work-based learning arrangements (UNESCO 2018).

The findings illuminated the complex of factors that is characterised by interdependence and, as such, reform efforts and government and societal initiatives need to consider these factors as a collective and interrelated set of factors impacting upon each other, rather than only being addressed in isolation. Consequently, reform efforts and strategic initiatives or interventions need to be aware of and address them collectively and recognise that they are interdependent. The findings emphasise the importance of mature institutional arrangements such as governance, partnerships and vocational education systems that extends to competent and industry-experienced teachers. Findings about personal factors emphasize the importance of how societal sentiments about vocational education and the occupations it serves are engaged with by all actors (young people, parents, employers, government officials). The findings also emphasize the importance of situational factors and engagements, albeit in regional, remote or metropolitan communities.

Some of the implications for the European context include an elaboration of factors that shape the provision of work-based learning for young people in vocational education. A salient finding is also the apparent mismatch between models of work-based learning that are proposed by sponsoring countries and their fit with these nine countries.

2   Method

The paper comprises a review of documents from four sources. Firstly, the eight country reports were prepared by experts familiar with their political, economic, social, and cultural context and with detailed knowledge of their VET system. Five studies were organised by UNESCO (i.e., Egypt, Jordan, Lebanon, Oman, and Palestine) and three by the European Training Foundation (ETF) (i.e., Algeria, Morocco, and Tunisia). Both sets of reports used common framing, although varied in their presentation. This paper is primarily informed by country reports from Algeria, Egypt (El-AShmawi, 2017), Jordan (Rawashdeh, 2017), Lebanon (Ghneim, 2017), Palestine (Jweiles, 2017), Morocco (Sennou, 2017), Oman (Al-Mujaini, 2017), Tunisia (Chelbi, 2017) and Algeria (Bedou, 2018), augmented by other sources.

Secondly, documents provided by UNESCO were reviewed, including earlier studies including the ETF 2009 report on WBL arrangements in Mediterranean countries. Thirdly, the Torino Process reports of Egypt, Jordan, Palestine, and Lebanon's VET systems provided quite current accounts of activities in these countries. Fourthly, documents informing about demographic, economic, and institutional information were accesses from sources such as World Development indicators and UNESCO Institute for Statistics.

3   Findings

Six key interrelated elements were found to be shaping the contemporary national contexts of these countries that have implications for work-based learning arrangements for young people. These are: (a) political instability and fragmentation; (b) economic uncertainty; (c) high levels

of unemployment, particularly for young people; (d) nascent VET systems struggling to respond to challenges of workplace demand and youth unemployment, especially in the case of young females; (e) absent or underdeveloped social partnerships of the kind required to promote and support workplace learning arrangements; and (f) societal sentiments that position VET and the occupation it serves as being low and unworthy, particularly those with a strong focus on learning occupations through work. A key point is that many of the factors set out above are interdependent and complex as indicated in Figure 1.
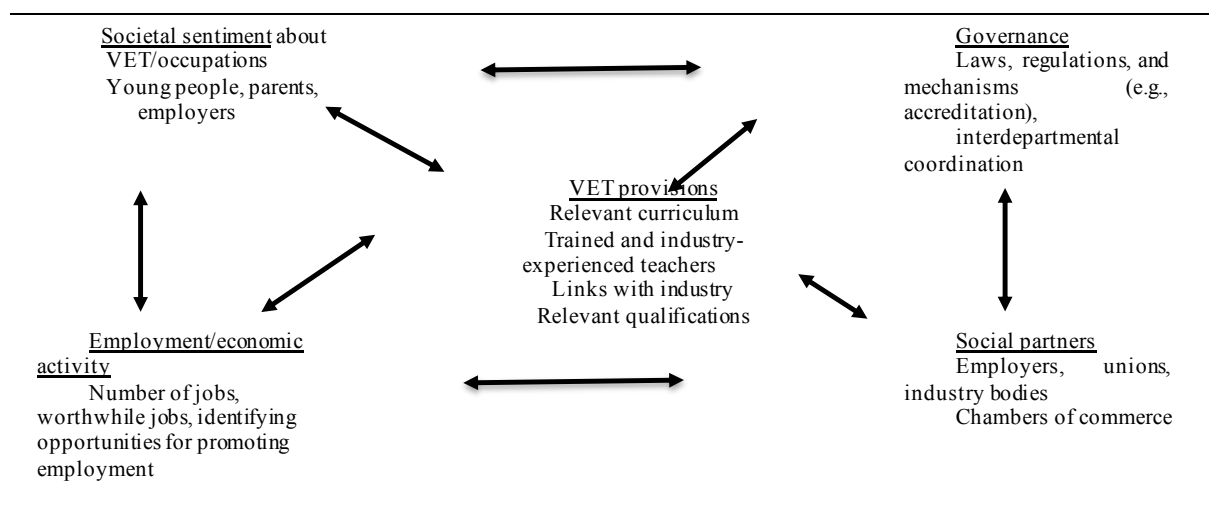
Figure 1:   Interdependent factors associated with work-based learning provisions.

These factors are now briefly described.

3.1 Governance: Political stability and fusion

There is a coincidence between countries that have developed a mature and responsive VET system that over time has embraced workplace learning experiences, and political and institutional stability (e.g., Morocco, Oman, and Tunisia). A number of countries in this region have or are experiencing significant political instability and fragmentation of government that has restricted progress with policies such as work-based learning provisions. These include Egypt, Lebanon, Tunisia, and Palestine. Such circumstances are reported as making it difficult for coordination across government departments and engagement with social partners to implement policies and direct public policy and public funding towards targeted priorities, such as youth unemployment and VET. This fragmentation of effort across government departments and agencies and other stakeholder groups make difficult the coordination of initiatives to bring about changes in institutional practices. It can also duplicate or cause divergences of those efforts and complicate the process of engaging with stakeholders to promote work-based learning opportunities. As a consequence, national initiatives may be unsuccessful, even when supported by well-directed sponsorship by aid or external development programs. Consequently, initiatives supporting enhancement of work-based learning experiences may need mechanisms and processes not wholly dependent upon national mandates, including empowering action at the local and/or regional level (e.g., Jordan, Tunisia), as are trialled in Palestine (Turin Research Programme [TRP], 2016). In Jordan, for instance, apprenticeships are administered through local VET institutions (Rawashdeh, 2017). These kinds of practices may need to be exercised more broadly. However, they require particular insights and skills by teachers and a level of engagement with local enterprises that are different from those required when VET programs are offered just through training institutions.

3.2 Economic bases and certainty

Many of these eight countries have economies largely based on small- to medium-size enterprises, and what is referred to as the informal sector that is inherently dynamic. For instance, in Jordan, small businesses constitute 99% of the nation's enterprises employing 71% of the workforce (Rawashdeh, 2017). In Algeria, it is claimed that 50% of the market, with 95% of its companies being small or micro-businesses (Bedou, 2018). These kinds of companies are often those that, elsewhere are the least likely to participate in programs of structured entry-level training, such as apprenticeship and alternance approaches. They may, however, engage in the traditional or informal mode of apprenticeships that sit outside of the VET systems. It is noteworthy that 'industry' as a percentage of GDP has declined in five of the eight countries across 2006 to 2016, with small increases only in Lebanon, Morocco and Palestine. It tends to be in larger workplaces that, traditionally, work-based learning arrangements such as apprenticeships and traineeships have been sponsored. There are also high levels of economic uncertainty in countries such as Palestine, Tunisia, Egypt, and Lebanon, as bases for building economic activity, pursuing economic expansion, and maximising national productivity are imperilled by recent changes including social revolutions, armed conflict, ongoing rivalries and tensions, and shifting economic emphases. For instance, over the same period, the GDP of Algeria and Morocco remained unchanged; it has declined for Lebanon, Oman, and Tunisia, and grown slightly for Egypt, Jordan, and Palestine. These factors have significant impacts on employment and make more difficult: (a) decisions about the occupational emphasis on VET programs, (b) the ability for these programs to secure employable outcomes, and (c) opportunities for both learning and working as part of and an outcome of VET programs.

3.3 Unemployment levels, particularly for young people

All these countries have unacceptably high levels of unemployment amongst young people, often far higher than for international comparisons. In particular, young women, who in a number of these countries also represent a significant percentage of the overall population, struggle to secure employment even where the GDP is increasing (i.e., Egypt). Indeed, between 2006 and 2017 the level of youth unemployment rose in Egypt, Jordan, Morocco, Palestine, and Tunisia. Only in Algeria, Lebanon, and Oman did the numbers decrease. Young people as an element of the population, consequently, stand to be increasingly structurally disadvantaged through being unable to secure employment and pursue preferred kinds of work. In addition, a tight labour market does not usually provide generous invitations for young people to engage in them or offer opportunities for learning and developing further their occupational capacities through structured workplace programs, such as apprenticeships and traineeships.

High levels of youth unemployment stand as key societal, governmental, and individual concerns. Having provisions of work-based learning experiences can be used as a vehicle to promote individual employability and also, collectively and potentially, to contribute to an improved economic circumstance that promotes employment more generally. However, likely significant government intervention is required to secure participation and effective skill development opportunities in workplaces. If learning through paid employment is not an option, other means of acquiring initial occupational skills through participating in workplaces may need to be considered. Noteworthy here is that across the same time, perhaps as a product of tight labour markets, there has been an increase in young people's participation in post-school education. Yet, specific interventions such as state-supported internships, apprenticeships, and cadetships are likely to be necessary in such labour markets, because these currently only exist in small numbers, if at all. There is also much gender segmentation of the workforce with particular occupations being undertaken largely by males or females, which leads to disparities in youth employment. These again are issues that need to be addressed at the local level and through mature relations amongst the training institutions, nearby enterprises, and local needs.

3.4 Nascent VET systems

There are nascent VET systems in most of these countries, even those systems that are long established, that are struggling to respond to challenges of workplace demand and youth unemployment, particularly in providing for young women. These causes include under-resourcing, lack of appropriate skills and work experience by teaching staff, and misalignments between what is being provided by some of these systems, the needs for workplaces, and the reluctance of many young people to engage in VET other than as a last resort. These factors represent a significant challenge for VET systems. However, with the need to add work-based learning experiences into these programs, other complications arise (European Training Foundation, 2012). These include the quality of relationships between education institutions and the workplaces in which their students will engage in work-based learning activities. Then, there is the challenge of securing a balance between addressing the educational needs of young people and also the workplaces in which they will engage in productive activities whilst learning. In some instances (e.g., Egypt) there is a considerable diversity in and fragmentation of the provision of VET with work-based components being the product of external sponsors' initiatives that reflect VET systems in their countries (i.e., dual system – Germany; modern apprenticeships – United Kingdom).

The problems of low take-up and sustaining of these diverse options suggest a need for models of VET that are fitted to country-specific and local kinds of partnerships that can build the kinds of institutional partnerships that are essential for realising the dual needs of the education provisions and workplaces central to comparable schemes elsewhere. This consideration of different models might need to extend to a fresh approach to legitimising and recognising the traditional models of work-based occupational preparation (i.e., informal apprenticeship) that have long served the craft sectors in a number of these countries (e.g., Jordan, Palestine, Egypt) (International Labour Organisation, 2015). That is, there is a need to consider models of initial occupational preparation that are embedded in practice and also, in part, engaged in educational provisions. Yet, to be successful, such provisions would need to overcome societal sentiments that view these options as being less worthwhile forms of occupational preparation. However, while the portion of young people in these countries' population is declining, the percentage of young people participating in post-school education increasing across Algeria, Egypt, Jordan, Morocco, and Tunisia. This would indicate that a growing portion of young people (aged between 15 to 24 years) are seeking access to effective post-school education provisions.

3.5 Social partnerships

Social partners and partnerships are central to organising work-based learning experiences. The kinds of organisation and agencies (e.g., chambers of commerce) that support and realise these experiences in other countries and systems are always present in these countries. In Egypt (El-Ashmawi, 2017), Jordan (Rawashdeh, 2017), Morocco (Sennou, 2017), Palestine (Jweiles, 2017), and Oman (Al-Mujaini, 2017), there are ongoing efforts to build social partnerships that inform and support VET and work-based learning experiences within it. The extent of the development of social partnerships that support effective models of work-based learning such as apprenticeships, including making links between educational provisions and the workplace, are key measures of the ability to provide effective workplace learning arrangements. The lack of maturity in, development of, and effective operation of these partnerships is likely to impede the ability to provide effective workplace learning experiences for students (Billett, Ovens, Clemans, & Seddon, 2007; Billett & Seddon, 2004). As a consequence, there is a risk of such experiences being token and piecemeal, rather than driven by the dual purposes of education and supporting the continuity of the workplace, such as those shaped by German chambers of commerce or the kinds of industry training arrangements featuring in Scandinavia, New

Zealand, and Australia, albeit in distinct ways. In countries with fragmented and unstable national governments, it may well be at the local level that such partnerships can be formed and extended to meet these goals locally or regionally (e.g., Tunisia), albeit within national framing, such as in Palestine. Not the least here is that there is evidence across a number of countries (e.g., Morocco, Tunisia, Lebanon) of distinct differences between the needs of urban and rural communities in terms of skill requirements and profiles of the unemployed. Hence, centralised government and agencies may not be best placed to respond to such localised needs.

3.6 Societal sentiments about VET and the occupations it serves

> … there is a vicious cycle of negative image, low quality and low self-esteem related to TVET, its students and even its teachers in the Egyptian society and culture. This phenomenon is well documented and acknowledged however very little is being done to create awareness to change this. (El-Ashmawi, 2017, p. 5)
> Social perspective towards vocational training in general is negative which led to minimal participation in VET in Jordan. (Rawashdeh, 2017, p. 14)

> … TVET in Lebanon is socially looked as low image, and the choice of those who have no choice. (Ghneim, 2017, p. 16)

> In general, it is socially looked at the TVET sector as low image, and the choice of those who have no choice: it remains a second option for youngsters.… The image of the apprenticeship training and WBL schemes is looked at in a lower social view in Palestine. (Jweiles, 2017, p. 6)

Societal sentiments positioning VET and the occupations it serves as being of low status and worth, as illustrated above, present significant challenges to an effective VET system and one that embraces workplace experiences. These sentiments often influence the distribution of resources and opportunities, and shape young people's interest in and expectations about the kinds of occupations in which to engage, that are of interest to them, and that they will seek to learn. Yet, such sentiments are not always aligned with employment opportunities and outcomes in these countries (e.g., Egypt, Palestine, Lebanon, Jordan). For instance, the employment level of VET graduates is higher than for university graduates, particular for young women (Algeria, Egypt, Tunisia, Lebanon). Regardless, there is still a strong societal preference for individuals to continue along educational pathways, even though in some countries (i.e., Algeria, Egypt) there is an inverse relationship between the level of education and prospects for employment.

This sentiment directly affects even the most prestigious of work-based VET programs. For instance, in Egypt over 50% of young people who successfully complete the dual apprenticeship system continue on to higher education (El-Ashmawi, 2017). So, highly selected young people who have benefited from significant public investment and support are not remaining in these occupations or contributing to the kind of skilled work that is central to developing advanced manufacturing that is required by most economies (Wolf, 2016). Despite interest by global agencies and direct investment by sponsors, and with the prospects of securing employment, VET and the occupations it serves are reported as being of low status and an unworthy educational pathway in Egypt (El-Ashmawi, 2017), Palestine (Jweiles, 2017), Jordan (Rawashdeh, 2017), and Lebanon, except for those who are viewed as incapable of progressing to more highly regarded occupations (Ghneim, 2017). This sentiment appears to play out most heavily in programs with a strong focus on learning occupations through workplace experiences. Possibly this is because occupations based on wholly work-based occupational preparation (e.g., in crafts) are viewed as being unworthy and unattractive by young people and their

parents. This creates a barrier for broader participation in programs developing occupational skills and employment in those occupations.

4 Conclusions

These findings above are indicative of the kinds of challenges that the provision of VET needs to address. They also shape the kinds of actions that need to be taken to achieve the kinds of outcomes that the plans of national governments and global agencies seeks to realise. An important conclusion here is securing alignments amongst the kinds of interventions that national and regional governments sponsors and global agencies adopt with institutional initiatives and governance. For instance, there have been only a few initiatives associated with attempting to enhance the standing and status of VET, some associated with incentives and support for young people, but also awareness programs in high schools (i.e., in Jordan) (Rawashdeh, 2017). Some efforts have also been directed towards building the important partnerships that make it relevant and effective (e.g., Jordan). These efforts seem to suggest that focusing on institutions, approaches, and models that are country appropriate and localised may well be more effective than national and top-down approaches (e.g., Palestine), because the mechanisms of centralised governance may be inappropriate and unhelpfully controlling. Therefore, to advance the goals of VET and, in particular, to engage more young people in work-based learning experiences in countries in the Arab region requires a set of interdependent factors to be addressed, and addressed concurrently, albeit in distinct but interrelated ways across these countries (see Figure 1).

This set of interdependent factors is associated with employment, VET provisions, governance arrangements, social partnerships, and societal sentiments. Initiatives addressing only one of these factors are unlikely to be effective or successful, because of the interdependence amongst them. Perhaps only through enhancing VET provisions to generate skills that lead to employment in worthwhile work, that are seen by employers as assisting their profitability or viability, and that are of sufficient quality to encourage enduring employment, will the standing of these occupations and this education provision be enhanced. That is the degree to which they are seen as being an important, viable educational pathway, rather than a last resort option for young people in these countries.

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Enhancing the standing of Vocational Education and the Occupations it Serves: A Symposium

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Abstract

The standing of vocational education is often perceived to be low, compared with other education sectors, albeit more so in some countries than others. The consequences of this standing can be profound. They include how governments, industry, enterprises and communities sponsor vocational education, and what constitutes its purposes, form and its administration. These perceptions also shape how individuals engage with it, parents advise about it and employers' willingness to engage with its provisions. Over time, also it has been the voices and sentiments of powerful others (e.g. aristocrats, theocrats, bureaucrats and academics) that have shaped the discourses about the standing of occupations and their preparation (Billett, 2014). In many instances, this privileging has and continues to come at a cost to the standing, processes of and goals for this important educational sector. The symposium will comprise four country perspectives and a brief discussion, from Denmark (Vibe Aakrog), Finland (Petri Nokelainen), Norway (Hilde Hiim) and Switzerland (Barbara Stalder), each of which will outline factors associated with the standing of vocational education and ways in which it has or might be enhanced.

Keywords

standing of vocational education, status of occupation, societal sentiments

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1 Introduction

The societal standing of vocational education is often perceived to be low, compared with other education sectors, albeit more so in some countries than others. The consequences of this standing can be profound. They include how governments, industry, enterprises and communities view and sponsor vocational education, and what constitutes its purposes, form and its administration. These perceptions also shape decision about whether or not both young and older people elect to participate with it (i.e. preferred, non-preferred choice) and then how they engage with its provisions. In addition, its standing shapes how parents advise about it and employers' willingness to engage with its provisions. This factor has never been more salient in an era of high aspiration about work and working life by young people and their parents, whom desire high status, clean and well-paid occupations. It has been suggested that traditions, familial expectations and material considerations as well as strong desire for self-realisation underpin contemporary decision-making about post-school options (Clement, 2014). The relationship between occupations and the standing of VET is profound and enduring. Over time, it has been the voices and sentiments of powerful others (e.g. aristocrats, theocrats, bureaucrats and academics) that have shaped the discourses about the standing of occupations and their preparation (Billett, 2014). Almost all of these sentiments have been developed through perspectives that fail to acknowledge the complexity of much of these occupational activities, nor an understanding of the requirements to perform those tasks and the development of those capacities. In many instances, this privileging has and continues to come at a cost to the standing, processes of and goals for this important educational sector. Perhaps this has never more been the case than in an era of high aspirations and expectations by young people and their parents, when decisions about preferred occupations are made in the absence of knowledge about them and their enactment. This circumstance is seemingly leading a growing percentage of young people to move away from considering VET as a viable post-school option,

Indeed, governmental concerns in countries with advanced industrial economies about the development of technical skills and young people's preference for higher education (i.e. university) over VET are pertinent here. The UK is experiencing declining levels of participation in courses for advanced technical skills required for contemporary and emerging economic needs (Wolf, 2016), and Germany is also claimed to be having difficulty securing adequate numbers of quality apprentices. This has led to competition amongst companies to secure such apprentices. South Korea has long struggled to attract young people to manufacturing work that sustains its economy (Cho & Apple, 1998). This issue is not restricted to schooling and entry-level occupational preparation. There are also growing concerns about low levels of adult competence in technologically-driven work, and engagement with continuing education and training, in many countries (Organisation for Economic Co-operation and Development, 2013). CEDEFOP and BiBB recently held a joint international symposium to address the issue of the low standing of vocational education and its economic consequences. One idea being proposed widely is to have provide higher educational courses through VET institutions and have apprentice degrees to enhance their status is but one response being mooted. It would seem that the degree and extent of connectedness amongst education systems, social partners and local communities is an indicator of the relative esteem in which VET is held (Clement, 2014).

This suggestion highlights the issue of parity of esteem that plays out in at least two circumstances. Where VET is taken to be an element of upper secondary schooling, comparisons with general or academic education within schooling is inevitable. In such comparisons, and in the contemporary press for schools to pair people for university education, there is a risk that VET will be seen primarily for those who perform poorly in schooling. Then, where VET comprises a post-schooling activity, it is compared with the processes and outcomes of higher education. This factor alone (i.e. the different forms and locations of VET) emphasises the need to understand provisions of VET from a range of perspectives including how it is manifested in

particular countries, its relationship to other education sectors in those countries and how occupations are perceived in those countries (Cedefop, 2014).

This symposium aims to elaborate the sources of the low standing of vocational education and training (VET) and the occupations it serves (Billett, 2014), their manifestation in the countries represented at the symposium and, importantly, how this can be redressed. Recent Australian research identifies VET students' preferences associated with gender, age and educational achievement) (Gore et al., in press). The symposium seeks to offer perspectives about the standing of vocational education from four countries (i.e. Denmark, Switzerland, Norway and Finland) with distinct systems to identify and inform policy interventions about promoting the standing and status of VET across these and other countries. The emphasis here is on identifying through what means might the standing of this form of education, and conjointly, the occupation serves be enhanced.

The symposium is informed by the following questions.

- How can vocational education's standing be enhanced to secure greater participation and better educational outcomes for its graduates?
- Informing sub-questions:
- What shapes community members' perceptions of vocational education and the occupations it serves?
- What has to change to realise enhanced engagement by students and support from parents and employers?

The symposium comprises four country perspectives from Denmark (Vibe Aakrog), Norway (Hilde Hiim), Switzerland (Barbara Stalder), and Finland (Petri Nokelainen), and a brief discussion in summary. Each of these four papers will outline factors associated with the standing of vocational education and how it has or might be enhanced from the particular country perspective.

2 Enhancing the standing of vocational education and the occupation it serves: Denmark (Vibe Aarkrog, Aarhus University)

Enhancing the standing of vocational education and training (VET) is one of two main targets in the current legislation of Danish VET, the other target being reducing drop out of around 50%. The focus on enhancing VET should curb a development throughout the past 15 years in which the enrolment in VET has descended from one third to one fifth of a youth cohort (in 2017 only 18,5% of a cohort), alongside an increasing intake in general upper secondary program (in 2017: 74% of a cohort)[1].

A number of - to some degree research-based - assumptions about the low intake have guided the latest reform of VET which was inaugurated in August 2015: 1. 15-year-old students in lower secondary are too young to choose occupation and education. 2. The guidance counsellors in lower secondary and the parents are uninformed about VET and perceive general upper secondary as the safe choice. 3. The admission requirements are too loose (before the reform anybody had a right to enrol in a VET-program) 4. The VET colleges need a learning environment that appeals to the young people, the argument being that VET mostly attracts

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[1]   https://www.uvm.dk/aktuelt/nyheder/uvm/udd/gym/2017/marts/170320-fortsat-stor-soegning-mod-gymnasiet [23.07.2018]. English translation: Continuing great influx to general upper secondary education.

young adults and adults. 5. The VET-programs should qualify for not only jobs but also give access to higher education and 6. The quality of the teaching in VET needs to be improved, particularly in relation to developing for differentiated teaching and learning and for strengthening the coherence of the practical and theoretical parts of the dual VET programs. At the symposium, the perspectives for enhancing the standing of VET will be based on current research (Søndergaard et al., 2017; EVA, 2017) into the focus areas, which, based on the assumptions above, were included in the reform.

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3 Enhancing the standing of vocational education and the occupations it serves: Norway (Hilde Hiim, Oslo and Akershus University College)

In Norway, vocational education and training (VET) at upper secondary school level is organized in a two plus two – model with two years at school followed by two years of apprenticeship. Even if about fifty percent of a youth cohort choose vocational education, low standing is a problem. Almost half of the students drop out or choose a transfer to academic studies. In this symposium, I will present some research concerning the standing and quality of Norwegian VET (Hiim, 2013, 2017; Nyen & Tønder, 2012; Olsen & Reegård, 2013).

First, there is a need to strengthen the knowledge about vocational education among teachers and guidance counsellors at the lower secondary level. Vocational teachers' opportunities to teach at this level should be increased along with an increase in practical subjects. Second, closer cooperation between school and work life throughout all four years of VET is essential to enhance both quality and standing. It can contribute to a more vocationally relevant, meaningful education from the start, and the students will be better prepared for and more easily get an apprenticeship. More flexible systems for reciprocal transfer between vocational and academic programs, and access to higher education from vocational programs are important. There are political discussions about establishing further education at university level for skilled workers.

In Norway, there has been vocational teacher education at bachelor level for skilled workers since 2003, and opportunities to take a master's degree in vocational pedagogy and eventually a PhD. This is important to strengthen the role of vocational professionals in the educational system and to develop relevant research. The most important measure to enhance standing and quality in Norwegian VET seems to be an intimate contact between work life and school from secondary school all the way to university level, related to ideas of integrating vocational practice and theory, and lifelong learning.

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4   Enhancing the standing of vocational education and the occupations it serves: Switzerland (Barbara E. Stalder, University of Teacher Education Bern)

In Switzerland, VET attracts high achieving and lower skilled learners, which is the result of and contributes to its high standing (Renold & Rageth, 2016). Two-thirds of all young people enter an initial VET programme. Most Swiss citizens see VET as the ideal form of education at the upper secondary level, although they consider the status of VET as being lower than the status of academic education (Cattaneo & Wolter, 2016).

Initial VET is mainly provided in the form of apprenticeships, serving around 230 occupations in all sectors (e.g., industry, health, crafts) (SERI, 2017). VET is attractive to learners because it is contextualized and embedded in real tasks at the workplace. Learners become integrated in a team of adults, which gives sense to what they learn and work (Stalder & Nägele, 2011). Permeability between educational programs offers attractive career paths, e.g. by changing from initial VET to higher professional training or to university. VET is attractive to employers because apprentices are trained according to the needs and standards of the economy (SERI, 2015). Employer organizations develop the curricula and define the skills to be attained; qualifications are standardized and nationally recognised.

The standing of VET is particularly high in the German, but lower in the French and Italian parts of Switzerland. How people perceive VET is rooted in historical developments, local cultures, and individual educational experiences (Bolli & Rageth, 2016; Bonoli, 2012). For a growing number of high achieving learners, VET becomes a second, rather than the first choice. Employers struggle to fill apprenticeship places in demanding occupations. I will argue that a high standing of VET can only be reached and maintained, if VET attracts high achieving youth and if it can convince them that enrolment in VET leads to successful and meaningful careers.

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5 Enhancing the standing of vocational education and the occupations it serves: Finland (Petri Nokelainen, Tampere University of Technology, Finland)

In Finland, the upper secondary level consists of general education and vocational education, which can also be combined to pass a matriculation examination and obtain a vocational qualification. Quite different from other Nordic and European countries, the participation rate for vocational education has increased over the past two decades and is now quite close to upper secondary education. Statistics show that 42.5 per cent (n=24459) of completers of the 9th grade of comprehensive school continued their studies in vocational education (Official Statistics of Finland, 2016a). Majority of the VET students (84.5%, n=276 946) participate in institution-based education (Official Statistics of Finland, 2016b). According to Virtanen and Tynjälä (2008), one reason for this is the successful incorporation of on-the-job learning into school-based VET.

Standing of VET is quite strong in Finland, as the system has been acknowledged for its overall quality (Räisänen & Räkköläinen, 2014) and the possibilities it offers for further studies (Virolainen & Stenström, 2014). Attractiveness is partly due to the reforms carried out during 1970-1990 that opened up routes to further and higher education providing general eligibility for universities and polytechnic institutions of higher education (Pylväs, Rintala, & Nokelainen, in press). According to Virolainen and Stenström (2014), other reasons behind the development are the system characteristics (on-the-job learning periods, competence tests), policy characteristics (youth qualifying for unemployment benefits) and improved image of vocational education (skills competitions, visibility in media).

In the light of this, it is interesting to see the effects of the new legislation ("Finnish VET reform", active 1.1.2018) that aims to improve the effectiveness and quality of VET by creating a competence-based customer-oriented system and increasing learning in the workplace. The effects of the forthcoming law (and the new funding model) are already visible in the form of merging of VET institutions and public discussion about the quality of teaching and learning in the workplaces especially for the younger VET students (Nokelainen & Rintala, 2017).

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6 Conclusion

What is evident across these four presentations is that how VET is manifested and is standing is, by degree, quite country specific. Because of this, what constitutes its standing and efforts to enhance the standing require a consideration of the specific national historical, institutional and contemporary context. All of this reinforces a conclusion from a Cedefop study (2014) that sought to identify means to enhance the attractiveness of VET for young people. It concluded that no single approach or single factor could assist to address this problem because of the complex of factors and their particular varied across countries in their study. Nevertheless, it is possible to propose that factors such as decent and well-regarded occupations, prospects of employment and desirability for young people are likely to be elements that will attract and retain interest. Such a complex of factors suggests that the actions of a number of agencies and institutions are likely to be required. This can extend to governments acting to provide more transparent pathways, promoting higher forms of vocational education, engaging with industry and professional groups to promote the standing of programs and outcomes, and also schools and school teachers playing an important role in redressing a parity of esteem issues within schooling, and proposing VET as a viable educational option, premised upon employability outcomes. Hence, social partners in the form of schools, but also those in local communities working to make accessible and attractive what constitutes the employment destinations for VET graduates. The local aspect seems to be important, as it is within local communities that parents and young people make choices about their pathways to working life. Hence, advice, options and opportunities at the local level may become necessary prerequisites for advancing practice of vocational education and training. In this way, the connectedness of vocational education and training institutions, the communities they serve, and broader educational provisions are likely to be key foundations for enhancing the status and attractiveness of VET to young people.

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Risky Work – Supporting Learning in Free-Lance and Contract-Based Employment

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Abstract

This paper draws attention to the imminent publication of the Routledge book 'How Non-Permanent Workers Learn and Develop' (Bound, Sadik, Evans. & Karmel, 2018). The research underpinning the book was initiated as part of a Singapore-UK collaboration. It outlines connections with recent inquiries into casualisation of work in the UK (Taylor, 2017). It reviews connections between the European Union and International Labour Organisation perspectives (see for example EC, 2016; ILO, 2016) on the growing prevalence of non-standard work, the challenges this presents in contrasting economies and societies and the limited attention given to the learning and development of workers whose employment is characterised as 'precarious' or 'contingent'. The inquiry draws on draws on Ragin's (1991) comparative sociological approach in developing an extended dialogue between ideas and evidence yielded by recent research into how working lives are sustained in contingent work, focusing on the contribution of new findings generated by in-depth research into the situation of non-permanent workers in Singapore. The paper gives particular attention to use of prior and new knowledge, how work-related networks and relationships are developed and how roles are negotiated.

Keywords

workplace learning, adults, contract-based work, precarious work, affordances for learning, practice-based learning.

1   Introduction

The rise of non-permanent work and non-traditional work patterns is a global phenomenon. As expectations of a job for life, dependable benefits, steady work rhythms and union protection are being eroded in the advanced industrial economies, work patterns based on informal and part-time work; short-term contracts; self-employment and freelance work are expanding. This growth is characterised by both risks and opportunities for those who are increasingly caught up in these work patterns. Some perspectives focus on the social and economic risks associated with polarisations between the highly paid who can invest in their own future security and those

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caught in the revolving doors of short-term contracts and low pay, with precarious working lives and few safety-nets. Others focus on the opportunities created by new working patterns, pointing to flexible work as a convenient cultural choice, particularly among young adults, while imagining future prospects for realignment of labour with new flexible modes of production, as 'friction-free capitalism'. Social commentaries pragmatically analyse the policy options, based on the empirical facts of the increasing incidence of precarious or contingent work. 'How non-permanent workers learn and develop' is unique in exploring the realities of precarious and contingent work from the standpoint of an advanced Asian economy rooted in a version of the developmental state model that characterises much of the region. The analysis can be connected, through a dialogic approach, with the findings of the 2017 UK inquiry into the casualisation of work in the United Kingdom, entitled 'Good Work'.

Conceptually, the 'How non-permanent workers learn and develop' moves beyond the characterisations of a new 'precariat' trapped in highly insecure work patterns, to develop the notion that both work and workers are continuously changing across and beyond traditional boundaries, creating new configurations of contingent and precarious work. This approach enables a new, empirically-based exploration of the challenges workers have to negotiate in learning to do good work, developing occupational identities and striving for sustainable working lives. It also enables a constructive exploration of what public policy, in an advancing developmental state context, can and should do to support and protect workers in securing futures for themselves and their families. It considers how strategies for continuing education and training can move towards more inclusive and progressive approaches to supporting learning and development that have a better fit with the realities of transmutable work and the changing composition of the workforce. The conclusions have wider salience for public policy responses to this global phenomenon in both Asian economies and advanced industrial economies of the West.

This wider salience can best be understood by reviewing the connections between European Union and International Labour Organisation perspectives (see for example EC, 2016; ILO, 2016) on the growing prevalence of non-standard work and the challenges this presents in contrasting economies and societies. Patterns of employment are gradually diversifying in countries whose previous development in the twentieth century established the security of permanent work as the norm. Meanwhile, for other economies, insecure, contingent and precarious work has been the way of life for much of the population.

Of course, both Europe and Asia contain highly differentiated economies. Singapore, in which segmented labour markets attached to global economy co-exist with local indigenous forms of employment provides a telling case, not only in the context of Asia (Soong Hee Han) but also for many other countries experiencing these tensions and trends. For the purposes of this paper, the UK represents, the growing phenomenon of contingent and precarious forms of employment in a market-led economy. Recent statistics from the Office for National Statistics, ONS, show a tripling, since 2001, of numbers of workers reporting that they have of the most insecure forms of employment contract, the 'zero-hours' contract in which workers are not guaranteed a minimum number of work hours from week to week but work according to demand. This form of contract is widely in use in the so-called 'gig economy'. The same report shows that one-quarter of the largest companies make some use of zero-hours contracts. The ONS data also show that women, migrants and young people are more likely to be employed on zero-hours contracts.

The UK can be considered a 'telling case', in representing the increase of non-permanent work in a European market-led economy. Singapore also has a growing incidence of non-permanent work. It is comparable with the UK in having at least 20% of the workforce in non-permanent forms of work, in which the following forms are included: fixed-term contracts; casual work; zero-hours contracts / gig economy work.

The growth of 'free-lance' and contract-based work internationally generates a need to understand how experiences of these forms of work contribute to or constrain personal and professional development, and how the learning of workers can be supported These are the questions we have addressed in *How Non-Permanent Workers Learn and Develop*, by Bound, Sadik, Evans, & Karmel, 2018). Further research collaboration between the author and the Singapore-based research team is developing a new European-Asian analysis of the work and learning of free-lance and agency workers. Research questions are:

- How does the experience of free-lance and contract-based work in contrasting contexts contribute to or constrain the learning of workers?
- How can the learning of non-permanent workers be supported and enhanced?

2   Theory

Theoretical perspectives on learning and development of non-permanent workers can be compared by adapting the grid proposed by Evans (2010, see also Wolf and Evans, 2011) (Figure 1). This grid contrasts the dominant perspective of human capital accumulation with the social practice perspective. Both perspectives offer lenses that focus on the learning individual and the social organisation of learning, offering contrasting accounts of the relationships between them.

	Learning and Development of NPWs as Human Capital Accumulation	Learning and Development as Social Practice
Focus on the learning individual	Quadrant 1 Non-permanent workers perceived as requiring a defined set of technical skills, the absence of which can impact negatively on an individual's economic and social opportunities.	Quadrant 3 Emphasises the social context of using capabilities, often framed by relativist and hermeneutical perspectives.
Focus on social organisation of learning	Quadrant 2 Emphasises shaping and organising education and adult learning 'provision' for socio-economic ends such as increased productivity, social mobility.	Quadrant 4 Emphasises contexts, spaces, environments, and mediational means for learning; communities of practice; informal and 'everyday' learning.

Figure 1   Grid contrasting the dominant perspective of human capital accumulation with the social practice perspective

For example, the 'Good Work' (Taylor, 2017) review was premised on the view that all work should be fair and decent, with scope for fulfilment and development. Taking a human capital accumulation perspective, the review sees 'provision' as key to 'delivering' solutions that enable people working in atypical or casual work to obtain, improve and evidence skills and experience over the course of a working life.' The social practice perspective developed in 'How non-permanent workers learn and develop' has focused, by contrast, on the social contexts in which such workers use their capabilities and come to identify with their roles and future possibilities. The research draws on Bauman (2005) in showing how individuals are increasingly positioned to lead a 'liquid life'. Expertise is deployed in relational and multifaceted

ways, cutting across areas of specialisation. Workers develop multiple identities according to their positioning and their contributions to different work teams. An emphasis on capabilities and life directions is apparent in the work and life negotiations of the liquid life course. Maintenance of internal points of reference and a continuous internal life appear important in navigating fluid work opportunities, but casualties of contract-based work are likely to occur where workers lose a sense of continuity and direction and are unable to access support that could help them. The literature on learning and reflexivity in figured worlds often acknowledges but struggles to keep in view, the various forms of knowledge (personal, procedural, ethical, propositional) that the contract-based worker draws on. This research goes beyond the 'liquid' view of learning of free-lance and contract-based workers by focusing on continuous multiple knowledge recontextualisations through which contract-based workers become knowledgeable practitioners, building on the concepts and perspectives of Evans (2015).

3   Methodology

International surveys highlight the growing prevalence of non-standard work and the challenges this presents in contrasting economies and societies. Insights from international level surveys in Europe and Asia (Brown, Lauder, & Ashton 2011; ILO, 2013; McKinsey, 2016; EC, 2016; ILO, 2016).) can be reviewed in the light of micro-level data yielded by participants experiencing various forms of precarious and contingent work in Britain (see Evans et al., 2009; Lahiff & Guile, 2016; Taylor, 2017) and Singapore (see Bound et al., 2018). The limited attention that has previously been given to fundamental issues of how non-permanent workers learn and develop is highlighted, leading to the development of the research questions.

The methodological approach draws on Ragin (1991)'s comparative sociological approach in aiming to develop an extended dialogue between ideas and evidence yielded by UK and European-Asian research into how working lives are sustained in contingent work. In this paper, we summarise some new insights that the inquiry into 'How non-permanent workers learn and develop' (Bound, Sadik, Evans, & Karmel, 2018) contributes to this extended dialogue, based on evidence and analysis from extended interviews with 97 workers in contingent and precarious forms of work and discussions with a wide range of key informants from stakeholder groups and in selected occupational 'reference' groups from creative industries, continuing education and training, and occupations commonly considered 'low-waged' .

These new insights feed into an extended discussion of how a deeper understanding of the continuing learning and development of free-lance and contract-based workers entails recognition of the significance of continuous multiple knowledge recontextualisations. This knowledge dimension is central to the exploration of how the experiences and conditions of work can contribute to, constrict or undermine the learning of these workers. By focusing on the contextualised nature of learning, the recontextualisation of knowledge and the processes by which contract-based workers become knowledgeable practitioners (Evans, 2015), the paper attempts to shed light on the practices that support and enhance learning in contrasting contexts, as a point of departure for future Asian-European comparative study.

4   Results: New insights gained from extended dialogue between ideas and evidence

The inquiry has generated at least three contributions to the advancement of our understandings of the learning and development of non-permanent workers. These contributions, which are elaborated in Bound, Sadik, Evans, and Karmel (2018), offer new insights into

- dispositions towards learning and development
- how integrated practice leads to knowledgeable practice
- affordances for learning and development.

Previous studies of precarious and contingent workers have typically constructed typologies to capture and characterise the variations in the situations of those found to engage in these forms of employment. For example, a European-wide typology of job-changers (Hendrich & Heidegger, 2001) differentiated between the situations of advancement-oriented, work-centred individuals; those with a work history in low graded jobs and those who were in or aiming for self-employment.

More recently, McKinsey (2016) constructed categories reflecting degrees of economic freedom, differentiating between workers who were labelled as 'Free agents'; 'Reluctants'; 'Casuals' and the 'Financially Strapped'. This approach tends to align with human capital and rational choice perspectives in assigning people to categories. Our exploration of the learning and development dimensions of the experiences of non-permanent workers has aimed for an approach which avoids labelling but acknowledges the changing situations, circumstances and priorities of individuals over time. Rather than assigning to categories tied to assumptions about types and trajectories, Bound et al (2018) have identified two dimensions -Opportunistic/Purposeful and Broad/Contained- that, taken together, capture variations in dispositions to learning and development that can and do vary over time: These dispositions are expressed in patterns of activity that can be characterised as:

- Opportunistic and Broad
- Purposeful and Broad
- Opportunistic and Contained
- Purposeful and Contained

Opportunistic orientations take on opportunities where they can be found, scanning over a broad field. This orientation often means fragmentation. It can also be innovative or create chances that might be missed in a more planned approach. Purposeful and broad orientations will be more selective according to plans and goals but need sufficient breadth to ensure chances are not missed. Opportunistic, contained orientations will take on opportunities as they arise within narrowly self-defined limits, which could be geographical or according to the person's individual situation. The employment risks of self-limiting might be offset by other advantages in personal life, and well-being or fit with other higher priority activities (e.g., student work, family life or other employment). Purposeful and contained orientations may be motivated by a desire to build relationships with one or two contracting organisations, which could have some benefits as well as higher vulnerability to job loss. There is thus no labelling of individuals according to combinations of dispositions to learning and development, and how non-permanent workers are disposed towards learning and development changes as circumstances and contexts change, continuously over time.

The second key construct, that of **Integrated practice** captures the idea of *identification* with both the craft and entrepreneurialism, with development towards knowledgeable practice dependent upon iterative and reflexive learning. The dimensions of Figure 4 do not equate to

sets of skills and the dispositions. The dimensions of integrated practice are brought together as a cohesive, co-ordinated set of actions and activities that are evident, to varying degrees in the working practices (of 'free-lance' /contract-based workers). Finding ways to support integrated practice in initial VET and CET leads to the development of knowledgeable practice. The role of educators is to support individuals in fields characterised by non-permanent work (e.g., creative industries, hospitality, education) towards becoming knowledgeable practitioners (Figure 2).
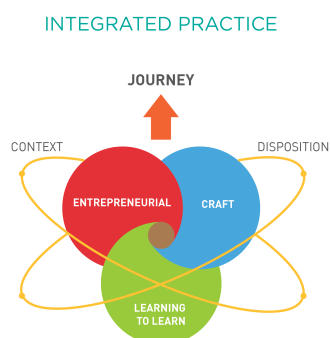
Figure 2   Integrated practice, Bound et al. (2018)

The research has drawn attention to the integrated nature of occupational practices in which craft, learning to learn, and entrepreneurial capabilities are developed and practised variously according to the context, disposition and personal circumstances. In *How Non-Permanent Workers Learn and Develop*, we show how it is not the technical skills alone that makes a craftsperson, or even the mastery and identification, but their combination with entrepreneurialism that generates the learning to learn and provides its material. Occupational practices in which craft, learning to learn, and entrepreneurial capabilities are developed and practised vary according to occupational norms and the context, disposition and personal circumstances of the individual practitioner and can be facilitated in different ways through the design and delivery of ITE CPD and HE.

The 'putting knowledge to work' framework of Evans et al. (2009, 2011) is used as an analytic framework to explore how these workers use their knowledge and capabilities and how they think and feel their ways into occupational and social identities as they move between different sites of practice.

In initial vocational education and training in occupational sectors in which there is a high probability that graduates will be employed in non-permanent work contracts (e.g., creative industries where such contracts are the norm), learning activities can be designed to support the three aspects of integrated practice. For example, during placements, learners can collect stories from work colleagues about market practices, how colleagues have gained work and negotiated contract-based work; how mentorship has worked for them. They can be supported in identifying suitable role models and articulating what they learn from them. They can ask questions about challenges experienced workers have experienced and how they learn from them. They can make recordings of critical incidents to share and explain to others how and what they learnt from them, keeping in view the three dimensions of deepening craft, exercising enterprise and learning through the processes of inquiry, questioning and review. These kinds of learning activities, which are often part of educators' existing repertoire of approaches, can be combined

strategically and explicitly in supporting learners towards the long-term process of becoming knowledgeable practitioners.

In continuing vocational education, the opportunities for learning and developing through integrated practice require particular affordances and supports. For workers joining organisational teams as agency staff, casuals, contract staff, freelancers, moving between assignments within an organisation or between organisations, entails continuous learning:

- Workers have to learn to 'read' norms and expectations quickly and put their capabilities to work according to the situation.
- Non-linear process can involve meeting a multiplicity of performance expectations and requirements. Both depend on capabilities to use judgement to assess new situations, to bring those new situations under control.

The quality of the work assignments and environments fundamentally affects the learning:

- For non-permanent workers, development of capabilities depends most heavily on the *quality* of serial assignments and on networks to access personal sponsorship and opening of doors.
- Lack of quality assignments, in which the worker has to move from one exploitative, routinised or corner -cutting assignment to the next to sustain their income, potentially undermines and restricts capabilities' development and thereby a longer-term direction to their working lives: 'no trajectory, no career, no security'.
- Non-permanent workers who are regarded as marginal are rarely seen by organisations as a resource in solving organisational work problems, despite often considerable prior experience.
- Trade union support structures are at best only patchily available to non-permanent workers, often through mutual or co-operative enterprises.
- Identity development takes place through serial engagements in practice; it is dependent to a greater degree on forging enduring relationships-in-action beyond assignments and practice engagements.

The nature of freelance work, as a subset of contingent work, seems to lead to a particular kind of identity, where these workers are constantly reproducing themselves as an economic resource. First and foremost, they identify with their craft – camera, sound etc., then identify as a freelancer, illustrating the relationship between the technical, aesthetic and more generic skills and knowledge.

- Cameramen learn about the latest technology by reading the relevant manuals as well as viewing demonstrations on 'youtube'. They also develop their sensitivity towards light and aperture through 'trial and error' and observing others. [CRAFT]
- 'Helping each other out' on-site provide opportunities for practice and learning about other roles (e.g. lighting, key grip, sound) as well as watching and evaluating the potential for new team members. [ENTERPRISE]
- All these features entail the capacity to access knowledge and skills from diverse channels and 'recontextualise' it in a variety of work settings: [LEARNING TO LEARN].

In supporting the continuing professional development of non-permanent workers in working life, solutions have to respond to the contextualised preferences of non-permanent workers according to the functionings they seek, drawing on Sen (1993).The differences between the continuous professional development experiences of non-permanent workers and permanent

workers can be seen more clearly when we consider the specific ways in which the workplace supports, directs and gives meaning to learning opportunities at work. The continuing professional development of workers that takes place in and through the workplace is intrinsic to the processes by which different forms of knowledge are continuously and iteratively put to work, as continuous professional development potentially enables non-permanent workers to become knowledgeable practitioners with a sense of who they are, a working knowledge of the occupational practice communities to which they belong to and confidence in the capabilities they can offer to the organisations that use their services. All these processes build, for both permanent workers and non-permanent workers, on pre-service education, training and experience. They are integral to becoming a knowledgeable practitioner. In working life, integrated practice is intrinsic to the continuing professional development of non-permanent workers, with learning-to-learn and entrepreneurial capabilities integral to the active construction of the pathways to knowledgeable practice.

Knowledgeable practice is practice that is characterised by the exercise of attuned and responsive judgement when individuals or teams are confronted with complex tasks or unpredictable situations at work (Evans, 2009, 2015). The challenges for non-permanent workers are how to cope with the continuous change and how to progressively develop their capabilities and work identity.

Through supported learning and development, integrated practice can become knowledgeable practice. As well as focusing on access for non-permanent workers to learning resources and platforms that are independent of the employers to whom they are contracted at any one time, it is, therefore, necessary to deepen the debate about support for the learning and development of non-permanent workers by attending to:

- The variety of situations and learning dispositions of the workers themselves.
- The quality of the work assignments they undertake and of the work environments in which they are carried out.
- employment relationships between the worker and the employer are regulated in the particular national and industry contexts, including entitlements and obligations.

Occupational affordances for the learning and development of contingent and precarious workers require four inter-dependent elements:

WORK: Opportunities for specialisation and quality assignments; availability of work that stretches and challenges and provides rich affordances for learning.

LINKAGES: Ease of entry and movement across sub-sectors of the industry, job roles and networks.

OCCUPATIONAL COMMUNITY PLATFORMS: Access to experts, networks, quality assignments, including through associations, non-profit organisations

VOICE: Institutional representation – union representation, combined with support in the welfare and pensions system, including new tax and welfare settlements that spread risks and provide supports such as tax breaks for training and development.

The research has revealed that workers in contingent and precarious work tend to value continuing professional development opportunities only in so far as the CPD supports the entrepreneurialism as well as the craft dimensions, offering opportunities to have discussions with more experienced workers and to prepare for being more able to work in different teams across different sites. These supports for purposeful reflexivity are hard to fit with the demands of freelance work. Higher education programmes will be taken up if they work in tandem with occupational affordances and are perceived to have value in terms of integrated practice and the ability to recontextualise.

5   Conclusions and Reflections

In exploring how contingent and precarious workers can become knowledgeable practitioners (Evans, 2015), recontextualising multiple forms of knowledge and working their ways into occupational and social identities as they move between different sites of practice, the research shows how these processes are embedded in 'bigger' sets of relationships that mediate day-to-day work. Modes of industry engagement; professional, industry and workplace discourses; funding and industrial relations, the degree of industry susceptibility and the organisation and flow of production, along with workers' own sense of agency, influence learning and professional development.

To what extent do the spaces identified in this paper for learning and development enable the expansion of human capacities, and how are the participants themselves situated in the wider sphere of social, cultural and economic changes?

The interplay of the occupational affordances identified above creates fundamentally different learning and development spaces around non-permanent work. The disconnects between standard competence-based frameworks and development needs of workers are evident particularly in the case of non-permanent workers moving between tasks and assignments in fixed-term contracted for multiple employers. Even with a shift globally towards greater support and recognition for workplace learning, (now embraced by both UK by Singapore in Skills Future) the questions of how effectively to support for workplace-based learning of non-permanent workers assigned to fixed-term project-based or task-based activities on short fixed-term arrangements pose particular problems with few obvious solutions. Ways in which the learning and development of these workers might be enlarged, or constrained, depends crucially on the strategic interplay of workforce development policies and the wider organizational and societal terrains created for worker development. The risks of skills atrophy in growing sections of working population are societal risks, when scaled up, and at odds with espoused aims for highly skilled and knowledgeable workforces. And where non -permanent workers who seek development opportunities do so under the radar or beyond the scope of workforce development provision, it is important to understand the reasons for this. How can initiatives such as Skills-Future in Singapore and the development of employability skills frameworks in UK actually serve non-permanent workers' needs and preferences for forms of learning and development that work for their lifestyles and everyday life and work realities?

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Structures of Further Education and Training in the Field of Early Childhood Education: Findings from a Nationwide Study in Germany

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Abstract

The aim of this paper is to provide insight into the system of further training opportunities for daycare centre education professionals in Germany (for pre-school children up to the age of six years). In contrast to the situation in other European countries, in Germany further training for professionals in this field is not regulated at national level and is only partially organized at the level of the Federal States; rather, further training opportunities are offered by a range of various bodies and institutions. By contrast, the system of further training for early childhood education professionals in other European countries is more strongly centralized, and professionals are employed by the government. In order to gain a better understanding of the behavior of early childhood education professionals regarding further training opportunities in the context of the diverse system of further training in Germany, the Professional Development Initiative for Early Education Professionals (German: Weiterbildungsinitiative Frühpädagogische Fachkräfte, WiFF) carried out a large-scale, modularly organized study from 2015 to 2018. This article presents selected results based on a standardized, representative survey of early childhood education professionals across Germany which was conducted as part of this study.

Keywords

further training, early childhood education, daycare centers

1 Introduction

In Germany, work in daycare facilities (Kita) is part of a strictly regulated labour market segment and is mostly done by professional educators, childcare workers, social assistants and social education workers. Since 2004 also childhood education studies qualify students for the daycare sector. Despite its expansion and partial academisation this sector continues to be dominated by state-recognised educators trained at professional schools for social pedagogy - they account for 70% of professionals, while only 5% have an academic degree (Autorengruppe Fachkräftebarometer, 2017). The different levels of training typically qualify graduates also for other fields of work in child and youth welfare beyond daycare centres. The training usually

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follows a generalist agenda and requires professionals to engage in further education. Although participation in further training is not compulsory, continued professional training is part of a silent consensus in the field of early education: lifelong learning is considered an essential part of vocational biographies (König & Buschle, 2017; Nittel et al., 2014).

Further education consists in continuing or resuming organised learning activities after having completed an initial educational career (vocational training), which, as a rule, had been followed by employment or family-related activities. In German-speaking countries continuing and further education includes, on the one hand, organised (formal or non-formal) learning processes for deepening, expanding and renewing knowledge, skills and abilities (Deutscher Bildungsrat, 1970). On the other hand, it involves self-directed learning (in relation to the learning style) and informal learning, i.e. learning on the job or outside institutionalised or organised structures (Reichart & Gnahs, 2014; Siebert, 2017). The present study focuses mainly on further education in the field of daycare facilities, which can be attributed to the particular approach of non-formal learning.

Further training for early childhood education professionals is highly diverse in terms of range, providers and types of events. This is inherent in the federal structure of Germany and the principle of subsidiarity: with regard to further education "the voluntary nature of participation, the provision of nationwide and needs-based offers and their general accessibility are part of the state-induced organising principles" (Reich-Claassen & Tippelt, 2012, p. 168; authors' translation).

The German Federal States (Länder) are responsible for further education in the daycare sector, and the provision of training and practical advice for employees in the field of public child and youth welfare is regulated in the Eighth Book of the Social Code (SGB VIII). Thus, educational and care services for children before compulsory schooling in Germany are part of the system of child and youth welfare rather than the education system.

Apart from private agencies and independent institutions churches and social welfare organisations operate in the field of further education of early childhood education professionals (Grimm et al., 2010). The largest providers are welfare organisations and non-profit associations (in a dual role as employers and providers of further education). In contrast to the Anglo-Saxon countries, the number of private commercial daycare facilities is rather small. Accordingly, the majority of the staff is employed by independent institutions (2016: 66%) (Autorengruppe Fachkräftebarometer, 2017).

Compared with other European countries, the organization of further training for early childhood education professionals in Germany presents a number of particularities. Since a variety of providers regulate the (further) training and qualifications in this field, a range of divergent frameworks and responsibilities exist, each of which is specific to a given provider (Oberhuemer, 2012). In this context, there is only limited scope for the comparability of systems and concepts of quality management, particularly since it is not clear what direct influence these have on further training (Müller et al., 2016).

By contrast, for instance, the system of further training for early childhood education professionals in Slovenia is more strongly centralized, and professionals are employed by the government. A similar situation exists for example in Italy and Hungary where professionals that are employed by local council or in the state education sector are also affected by centralized structures (Oberhuemer, 2012).

Until now, relatively few empirical studies of further training of daycare center education professionals have been conducted in Germany, and these were partially carried out in the context of studies with a broader thematic interest (e.g. selected WiFF-guides; Beher & Walter, 2010; von Hippel & Grimm, 2010; Baumeister & Grieser, 2011; Expertengruppe Weiterbildung, 2013; Kovacevic & Nürnberg, 2014). In order to identify areas where reform is needed in this field of work and to help align further training with early education, the WiFF-

Weiterbildungsstudie ("Further Education Study of WiFF") addresses the interface between these two fields (Buschle & Gruber, forthcoming, 2018).

In the context of this study, a diverse set of questions was relevant. Among other things, it investigated the planning of further education topics or the professional background of training professionals. Against this background, the present paper discusses questions regarding the further training behaviour of early childhood education professionals, conditions for the transfer for what has been learned, and informal vocational learning activities.

The aim of this paper is two-fold. Firstly, it will present the framework conditions of further training opportunities for daycare centre education professionals. Secondly, it will discuss the motives and behaviour of early childhood education professionals regarding further training, barriers hindering participation in further training courses, the transfer of the learning context, as well as the willingness of professionals to engage in forms of informal learning.

2   Methods

In 2009 the Federal Ministry of Education and Research and the Robert Bosch Stiftung in cooperation with the German Youth Institute launched the *Weiterbildungsinitiative Frühpädagogische Fachkräfte* (WiFF) (Professional Development Initiative for Early Education Professionals). Its third funding phase runs until the end of 2018. This programme is one of the most comprehensive professionalisation initiatives for early education in Europe (Oberhuemer, 2014). The goals of the initiative include strengthening early education as the basis of the education system in Germany as well as providing transparency of the structure of further education in this field. The WiFF Further Education Study was designed for this purpose; it consists of three modules: its main objective is the analysis of the significance of further training in the field of early childhood education at (1) the individual level of early childhood education professionals, (2) the institutional level of daycare centers, and (3) the level of the further training system.

The research design of the study reflects this multi-level interest: according to each module and the corresponding research question, various quantitative and qualitative methods of data collection were used, each targeting different groups of participants.

The following types of data were collected, analyzed, evaluated and, where appropriate, linked together using methodological or result triangulation (Flick, 2011): program analyses of further training events (n = 3.963), expert interviews with people responsible for planning further training (n = 13), an online survey of people offering further training courses (n = 536), a group discussion (n = 4), and a standardized written survey of daycare center education professionals (n = 1.585).

This paper concentrates primarily on results from the standardized expert survey, which is part of the third module of the Further Education Study. Its overarching object was the exploration of the significance of further training for the field of daycare centre education from the perspective of the education professionals themselves in Germany.

2.1 Sampling a questionnaire

One of the special features of this study is that both the managing directors and the pedagogical staff of daycare centres were included. Thus, the representation of the two target groups in the sample is comparatively well balanced.

The actual ratio of management to employees is approximately one to nine (Autorengruppe Fachkräftebarometer, 2017). Managers are deliberately overrepresented in order to take a closer look at their special role.

Corresponding to the two target groups, two slightly different versions of the questionnaire, which were sent out by post, were produced. The management questionnaire includes three additional questions and several items address only one target group or are adapted accordingly.

Questionnaire construction was based on findings from previous empirical studies in the fields of daycare and further education (BMBF, 2015). Data collection took place during September and October 2016. Prior to the official survey, a cognitive pretest (n = 10) was conducted in order to optimize the questionnaire.

The random sample of managers and the pedagogical staff is representative and was drawn from an address database of all daycare centres in Germany in 2016 (including altogether 57.912 addresses). The proportionate stratified sample selected organisations according to the number of daycare centres in the federal states.

After deducting the sample-neutral non-response, the gross sample included 2.886 daycare centres. For each, one director and a randomly selected pedagogical professional were asked to participate;[1] a total of 5.772 questionnaires were sent out.

The response rate of directors (29.7%; n = 857) was slightly higher than that of the pedagogical staff (25.2%; n =728).

2.2 Selected results

This paper sheds light on the practice of further training in Germany from the perspective of the actors in the further training system as well as daycare centre education professionals. The focus is on the most recent (i.e. during the last 12 months) or currently attended continuing education event.

The results furthermore illustrate that the rate of participation in further training is very high among these professionals and that they are generally highly motivated to take part. The majority of the managing directors (MD) (86%, N^2= 838) and pedagogical staff (PS) (85%, N= 709) have taken part in at least one job-related training or further education event in the last 12 months. Mostly short courses of one day are attended. Compared to the average participation of employed persons in further training in Germany (56%) (BMBF, 2017), the participation of Kita specialists is thus significantly higher.

2.3 Motives for participation

The strongest motives for participating in further education were related to the interest in the topic (MD: 96%, N_{MD}= 679; PS: 97%, N_{PS}= 576), the desire to learn new things (MD: 87%, N_{MD}= 659; PS: 94%, N_{PS}= 566), to update the tools of the trade for practical work (MD: 93%, N_{MD}= 677; PS: 91%, N_{PS}= 568), and to deepen theoretical backgrounds (MD: 83%, N_{MD}= 659; PS: 87%, N_{PS}= 559). Altogether the findings indicate a clear priority of practical interests in terms of content and realisation.

Especially proposals to participate in further training events that were suggested by the management were important for the pedagogical staff. Labour market-related reasons (i.e. career advancement, increase in income, finding a new job, vocational qualification) were less relevant since new career prospects hardly seem to open up through further training. Correspondingly, nearly half of all respondents (MD: 40%, N_{MD}= 823; PS: 48%, N_{PS}= 689) do not associate their further education with an improvement of chances in the labour market; and only 3% (N_{PS}= 564) of the pedagogical staff and 5% (N_{MD}= 666) of managing directors received certificates recognised in terms of credit points for studies.

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[1] On a random basis the team member whose birthday comes up next was selected.
[2] Total number of valid cases.

2.4 Barriers to participation[3]

Not having found a suitable offer in the last 12 months is the main reason for not having participated in further training events (MD: 51%, N_{MD}= 98; PS: 58%, N_{PS}= 91). Another possible reason that is discussed in the literature is related to the heterogeneity of the further education landscape, which makes it difficult to gain an overview of organisations and offers and thus also the selection of suitable events (Peucker et al., 2017). 40% (N_{PS}= 85) of the pedagogical staff and 22% N_{MD}= 94) of the managers do not want to or cannot afford the costs of the training; and participation was not considered because it would not have resulted in better earning opportunities (MD: 48%, N_{MD}= 92; PS: 38%, N_{PS}= 84). Also, the human resource situation at the daycare centre has an impact. Due to staff shortage, managers are almost twice as often prevented from participating in further training as pedagogical staff (MD: 57%, N_{MD}= 104; PS: 31%, N_{PS}= 87). In general, the lack of financial and professional advantages associated with further training is more relevant for the non-participation of managers than of pedagogical staff.

2.5 Transfer conditions

In order to contribute to quality development, the aim of participating in further education should consist in the transfer of acquired skills and knowledge into the professional practice in daycare centres. (Hoffer, 2017). Our findings indicate that this is done primarily through exchange among colleagues in teams (MD: 92%, N_{MD}= 682; PS: 95%, N_{PS}= 576). For instance, team meetings are used to discuss the implementation of what has been learned. However, our findings also show that respondents indicate a lack of time for implementing novel approaches and for practising them (MD: 45%, N_{MD}= 675; PS: 31%, N_{PS}= 556). In this respect, managing directors are less optimistic than pedagogical staff. This problem of lacking time for implementation almost equally affects early childhood education professionals independently of funding organisation, size of a daycare centre, weekly working hours, or regulations regarding the exemption from group service (Buschle & Gruber, forthcoming, 2018).

2.6 Informal learning

Almost all pedagogical staff members (93%, N_{PS}= 722) and managing directors (97%, N_{MD}= 851) included in the survey participated in some form of informal vocational further training in the last 12 months. By comparison, the Adult Education Survey, which covers the entire resident population aged 18-64 in Germany, finds that 43% of its respondents took part in informal learning activities in 2016 (BMBF, 2017).

Informal learning entails a variety of activities: 93% (N_{MD}= 851) of managing staff and 86% (N_{PS}= 727) of pedagogical staff mainly read books, specialist journals or internet sources; many conducted independent research on professional issues on the Internet, libraries etc. (MD: 82%, N_{MD}= 857; PS: 71%, N_{PS}= 727). 53% (N_{MD}= 857) of the managing directors and 54% (N_{PS}= 727) of the pedagogical staff learned from exchanging with peers in their private or professional environment.

Informal learning is only partially supported by the working environment of daycare centres. Nearly all of them provide access to books (MD: 98%, N_{MD}= 848; PS: 94%, N_{PS}= 726) and subscribed journals (MD: 88%, N_{MD}= 848; PS: 84%, N_{PS}= 726). Computers and internet access is available for most managing staff (87%, N_{MD}= 848) but fewer pedagogical professionals (77%, N_{PS}= 726) (Buschle & König, 2018). Overall, skilled professionals tend to engage

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[3]   Questions of non-participation were answered only by those who did not participate in any form of further education during the last 12 months (valid N for managing directors: 91-104; unweighted valid N for pedagogical staff: 82-90).

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in informal learning activities rather outside their working hours (MD: 55%, N_{MD}= 787; PS: 61%, N_{PS}= 633); this indicates that they are highly interested in informal further education and that they are (and perhaps have to be) self-reliant when it comes to meeting their needs for professional development.

3   Conclusion

For some years now, the quality expectations towards daycare centres as places of education have been growing. Questions regarding inclusion, equal opportunities and the compatibility of daycare and school education determine the current educational policy discourse. Political pressure and recruitment strategies associated with the expansion of this particular education sector promote part-time and in-service training as well as refresher and advancement training for newcomers and returners. In the future, career paths could become permeable and allow daycare nurses to become managing directors. This would imply a professionalization of the field from within. There is a lot of hope attributed to continuing and further education that it will not only support the transformation process but also play a decisive role in shaping it (König & Buschle, 2017). Further education can have manifold roles: it can complement and update professional knowledge; it can enable the accumulation of personal and professional skills throughout working life; and it can be used as an important pillar for implementing educational reforms (von Hippel, 2011).

The present study underlines the discrepancy between these manifold expectations towards further training and the actual conditions of the field. Our findings confirm previous studies showing that German daycare professionals are highly interested and active in continuing education even with regard to learning opportunities outside of organised education. Participating in further education is part of the professional self-understanding and regarded as particularly relevant for meeting the many challenges and changes of educational work at daycare centres. Further education participation depends first of all on the management and on the circumstances and conditions of particular institutions. While managing directors usually support further training, structural conditions tend to be adverse. Especially the comprehensive shortage of qualified staff in the German early education system undermines the transfer of novel approaches into the everyday work in daycare centres. Unsurprisingly, professionals prefer short courses that, however, have little sustainable impact (Friederich, 2017; Faulstich & Zeuner, 2010). Furthermore, until now, participation in continuing education seems to have few real advantages for career development or increasing earning opportunities. Also in this respect there is a gap between expected effects on professionalization on the one hand and actual benefits for daycare professionals in the other.

The conditions of working in daycare facilities need to be adapted to the high expectations associated with it in terms of professionalization and modernisation of this important layer of education. At the same time, there should be considerations to utilize the popularity of short-term courses by making them more sustainable.

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The Importance of Tax Knowledge for Tax Compliance: A Study on the Tax Literacy of Vocational Business Students

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Abstract

Tax avoidance and tax evasion are frequently discussed topics on both a national and European level. Education can play an important role in fostering tax compliance. This is especially the case in vocational business education, where students are equipped with the knowledge to found a company, and tax-related issues are of importance. As a part of a sound economic literacy, tax literacy comprises knowledge as well as other dimensions, such as attitudes. The focus of this paper is on general tax knowledge and on tax compliance attitudes. Consequently, the main goals are to present the descriptive results on tax knowledge and on attitudes of the students from business colleges in Austria, and to analyze the relationships between knowledge and tax compliance attitudes. As such, a mixed methods approach that integrates an interview study (n = 22), as well as a questionnaire study (n = 688) was applied among the students from the fourth grade of business colleges in Austria. The results give insight into regular misconceptions in the field of taxes, which serve as an important input for instruction. Additionally, knowledge was found to be positively related to a voluntary tax compliance attitude and negatively related to a tax evasion attitude. This indicates that knowledge is an important factor for tax compliance.

Keywords

tax literacy, tax knowledge, tax compliance

1   Introduction

Economic and financial crises, governmental debts, and the risk of bankruptcies call for sound economic literacy in order to develop an understanding of economic issues on a societal level and to have the ability to take responsibility for one's own financial affairs (Leumann et al., 2016). The importance of economic literacy and economic education is also reflected in the development of competency models and the growing amount of studies in this field (Seeber et al., 2012). Additionally, Baden-Württemberg, a federal state in Germany, recently introduced a new mandatory subject of economics and vocational orientation in general education schools (Hiller, 2017). In Austria, a fundamental decree for an educational principle which was targeted towards integrating economic education into various subjects and schools was issued in 2015

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(Bundesministerium für Bildung und Frauen, 2015). Economic and financial education, therefore, has thus become an important part of the education system in several countries. The topic of taxes is, however, is often only partially integrated, or completely ignored, in the content frameworks this field (Cechovsky, 2018).

Still, tax avoidance and evasion are discussed frequently on a European level, since a variety of regulations were introduced to decrease the number of funds lost (European Commission, 2017). Regulations and fines are one way to curb tax evasion. Furthermore, education is another important instrument to support tax compliance, as several studies have indicated (Hofmann et al., 2008).

The topic of taxation is especially relevant in vocational business education, where students are equipped with the knowledge and abilities to found a company. Therefore, the target group of this study would be students from the fourth grade of business colleges in Austria. Business colleges in Austria can be described as five year higher vocational schools that result into vocational degree and in a university entry certificate. These schools have a strong entrepreneurial focus (Bundesministerium für Bildung, 2014). Most students have already had work experience from internships or part-time jobs, have bank accounts and pay capital gains tax, and all of them pay value-added tax as consumers. Furthermore, they have the right to vote once they are 16 and can therefore indirectly influence the tax system.

The main goal of this paper is to give an overview of two dimensions: the concept of tax literacy, as well as their interrelationships. Consequently, the following research questions will be discussed:

- What general tax knowledge and tax compliance attitudes do the students show?
- What relationships between general tax knowledge and tax compliance attitudes can be found?

The results of this study have implications on three levels. Firstly, the analysis of the knowledge dimension uncovers conceptions and misconceptions relevant for instructions. Secondly, the study can stimulate discussion on the level of educational policies and, therefore, provide a starting point for holistically oriented tax education initiatives. Thirdly, the study contributes to the growing field of research on economic literacy and tax literacy.

In this paper, the dimensions of general tax knowledge and tax compliance are first discussed from a theoretical perspective and hypotheses. This is based on deductions from previous studies (chapter 2. Theoretical Background on Tax Literacy). Next, the methods applied are outlined, and the sample is described (chapter 3. Methods). Thirdly, the results are presented (chapter 4. Results). Finally, a conclusion is drawn, and the limitations of this study and further fields of research are discussed (chapter 5. Conclusion).

2   Theoretical background on tax literacy

Economic education, which can be seen as the broader theoretical background for this project, according to Dubs (2013) can be differentiated into vocational education and general civic education. While vocational education is specific for vocational schools, general civic education is relevant for all upper secondary schools. Economic education should develop an understanding of economic and business-related contexts relevant for the consumer, the earner and the economic citizen (Dubs, 2013). Beck (1989) points out that economic education[1] comprises economic knowledge and thinking, economic attitude and the ability to morally reflect

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[1]   Education is understood as the German concept of "Bildung", which describes a state a person can reach.

economic topics. As this description indicates economic education not only targets towards the development of knowledge but also integrates other dimensions such as attitudes.

Based on the theoretical groundwork from the field of economic education, a definition for tax literacy has been derived. Tax Literacy is defined as general tax knowledge on a societal and individual level, an interest in tax-related issues, and an attitude, alongside a corresponding tax compliance behaviour. In this paper, the focus is on the dimensions of general tax knowledge and tax compliance attitudes, which will be outlined in the following paragraphs.

Firstly, the general tax knowledge as it is understood in this project is described. General tax knowledge comprises of different types of knowledge and different cognitive processes, according to the taxonomy for learning, teaching, and assessing by Anderson et al. (2001), which is based on work by Bloom et al. (1972). Therefore, general tax knowledge not only consists of remembering factual knowledge but also integrates more complex knowledge dimensions (factual, conceptual and procedural knowledge) and cognitive processes (remembering, understanding, applying, analyzing and evaluating) as well. Furthermore, it consists of relevant tax-related content. While the content focuses on a public level of taxation (e.g., functions of taxes), it also focuses on the individual level (e.g., basic principles of the most important types of taxes).

Secondly, the tax compliance attitudes are described from a theoretical perspective. In the field of tax compliance, several terms, such as tax avoidance and tax evasion, are used. Since the measurement of tax compliance attitudes is based on an instrument developed by Kirchler and Wahl (2010), their definition will be presented. Kirchler (2007) describes tax compliance as a neutral term stating that a taxpayer is willing to pay taxes. Non-compliance, on the other hand, can be seen as a broad concept where a taxpayer fails to pay his or her taxes. According to Kirchler and Wahl (2010), compliance and non-compliance can be further differentiated, according to their underlying motives. Compliance can be either voluntary or enforced, and non-compliance is differentiated into tax avoidance and tax evasion, as depicted in Figure 1 below. Thus, voluntary compliance consists of the underlying motivation, namely on that inculcates the paying of taxes as the duty of a citizen, whereas enforced compliance is related to the fear of fines and punishment. Tax avoidance can be described as the minimization of taxes within legal boundaries, and tax evasion includes the violation of the law.

Compliance		Non-compliance	
Voluntary Tax Compliance	Enforced Tax Compliance	Tax Avoidance	Tax Evasion

Figure 1   Tax compliance according to Kirchler and Wahl (2010)

Kirchler, Hölzl and Wahl (2008) suggest that the level of tax compliance in a society is influenced by two factors: the power, and the trust in tax authorities. However, both concepts are influenced by individual perceptions of the taxpayer. Power can be described as perceiving the tax authorities as an institution that controls and punishes taxpayers. Therefore, a high perception of power leads to enforced compliance. In contrast, trust in the tax authorities goes along with a positive evaluation of the tax authorities and taxes improving the situation for the citizen. A high level of trust is associated with a voluntary compliance attitude. A lack of both elements results in a vicious circle of mistrust and illegitimacy of the tax authority, which could

result in a non-compliance attitude. It was found that having a broad knowledge is positively related to trust, whereas little knowledge is associated with low trust (Kirchler et al., 2008). Knowledge is thus assumed to be related to tax compliance attitudes and behavior.

This is also confirmed by several studies in the field of tax knowledge and tax compliance among different target groups (Djawadi & Fahr, 2013; Eriksen & Fallan, 1996; Gangl, Kirchler, Lorenz, & Torgler, 2015; Kirchler et al., 2006; Oladipupo & Obazee, 2016; Palil, Akir, & Ahmad, 2013; Wong & Lo, 2015). Yet, knowledge is also needed for tax avoidance. As such, a positive relationship between tax avoidance and tax knowledge was found by Groenland (1983). Based on the theoretical assumption, as well as the empirical evidence, the following hypotheses have been formulated:

- Hypothesis 1: There is a positive relationship between general tax knowledge and attitude towards voluntary tax compliance.
- Hypothesis 2: There is a positive relationship between general tax knowledge and attitude towards tax avoidance.
- Hypothesis 3: There is a negative relationship between general tax knowledge and attitude towards enforced tax compliance.
- Hypothesis 4: There is a negative relationship between general tax knowledge and attitude towards tax evasion.

3 Methods

In this project, an exploratory research design by Creswell and Plano Clark (2007) was applied as there was limited prior research in this field. Consequently, the first qualitative step was taken to explore the conceptions and misconceptions of the students, followed by a second quantitative step.

Firstly, 22 problem-centred interviews were held with students from business colleges in Austria. The questions focused on their experience with taxes, as well as on their conceptions on public finance issues. The interviews were analyzed according to Mayring (2014) and provided a crucial input for the construction of knowledge questions (for selected interview results, see Cechovsky (2018)).

Secondly, a quantitative study of the tax literacy of the students was conducted. Thus, a questionnaire on knowledge, interest, attitude, behavioural intentions, perceived behavioural control, and social norms was developed. Since the research questions chosen for this article are focused on knowledge and attitudes, the other dimensions will not be further outlined.

The questionnaire part on tax knowledge was based on an analysis of various textbooks, a curriculum analysis, the qualitative study, as well as existing instruments, such as the Test of Economic Literacy in its German version (Beck and Krumm, 1998) and items developed by Steininger (2017). The attitude scales are based on the tax compliance inventory TAX-I by Kirchler and Wahl (2010). Kirchler and Wahl (2010) developed the questionnaire for self-employed entrepreneurs in Austria. All items were adapted to fit the target group.

In order to improve the quality of the questionnaire, a cognitive pre-test, along with a standard pre-test and expert validation was carried out. Furthermore, an item analysis, according to classical test theory, was applied. Therefore, a principal component analysis was conducted to confirm the indicated factors. Moreover, reliability and validity were analyzed. Consequently, some items had to be dismissed, due to reliability issues.

For the main test, 688 students in three federal states in Austria were surveyed. The study was approved by the school authorities and respective principals. Furthermore, information material was provided, and the students were informed about the anonymity of their answers. Additionally, a neutral instruction was provided, which would have decreased the social desirability of the answers.

The gender distribution of the sample shows that more women (59%) than men (41%) took part in the study. This represents the actual gender ratio in business colleges in Austria (Statistik Austria, 2017). The age of the students ranged from 16 to 22. A large majority (97.7%) of the students was between 17 and 19 years old. Additionally, 85.2% of the students reported that German was the main language they spoke in their leisure time and 14.8% of the students indicated that they mostly speak a language other than German.

4   Results

In the results section, the research question on general tax knowledge and tax compliance attitudes will first be answered. Thereafter, the results of the second research question, and the hypotheses on the relationships between knowledge and tax compliance attitudes are outlined.

4.1 Descriptive results on general tax knowledge

The knowledge test consists of 24 multiple choice questions on general tax knowledge in a four-item format. At least one item was correct, as was indicated in the instruction. 0.25 points could be obtained per item (0 if the item was answered incorrectly and 0.25 points if the items were answered correctly) and a maximum of 1 point for one question.

The boxplot in Figure 2 below provides an overview of the students' scores on all 24 knowledge questions. The median is at 15.25. Furthermore, 50% of the scores are between the interquartile range of 14.25 to 16.50 (weighted average), which shows a range of 2.25. The minimum, excluding outliers, is at a score of 11 (a solution rate of 45.833%) and the maximum excluding outliers is at a score of 19.25 (80.208%) of the items answered correctly). All in all, a mean score of 15.36 was obtained, resulting in an average solution rate of 64%.
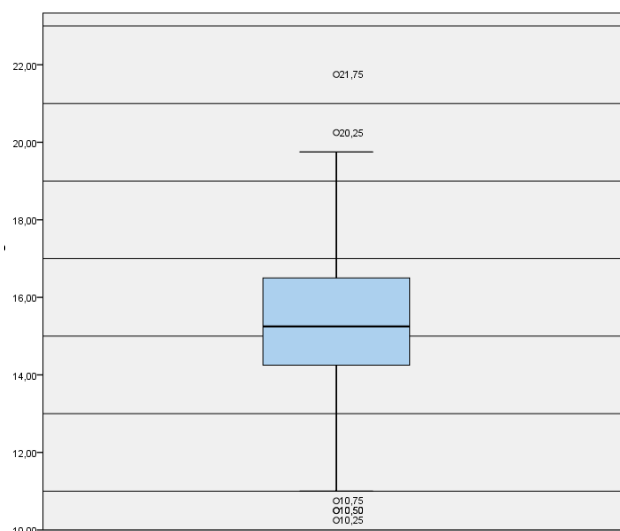
Figure 2   Boxplot on the knowledge questions

Next to the description of the results in general, one knowledge question will be presented in detail. The knowledge, depicted in Figure 3 below, is of interest as it was the most difficult question among the 24 knowledge questions (solution rate of only 24%). In Austria, a progressive income tax system exists. Thus, the income is taxed in steps, according to the tax table. The students were provided with a tax table as well. Nearly 70% of the students believed that income tax was calculated as a fixed percentage of the taxable income. Thus, a person with a

taxable annual income of € 24,000.00 would have to pay € 8,400.00 of taxes, which is 35% of the income. However, the right application of the progressive income tax table would result in a tax payable of € 3,850.00, which was around 16% of the income. Consequently, this misconception led to a much higher perceived tax burden. These results to some extent are similar with findings by Chardon, de Zwaan and Liu (2016) and Steininger (2017) who also found that there were difficulties that existed among other target groups regarding calculation of the share of income tax in a progressive tax system.
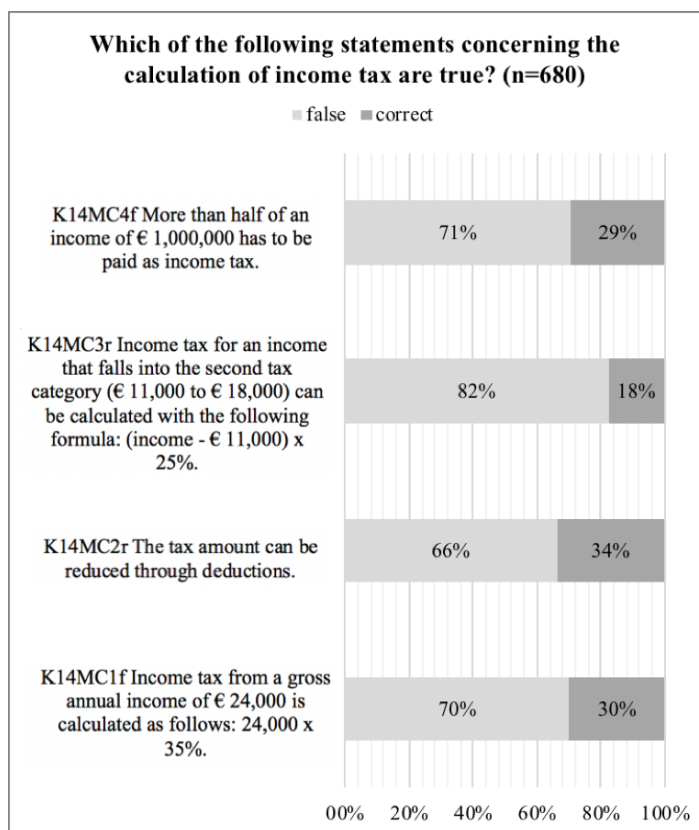
Figure 3   Knowledge question on the calculation of income tax

4.2 Descriptive results on tax compliance attitudes

Each attitude dimension (voluntary, enforced, avoidance, evasion) was measured through five items which had to be rated on a five-point Likert scale that ranged from 0 = not agree at all to 4 = absolutely agree. As seen below, Table 2 provides an overview of the descriptive data.

The highest means were obtained in the attitude towards voluntary compliance dimension and attitude towards avoidance dimensions. The mean was just between partly agree and mostly agree. For attitude towards enforced compliance, the mean was below the partly agree threshold. The attitude towards evasion dimension showed the lowest mean, which is below hardly agreed. Minimum and maximum showed that the whole rating scale was represented in the answers and the standard deviation indicates a sufficient variation of the answers.

Table 2   Attitude dimensions

	N	Minimum	Maximum	Mean	Std. Deviation
Attitude voluntary compliance	684	.00	4.00	2.5953	.79735
Attitude avoidance	685	.00	4.00	2.5133	.65624
Attitude enforced compliance	686	.00	4.00	1.8601	.90424
Attitude evasion	685	.00	4.00	.8336	.93257
Valid N (listwise)	677				

4.3 Results on the hypotheses on knowledge and tax compliance

For testing the hypothesized relationships between general tax knowledge and the four dimensions of tax compliance attitude, a bivariate correlation was calculated. Additionally, bootstrapping was applied, since the normality of the data cannot be assured.

The correlation matrix is provided in Table 3 below. The analysis indicates that, as hypothesized, general tax knowledge was significantly related to attitude towards voluntary compliance ($r = .204$, $p < .01$) and to attitudes towards tax avoidance ($r = .183$, $p < .01$). Again, as hypothesized, a negative relationship can be found between knowledge and attitude towards tax evasion ($r = -.105$, $p < .01$). However, no significant relationship between tax knowledge and attitude towards enforced compliance ($r = -.029$, $p > .05$) was found. An explanation could be that enforced compliance is rather an emotional decision that is based on fear.

Table 3   Correlations knowledge, interest and attitudes

	Knowledge	Attitude voluntary	Attitude enforced	Attitude avoidance	Attitude evasion
Knowledge	1	.204[**]	-.029	.183[**]	-.106[**]
Attitude voluntary compliance	.204[**]	1	.017	.055	-.293[**]
Attitude enforced compliance	-.029	.017	1	.096[*]	.150[**]
Attitude avoidance	.183[**]	.055	.096[*]	1	.200[**]
Attitude evasion	-.106[**]	-.293[**]	.150[**]	.200[**]	1

Note. **. Correlation is significant at the 0.01 level (2-tailed), *. Correlation is significant at the 0.05 level (2-tailed). Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples.

5   Conclusion

Firstly, the knowledge part of the questionnaire helps to identify misconceptions relevant for instructions. A large share of the students' beliefs of how income tax was calculated was stemmed in a way that would lead to a much higher tax burden than the actual calculation results. This misconception has to be explicitly focused on in an instructional setting.

Secondly, the dimensions attitude towards voluntary compliance and attitude towards tax avoidance seem to be of relevance for students. The scales enforced compliance and evasion showed lower agreements. As such, these were less relevant attitudes for the students. This does not seem surprising as in the subject of accounting; the focus is on tax compliance and tax avoidance within legal boundaries.

Thirdly, inferential analysis showed as hypothesized a positive relationship between knowledge and voluntary tax compliance and a negative relationship to tax evasion. The findings are in line with existing studies (Hofmann et al., 2008). Furthermore, the results support

the provision of tax education. Such initiatives should not only focus on practical knowledge for the tax return but also on knowledge of the tax system on a societal level.

There are several limitations to this study and some areas for further research could be identified. At the moment, only one target group has been surveyed. Therefore, only intragroup comparisons are possible. Additionally, some questions of the questionnaire are specific to the Austrian legal system. However, a version which fits the regulations in Germany is being developed during the writing of this paper. Finally, the questionnaire is influenced by the prevalent economic system in Austria. Still, it would be interesting to adapt and apply the questionnaire among other countries (especially in other economic systems) and target groups as well.

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Biographical notes

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The Need to Strength the Skills Pipeline - Analysis of the PIAAC Data

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Abstract

Changes in the demographic composition and education profile are driving a major structural change in Singapore's workforce. This workforce shift is taking place against rapid technological advancements and globalization. With advancements in technology and the increasing use of artificial intelligence, a range of existing jobs will be automated, and robotics will be a key influencer for job creation in the near future. The economy is facing a skills gap where a growing portion of the population run the risk of being irrelevant. The primary data source of this paper is Singapore's literacy scores in Programme for the International Assessment of Adult Competencies (PIAAC). The study analysed Singapore's PIAAC performance by comparing the acquired literacy skills by different age groups. The key aim is to a better understanding of the relationship between literacy skills and the adult working population. This study expands the available research on literacy losses and ageing and lends support to the development of key policies to strength the skills upgrading pipeline.

Keywords

PIAAC, adult literacy skills, skill gaps

1   Introduction

Singapore is one of the fastest growing economy in the world (Hewko, 2017). However, it also has a low birth rate and a high rate of ageing. Approximately 10% of the population is aged over 65. Upon 2018, and for the first time in Singapore's history, the number of people above 65 will equal to those under 15. This situation has been portrayed as a 'ticking demographic time bomb, with implications on costs, taxes, labour and productivity' (Shiao, 2017, December 07). Singapore's workforce is facing shifting demands for labour in the face of a rapidly ageing population.

To further complicate the issue, the shifting workforce demands in Singapore is up against rapid technological advancements and globalization. With advancements in technology and the increasing use of artificial intelligence, a range of existing jobs will be automated in the next 20 years, and in the next five years, robotics will be a major influencer for job creation (Arntz, Gregory, & Zierahn, 2016).

Repetitive and low-skilled jobs are already being replaced by technology. Such changes in all sectors of industry will require an enormous number of technically proficient workforce with

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specialised skills to maintain and support the development of future technologies. A growing portion of the workforce run the risk of being irrelevant, and the skills gap is becoming an ever-widening chasm. Economies will face an increasing skills gap where a growing portion of the population run the risk of being irrelevant.

As the job scene evolves, skills has been branded as the "global currency of 21st-century economies" (OECD, 2012, p. 10). There are both cognitive skills (such as literacy or numeracy skills) as well as non-cognitive skills (such as physical or soft skills). Research has shown cognitive skills to be positively correlated with the individual success in labour market, participation in society as well as economic growth (Hanushek et al., 2015; OECD, 2013).

Skills gap in the working population have a negative impact on labour productivity. Reducing the skills gap has shown to deliver a boost in efficiency of about 10 percent (OECD, 2015, 2016b). The re-distribution of skills has significant implications for reskilling and up-skilling polices. A lifelong learning culture is needed to engage learners as well as those in the workforce in overcoming these growing challenges. The role of life-long learning in enhancing a society's competitiveness and employability, and active citizenship has been acknowledged for some time. Developing the right skills in respond to the changing labour market plays a crucial role. Continuing (CET) education, adult education and vocational education and training (VET) are key players in this role. According to a 2015 study, there's a clear and compelling correlation between workforce competencies and the strength of a country's economy (OECD, 2015).

The study analysed *The Programme for the International Assessment of Adult Competencies* (PIAAC) literacy performance by comparing the acquired literacy skills by different age groups in Singapore. The key aim is to a better understanding of the relationship between literacy skills and the adult working population. This study aims to expand the existing research on literacy losses and ageing (OECD 2012, 2013, 2016b) and lends support to the development of key policies to strengthen the skills upgrading pipeline to support the shifting economy.

1.1 PIAAC literacy

The primary data source for this paper is Singapore's literacy scores in PIAAC. The PIAAC, conducted by OECD, assessed literacy, numeracy, and technology-related skills of adults' age 16 to 65. Implemented between August 2011 and March 2015, PIAAC provides internationally comparable data about skills of the adult population in 33 countries. It seeks to understand how adults develop, use and benefit from these skills (OECD, 2013, p.25) as they are deemed relevant to the labour market, education and training, and the social and civic life (OECD, 2013, p.25) of today's hyper-connected societies and increasingly knowledge-based economies (OECD, 2013, p.3). The survey focuses on how these skills are used at home, in the workplace and community; how they are developed, maintained and lost over a lifetime; and how they relate to labour market participation, income, health, and social and political engagement (OECD, 2013, p.25). Information on a range of generic skills, such as the ability to collaborate with others and organise one's time was also captured (OECD, 2013, p.25).

The first round of PIAAC data, administered between August 2011 and March 2012, produced data on 24 (mostly OECD) countries (OECD, 2013). In a second round, PIAAC administered the same skill survey in an additional nine countries (including both non-OECD countries) between April 2014 and March 2015 (OECD, 2016b), extending to 33 countries. The third round is conducted between 2016 and 2019. At least 5,000 adults participated in the PIAAC assessment in each country. In each participating country, a representative sample of adults between 16 and 65 years of age was interviewed at home or an agreed location in the language of their country of residence. PIAAC takes advantage of matrix-sampling, which implies that each participant is only presented with a subset of the full set of items. Item-response theory techniques are used to estimate scores on a common scale for all the participants. Singapore

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participated in the second round of OECD's Programme for the International Assessment of Adult Competencies (PIAAC). PIAAC was conducted in Singapore from 1 April 2014 to 31 January 2015. A total of 5 393 adults comprising Singapore Citizens and Permanent Residents aged between 16 and 65, participated in the PIAAC.

In the PIAAC assessment, OECD defines literacy as "understanding, evaluating, using and engaging with written texts to participate in society, to achieve one's goals, and to develop one's knowledge and potential" (PIAAC, 2009, p.8). PIAAC literacy focuses on the participatory, rather than functional, role of literacy in society – i.e. 'to participate in society'. It recognises that literacy has a social aspect, enabling individuals to interact with one another, learn about and actively contribute to one's surroundings and community life (PIAAC, 2009, p.9).

A greater variety of text types, whether narrative or interactive texts, and of media are covered within PIAAC's meaning of literacy. 'Written text' takes into consideration the current norm of accessing and using text from some screen, such as that of a computer, PDA, ATM or iPhone (PIAAC, 2009, p.8). 'Understanding' points to the construction of meaning large and small, literal and implied, found in tasks ranging from basic understanding of words and their meaning, to complex deciphering of themes in lengthy arguments and narratives (PIAAC, 2009, p.8). It also includes being aware of the social function of the text and how it affects its structure and content (PIAAC, 2009, p.8). 'Evaluating' means judging the appropriateness or usefulness of a text for a task, its reliability and truthfulness of content, and textual quality, both as a craft and as a tool to gain information (PIAAC, 2009, p.8 & 9).

There are six levels of literacy, or proficiency thereof, measured in PIAAC. They start from 'below-level one', then 'level one' which goes up to 'level five'. At 'below-level one', the respondent reads brief texts on familiar topics and locates a single piece of specific information. Only basic vocabulary knowledge is required, without the need to understand the structure of sentences or paragraph or make use of other text features. Tasks at 'level one' requires the respondent to read relatively short digital or print texts to locate a single piece of information identically phrased in the question. The respondent needs to recognise basic vocabulary, understand meaning of sentences and read paragraphs. 'Level two' tasks required the respondent to make matches between texts (digital or printed) and information. Paraphrasing or low-level inferences may be required. 'Level three' tasks require understanding of text that are often dense or lengthy and rhetorical structures, as well as navigating complex digital texts. At 'level four', the respondent has to perform multiple-step operations: integrating, interpreting, or synthesising information from complex or lengthy texts. Identifying one or more non-central idea(s) in the text is required too for evaluating evidence-claim or persuasive discourse relationship. To attain 'level five', the respondent will search for and integrate information across many dense texts, construct syntheses of similar and contrasting ideas, or evaluate evidence-based arguments. Respondents have to be aware of subtle, rhetorical cues and make high-level inferences or apply specialised background knowledge (OECD, 2016a, p.40).

1.2 Literacy skills

Learning new skills is difficult without sound basic literacy skill, while strong literacy proficiency has been associated with better performance on the labour market (OECD, 2013). Literacy skills are considered to be "key information-processing skills" relevant for adults in many social contexts and working situations and necessary for integration and participation in the labour market, education and training, and social and civic life. Policies to improve adults' information and technology competence should focus on improving literacy and numeracy skills along with improving access to technology (OECD, 2016a, p.24).

Reading and writing serve both as symbols of social status and as tools for economic, social, and personal changes (Newman & Beverstock, 1990, p. 9): the person is able to do what they want to, whether at home, in the workplace, social or political context, or as support for

further learning (Post, 2016, p.758). Hence, the broader possible impacts of literacy affect not only economic outcomes but also social, political, psychological, health and family outcomes (Post, 2016, p.758).

Furthermore, skills must be continuously developed throughout life to retain their value (OECD, 2013, p.34). The longer a person is out of formal education, the weaker the direct relationship between formal education and proficiency. It implies that the role of other factors affecting proficiency, such as the work or social environment, becomes greater (OECD, 2013, p.33). As such, the concept of lifelong learning becomes increasingly critical for human and talent development (Tan, 2016, p. 278) and relevant for workers in both high-skilled and low-skilled occupations (OECD, 2013, p. 34).

2   Methods

The methodology focuses on the relationship between age and literacy performance. Data on age is grouped according to the divisions used in the collected PIAAC data: five age groups, from a range of 16 to 55 and above; and three educational levels, from less than high school, high school, to above high school. Literacy performance is measured on the PIAAC assessment scale of levels from "Below 1" to "Level 5", although in this study Level 4 and Level 5 are collapsed as very few have attained Level 5 (0.41% of the sample).

The distribution of percentage proportions of age groups were analysed across literary performance. This provided an overview of the general distribution of performance, showing a general decline based on increasing age (see Figure 1).
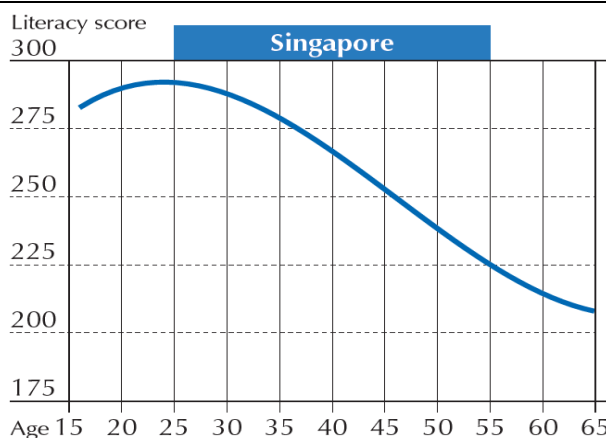
Figure 1   Literacy scores of Singapore adults

2.1 Results

Adults in Singapore aged 16 to 34 ranked ninth in the PIAAC literacy assessment. However, older adults aged 45 to 65 performed lower than the OECD literacy average (see Table 1).

Table 1   Literacy scores by Age Groups

Age	n	Mean Literacy Score (SD)
24 or less	1074	285.2 (39.1)
25-34	1097	282.3 (45.6)
35-44	1168	260.8 (52.5)
45-54	1113	236.6 (60.3)
55 plus	941	209.0 (62.4)
Grand Total	5393	256.0 (59.4)

Among the 33 participating economies, Singapore has the largest difference in scores between the older and younger cohorts, showing significant sub-group differences. The survey showed that more than one in four adults in Singapore are proficient at or below Level One in literacy — compared with the OECD average of 19 per cent (see Figure 2 and Table 2).

The key findings are:

- Singapore adults' average literacy scores (256) were below OECD average (296 points). Older Singaporean adults are generally less proficient in their literacy skills than younger adults. Proficiency is highest among adults in their 20s. From that point, proficiency declines with age (see Figure 1: Literacy scores of Singapore adults). A closer look at the data showed sub-group differences. The young Singaporean adults aged 16 – 24 performed better than the OECD average in literacy but the older Singaporeans aged 45 to 65 scored below average in literacy (See Table 1).
- A closer look at the data showed sub-group differences. Singapore young adults aged 16-24 performed better than the OECD average in literacy. By contrast, older adults, particularly 55-65 year-olds, attained some of the lowest scores in literacy and numeracy among all participating countries. (See Figure 2).

Singapore: Literacy Proficiency by Age

PIAAC International Average by Age
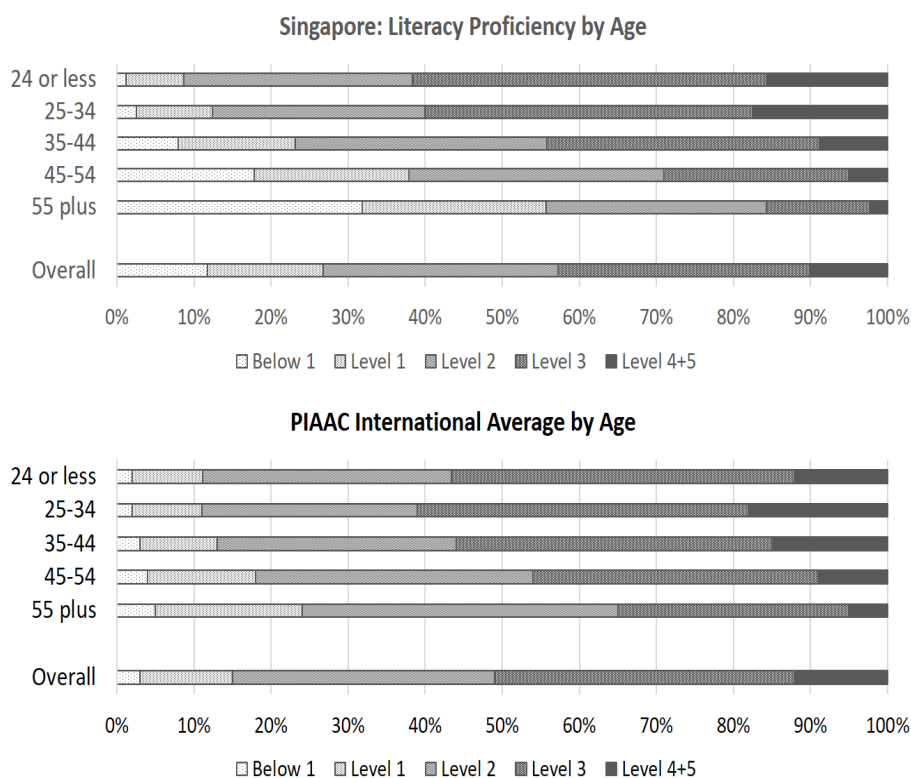
Figure 2   Distribution of adults 16 to 65 on the literacy scale

Table 2   Percentage of adults 16 to 65 on the literacy scale

	Below 1		Level 1		Level 2		Level 3		Level 4+5	
	SIN	PIAAC	SIN	PIAAC	SIN	PIAAC	SIN	PIAAC	SIN	PIAAC
24 or less	1%	2%	7%	9%	30%	32%	46%	44%	16%	12%
25-34	3%	2%	10%	9%	28%	28%	43%	43%	18%	18%
35-44	8%	3%	15%	10%	33%	31%	35%	41%	9%	15%
45-54	18%	4%	20%	14%	33%	36%	24%	37%	5%	9%
55 plus	32%	5%	24%	19%	29%	41%	13%	30%	2%	5%
Overall	12%	3%	15%	12%	30%	34%	33%	39%	10%	12%

- The survey showed that more than one in four adults in Singapore (27 per cent) are proficient at or below Level One in literacy — compared with the OECD average of 15 per cent.
- The dispersion of scores is wider in Singapore than in other participating countries/economies (see Figure 3). Singapore stands out as the country with the largest variability in literacy, at 77 score points, compared with the OECD average of 62.
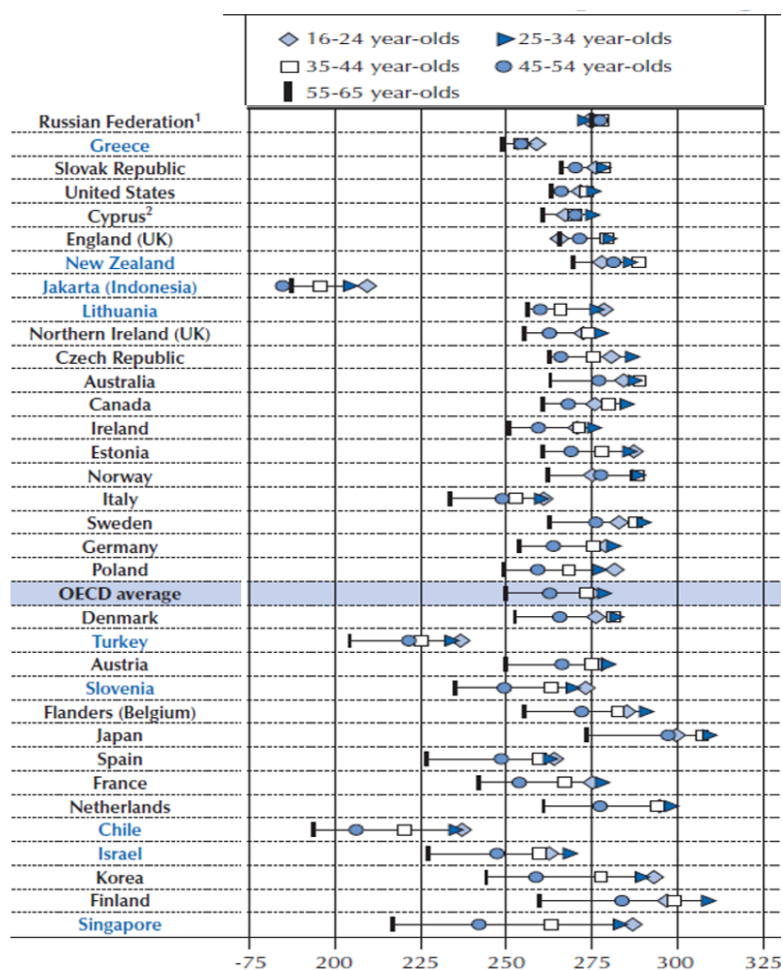
Figure 3   Mean literacy scores of participating countries in 10-year age groups (OECD, 2016a, p. 77)

3   Conclusion

There is a pressing need for Singapore to strengthen the workforce skills pipeline. Good literacy skills are considered to be "key information-processing skills" for reskilling and/or upskilling. However key findings from the PIAAC data show that Singapore adults' have below average literacy skills and that the literacy skills decline with age, beginning in the mid-40s. Poor literacy may hinder the acquisition of basic ICT skills. Singapore adults with poor proficiency in literacy may be slow to adopt and use information technologies, thus undermining their labour market outcomes. Along with the challenges of global markets competition, adopting technological, process and organizational innovations place a premium on the capacity of individuals to be adaptive in the workplace. Greater reliance on digital communication and learning requires a higher levels of literacy skill (Billington et al., 2017, p.138).

With this wide skills gap, especially with adult workers in the mid-40s with many more working years before retirement, the Singapore government views lifelong vocational learning as a key strategy towards facilitating productivity and employability. Singapore has already in place a strong tradition of developing its people through education, training and opportunities. The government has invested heavily in education to equip citizens with the necessary competitive knowledge and skills. In 1997, the then Prime Minister, Mr Goh Chok Tong launched

Thinking Schools, Learning Nation which started the focus of lifelong learning (Ministry of Education, 2010).

> *A nation's wealth in the 21st century will depend on the capacity of its people to learn. Their imagination, their ability to seek out new technologies and ideas, and to apply them in everything we do will be the key source of economic growth. Their collective capacity to learn will determine the well-being of a nation. (Goh, 1997)*

With *Thinking Schools, Learning Nation*, the vision of a learning nation shifted from school participation and increasing school enrolment to a one of maximising the potential of every individual through quality continuous education and training (CET). In 2001 the Lifelong Learning Endowment Fund was established, reflecting the government's commitment to life-long learning. In 2016, the government committed an additional S$35 million a year in the Lifelong Learning Endowment Fund to "help people grow their skills and adapt to changing job demands" (Straits Times, 24 March 2016)

In 2014, SkillsFuture, a national movement, was unveiled to encourage lifelong learning and the enhancement of work skills. One key goal is to "develop an integrated, high -quality system of education and training that responds to constantly evolving industry needs" (SkillsFuture, 2015). This movement marks a major new phase of investment towards helping Singaporeans acquire and develop skills and mastery throughout life. The movement consists of numerous lifelong learning and skills development initiatives for Singaporeans in all education and career stages. Notable initiatives include implementing SkillsFuture Credit, a scheme which grants Singaporeans aged 25 years and above an opening credit of SG$500 to fund supported skills-relevant courses, and the SkillsFuture Earn and Learn Programme, where vocational graduates are placed in jobs that allow them to receive a salary while engaging in structured on-the-job training.

Singapore is on a brink with structural policies in place to strengthen the skills pipeline for future success. However, there are many challenges. The fostering of dispositions towards an enquiring mind with the love of learning are essential. Adult and lifelong learning movements in several other countries have shown that motivational as well as dispositional barriers are also key hurdles to developing a learning nation as structural barriers.

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New Forms of Learning and Teaching and Organisational Change – a Case Study at the Building Industry

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Abstract

This paper describes the process of introducing digital tools and media and project-based forms of learning and teaching in the area of further vocational education and training at a further education provider of the construction sector. It discusses comprehensive experiences of an ongoing and complex innovation process, driven by new requirements as a result of digitisation at the construction industry and new examination regulations. The innovation processes described have been set up with the accompanying research method aiming for better work process knowledge instead of small-scale structured technical knowledge. In order to achieve this, we developed not only a digital collaboration platform for the lecturers, but also a integrative system to develop and set up complex work and learning tasks (work and learning projects) that were taken from the foremen's occupational reality as a source to (re-)organise the various fields of instruction, enhancing them with the necessary work-process knowledge.

Keywords

further education, digital media, construction sector

1 Introduction

Further vocational education and training in Germany's construction sector leading to general foreman-level is structured in three single courses. These rows of courses are carried out at education providers normally belonging to the building industry. One first can attain the level of foreman (Vorarbeiter), afterwards the 'Werkpolier' and 'geprüfter Polier' (two different levels of general foreman) (fig 1). The last one is adequate to the master craftsman in industry ('Meister'). For the first two steps, examination is carried out by the education provider, while the last examination is held externally at an examination board at the chambers of industry and crafts.

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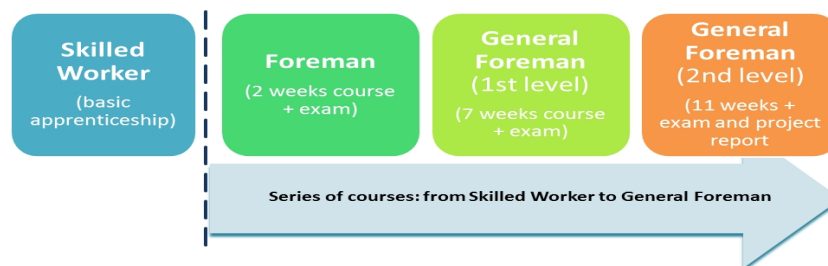
Figure 1   Further vocational education in the building sector

The general foreman's occupational profile mainly consist in the tasks to manage construction sites according to the needs and challenges popping up during the concrete work process. In order to cope with technological change - here in particular digitisation - and first of all to relate courses and exams closer to the world of work and the actual general foreman's occupational profile, in Germany the examination of these further vocational education and training courses in construction was reformed in 2012 towards more action-oriented examinations (Meyser 2013; Niethammer, Schmidt, & Schweder, 2013). Examination now focuses on a real practical project (usually 3 weeks) that is carried out at the foreman's company in order to reflect on actual work. The examination mainly consists in an expert talk on this project as well as on typical foremen's work tasks and problems.

From the perspective of the education provider these two drivers led in strong requirements to rework and replace the conventional course system by new pedagogical approaches, supported by certain digital media tools. To better understand the huge challenges resulting for the education provider, one must know, that such courses only can be conducted with a huge number of external highly specialised technical and domain experts of the various fields of knowledge. These external experts are spread all over northern Germany and usually not trained pedagogically.

This paper first presents the current challenges in the building industry. Then we analyse the attempted changes and measures taken from a vocational pedagogical point of view and describe the digital tools (e.g. DigiProB-Platform; Learning Toolbox) used to foster them. Finally, we discuss the conditions enabling and constraining these change processes on participant, lecturer and institutional level, presenting different approaches that worked well to different degrees.

1.1 The changing role of general foremen

Foremen are the 'quality improvement managers' for work and business processes on the building site. The foreman's tasks consist of assuring quality of work and organisation on the building site. They can be grouped into three areas:

- building technology: e.g. building machinery, materials, logistic, pre fabrication, new and innovative approaches
- building site project management: e.g. to ensure quality of work- and business process (preparation, realisation and assessments), documentation etc.
- employee management: adequate personal planning and team management processes (including responsibility for apprenticeship): e.g. conflict management, team development

- Therefore, he acts at the 'living communication interface' between employees, apprentices, suppliers, planners, corporate headquarters, competent authorities etc.

In the building industry, there is a strong general trend towards digitisation of work, collaboration and process management at the building industry. For some work processes, this may mean actual deskilling as more prefabricated modules are used (e.g. in wood frame construction. But then, the tendency to rely on more data-driven processes is adding new tasks to the skilled workers and especially the foremen e.g. in drilling as well as the general development towards building information management (BIM).

As a result of these processes, quality standards in the construction industry are becoming ever more sophisticated. Machines, materials and the logistic of work processes are changing. Altogether, these trends lead to entirely new requirements in order to perform work processes by skilled construction workers. Some skills are rapidly becoming obsolete, while new skills have to be acquired. The foreman is one of the key persons to take care that the teams (including himself) keep up with such new requirements. Therefore, he also acts as human resource developer who has to detect competence gaps and organisational hindrances within building and construction processes.

1.2 Challenges for the further education provider

For the education providers, these changes and new requirements lead to certain organisational, social and pedagogical challenges.

In Germany, further vocational education in the construction sector is carried out via courses at a vocational education and training provider, characterised by specific conditions. The students usually are released from work and the companies pay for the courses as well as the skilled workers' wages during course time. The actual way of carrying out the courses leading to the different grades of foreman is dominated by a number of various external lecturers as sideline activities (often engineers, technicians, architects, experts of suppliers, experts of building authorities and private personnel developer and consultants) that are providing specialised knowledge about their respective fields. A seven weeks course easily may be carried by more than a dozen or more different lecturers. Furthermore, at the first two levels there are a number of specialisations (e.g. earthwork, sewage conduit construction, construction site safety), that only refer to sub-groups of learners according to their individual fields of work.

Altogether the most important conditions we found were:

- The education provider mainly acts as an organising entity, providing infrastructure, copied learning materials of the lecturer, schedules and a basic pedagogical concept
- Lecturers are spread all over northern Germany and only temporarily contracted; they are very often not pedagogically skilled and don't have an overview over the structure and contents of the courses as a whole. Mostly they don't know other lecturers (instead of some private contacts) and don't have any chance to collaborate with others
- Since participants have to be released from work, the courses are held under high time pressure. Hence many lecturers feel forced to overload their lessons with factual information, students are missing time to reflect and train the study matter. Moreover, they have to transfer the study matters into their own field of work and evaluate its significance by themselves.

These conditions obviously are in some tension to the targeted results of the exam reform as well as with the idea of providing work-process knowledge instead of focusing on factual knowledge that may not be directly related to the foremen's work processes (Schoen 1983; Fischer, Boreham, & Nyhan, 2004; Boreham & Fischer, 2009).

Accordingly, one main aim of the project was to restructure the organisation and learning processes at the education provider. The project developed and supported new forms of teaching and learning underpinned by the use of digital media. As one main measure the project used the idea of complex learning tasks (work and learning projects) that were taken from the foremen's occupational reality as a source to (re-)organise the various fields of instruction, enhancing them with the necessary work-process knowledge.

The second set of measures was the development of a digital learning and organisation environment, including Learning Toolbox-App for the students and a collaboration platform in order to help the lecturers to reorganise the materials according to these tasks and to enable them to collaboratively develop complex learning tasks (projects). The process of developing such complex learning tasks not only fosters the bridging of course material that used to be provided by different lecturers as isolated modules, but it also supported better identification with the courses as a whole and the role of a lecturer (Deitmer & Heinemann 2015; Deitmer, Heinemann & Müller, 2016).

The process of developing complex work and learning tasks became more and more central within the whole project. Since it was structured as an open social process it took more than one year until the first work and learning tasks have been ready for testing. As parts of this development process the group firstly defined criteria for action-oriented projects resp. work and learning tasks. Secondly, they choose a motorway service area as a huge construction environment allowing numbers of sub-projects. In parallel to the first complex tasks they developed digital learning material, mainly via H5P, an open source application platform that allows easy development of digital learning materials of high quality and variance. Following to these research and development activities the group started describing at a minimum required digital media competencies on the lecturers level but also on the institutional level of the education provider.

2   Methods

As the researchers' aim was to design, guide and evaluate the project's processes, the methods used were those of accompanying research. Going back to action research roots the researchers set up a continuing action and empirical feedback evaluation loop (e.g. French & Bell 1994, p. 110). The main stakeholder groups were the huge group of external lecturers, participants, software and platform developer, staff members and management of the education provider. One cornerstone was to be in ongoing contact with all stakeholders involved, giving feedback of all relevant information and findings to all groups and key persons. Thereby we established an ongoing discourse on the project's approaches and developments using the concept of next-generation evaluation (Gopalakrishnan et al., 2013). At the beginning, we carried out semi-structured interviews with different experienced lecturers in order to find out if there is a need for stronger collaboration as well as to find out perceived strengths and weaknesses regarding organisation, structure and contents of the courses. The findings were triangulated with a short survey that was sent to the last years' course participants in order to get better information on the participants' view on the courses. We secondly asked for their perception and opinion concerning the relevance of the various course contents and methods for their daily work as foreman. Additionally, the researchers held several workshops and specific development meetings with employees and management of the education provider as well as short time feedback visits directly at the courses.

Then, a group of qualified lecturers of the main learning areas was set up for the task of developing learning projects to bridge the various fields of specialised knowledge and integrate them. The researchers organised and took part in the monthly meetings of this group of lecturers that were developing the tasks that should structure the new course system.
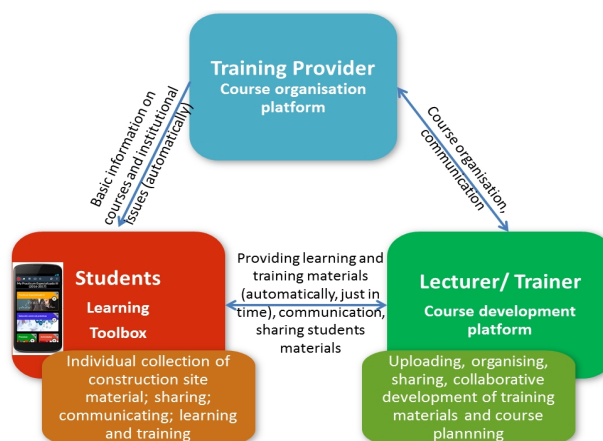
Figure 2   The digital architecture of the DigiProB project

Based on common methods in the field of agile software development (e.g. user stories, development workshops) a digital *lecturer-platform* was designed and developed in order to enable them to work collaboratively as well as to exchange existing teaching and learning materials and to develop additional materials. The aim of these additional materials was to enable learners to recapitulate course contents with additional exercises after the daily lessons were finished.

Access to those course materials for the learners was provided via the adaptation of a tool that had been developed in an earlier project - the Learning Toolbox (LTB). This device allows to bundle materials in different formats that are related to a given project and to enrich it with audio and video material. The learning material can automatically be structured along the different courses, groups and lecturers and is accessible via mobile devices and computer. Moreover, LTB provides spaces for collaborative collections of materials as well as such spaces for private collections.

Guideline for the whole technological design process was the idea to bridge the gaps between technology and pedagogy, treating the technical artefacts foremost as a means to foster learning processes (Orlikowski & Scott, 2008). The whole process was underpinned by constantly evaluating the state of the project's processes via group discussions, interviews and additional online surveys with lecturers and participants.

3   Findings

The existing course structure as well as the attempts to change it were under severe constraints that were quite difficult (or sometimes: impossible) to overcome.

In terms of the overall setting, one main constraint was and is that companies, as having to dispense with their skilled workers during course time, need course structures and conditions that *deliver the knowledge* necessary to pass the exams in an amount of time as short as possible. This leads to dense time schedules as well as it puts pressure on the lecturers in terms of using frontal teaching methods so that they are sure they dealt with all the necessary contents. Course participants are highly motivated and usually do not mind the kind of pressure involved in this structure as they take it as given. Still, the often resulting teaching styles, as well as the focus on factual content, instead of more work-related matters, is heavily criticised.

In terms of curricula, the main constraint is their focus on different subject areas that are not integrated, thus lagging behind the reformed examinations that aim at more action-oriented and integrated knowledge strongly related to the foremen's actual work processes. Thus, there is no incentive for lecturers to overcome the traditional subject divides.

On institutional level at the vocational education provider, there often were quite simple but still important problems like e.g. a lack of infrastructure in terms of broadband capacity which did not allow the introduction of mobile apps for the course participants. This took time to overcome as it required investments and thus the commitment of the organisation as a whole. Similarly, it is difficult for the institution to raise enough manpower to cope with the lecturers' information needs.

For the lecturers and on classroom level, one challenge for the collaborative development of learning materials when physically dispersed obviously are the necessary media competences (in order to produce and exchange materials) and media pedagogic competences (the even more important competences of media's pedagogical use). As most of the lecturers do not possess any formal pedagogical qualification and as many of them only do small parts of the courses, this poses quite a challenge in terms of involving the lecturers.

With our activity and participation-oriented project approach, we tried to overcome the latter challenges by creating a group of skilled and motivated lecturers that were involved in the project as a whole. These lecturers are acting as multipliers, involving others of neighbouring content fields into collaboration. The aim is to integrate all the lecturers on a step-by-step process, with already experienced lecturers moderating the process and leading small groups. This will take some time but was seen as the only feasible way as collaborative practices using new media cannot just be ordered but have to be experienced and learned while actually doing it.

4   Conclusion

Both main drivers - digitisation and the need of better work process knowledge - initiating this change processes were coming directly from the companies resp. their bodies themselves. Only the changes in the exam rules forced the education provider to set up such development project. Mostly, projects that introduce change processes in complex organisations meet more challenges than originally anticipated. Normally, there are good reasons for an existing structure of organising business processes in a given way. In our case, the constraints posed in terms of time as well as the need to rely on external lecturers that are specialists in their respective fields and only a short time available were met by letting the lecturers teach clearly described content areas. The project's challenge was to restructure courses in a way that the contents get closer to the foremen's world of work as well as allowing to teach and learn content in its interrelations in complex work tasks.

At the end of the project the two main issues can be seen as interwoven strings since current employees in construction sector need to have both, sound media literacy and substantiated work process knowledge. In parallel progressive education provider needs media-pedagogic competencies (Howe et al., 2017) a course structure allowing and fostering complex and realistic work and learning tasks, set up by the lecturers as experts themselves. Here an organisational requirement is to find solutions how to realise payment of these additional efforts - even after the project finished.

Other recommendations for action are on the educational level:

Both, VET-course planners and lecturers still tend to be very technical and formal while neglecting work process, personal experiences and the interactive dimension of learning between students

Lecturers are at first hand professionals without well-founded pedagogic knowledge. Hence, they tend to copy their own learning experiences in their own courses. They easily can

find practical examples and discuss technical issues with the skilled participants, but don't trust in collaborative or self-learning processes.

Lecturers are working lonesome and rather fragmented; therefore lecturers should have the chance to meet and collaborate with others.

Even small short time projects can have a significant impact on the way how students interact but in particular how deep lecturers feel involved in the overall course quality.

Design and provision of digital devices:

All user interfaces should be as simple and intuitive as possible.

Lecturers need different offers to get familiar with the digital tools and platform features. Best seems to be a combination of workshop offers, digital and video support and a helpline for beginners. Such support should not only be of technical but also pedagogical help.

Organisational level:

Any organisational change processes belong to a backing management. One of the most important issues is staying in contact with the institutional management and to assure financial resources, in particular beyond the running project. Changing a deeply rooted learning culture takes time, as well as the process of digitisation.

The development of media-pedagogic competencies not only concerns the lecturers but also the organisation as a whole. There are lots of questions as e.g. business models, legal and financial matters, human resource development etc.

All these positions show that such socio-technical processes are really complex. The method of action and accompanying research can be seen as very well suited before this background. Researcher should firstly act as developer, going deeply into the subject and the processes. Only reflecting and structuring activities, findings and outcomes later is a research activity in the narrow sense.

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On the Development of Inclusive Key Competences within the French Educational and Training System

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Abstract

Key competences are becoming increasingly important for coping with inclusion and the requirements of change in today's rapidly changing world of business and technology. In France, although the debate concerning the notion of competences was launched by social partners in the 1970s, the move towards the use of a multidimensional practice-based concept of competences was effectively launched during the 1980 (Cannac & Cegos, 1985; Bouteiller & Gilbert, 2005). At the beginning of this period, the Ministry of education introduced its own VET qualification referential standards connected with the targeted occupational profiles in terms of three descriptors: capacities, know-how competences and associated knowledge. In connection with these competence-based VET referential standards, the labour market authorities created in 1993 the "Operational Repertory of Trades and Occupations (ROME)" which underwent further enrichment and improvements during the last decades (Dif, 2010). Then followed further actions and reforms for the promotion of more inclusive key competence development framework instruments such as: (a)-the establishment by the Ministry of National Education (Decree of 11 July 2006) of a common ground key-competences programme within initial compulsory education, which was recently reformed and extended (Decree of 31 March 2015); (b)-the introduction of a "framework programme for sustainable integration within the labour market through access to key-competences of mainly vulnerable people by the Ministry of labour in 2008; (c)-the establishment of a "referential standards framework for professionally situated competences (CCSP) in 2006 by the "National Anti-Illiteracy Agency" (ANLCI, 2009); d)- the introduction by the social partners of a referential standards framework for the development of knowledge and professional competences called S3CP or CléA (Decree 172, 13 February 2015). This paper is an investigation into the development of key competence instruments and their inclusive role of young and adult people (including disadvantaged people). The adopted investigation methodology is mainly based on recent scientific desk research and documentation, completed by a set of interviews conducted with experts and representatives of different involved stakeholders. One of the main outcomes of this research shows that the key competences are generally observed to be effectively more inclusive when they are implemented through work-based learning programmes (as in apprenticeship-type schemes) than in those of the school-based system.

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Keywords

inclusion, key competences, specific competences, professionally situated competences, competence-based qualifications.

1 Introduction

After an early development of a predominantly behavioural competences approach in the USA and an occupational functional model in the UK, a holistic multidimensional concept of competences followed more recently in the continental Europe, especially in France. The emergence of this model in France accompanied the progressive development of a multidimensional competence-based approach during the last three decades in human resource management, in labour market inclusion policies and within the whole educational and training system especially in its IVET and adult education segments. It is an overarching simplified framework combining the following trilogy: *savoir* (compétences *théoriques / conceptuelles / cognitives*, i.e. knowledge), *savoir-faire* (*compétences pratiques / fonctionnelles*, i.e. functional competences / skills) and *savoir-être* (*compétences sociales et comportementales*, i.e. social and behavioural competences) (Bouteiller & Gilbert, 2005; Klarsfeld, 2000; Loufrani-Fedida, 2008; Winterton, Delamare-Le Deist & Stringfellow, 2006). In this connection, the paper's adopted investigation methodology is mainly based on related recent scientific desk research and published documentation and data, completed by conducting a set of semi-directive interviews with experts and representatives of different involved stakeholders. The research outcome is presented through the following main sections of the paper: a)-Competences development within the educational and training system, b)-Competences development within the framework of human resource management, c)-Competences development within labour market and related CVT inclusion policy instruments, d)-Outcome conclusions.

2 Competences development within the educational and training system

Following the debate concerning the notion of competence which was initially launched by the social partners during the 1970s mainly in connection with human resource management and development, the move towards its introduction in France started effectively during the 1980s and intensified particularly since the 1990s (Cannac & Cegos, 1985; Bouteiller & Gilbert, 2005; Delamare Le Deist & Winterton, 2005). In this connection, the major pioneering development appeared at the the beginning of the 1980s within the initial VET when the Ministry of education introduced a methodology for designing competence-based referential standards for its own awarded vocational qualifications, and thus shifting from the traditional input curricula model to an output one. This qualification design process was based on two interconnected reference frameworks: The professional activity referential (*RAP- le référentiel d'activité professionnelle*) which describes the professional activity in terms of functions and tasks to be exercised by the holder of the qualification. This referential is then used to produce a grid of corresponding required competences which constitute the qualification (or the certification) referential standards (*le référentiel de certification*). In most cases, three sets of competences are defined: *savoir* (knowledge), *savoir-faire* (know-how: occupational and functional competences) and s*avoir-être* (behavioural competences such as the ability to communicate, analyse and report) (Brockmann, Clarke, Méhaut, & Winch, 2008; Maillard, 2003; Dif, 2010). Now, basically all VET qualifications (at all the NQF levels) are provided on the basis of this overarching competence-based (learning outcomes) approach and can be acquired equally either through the formal pathways of the educational and training system or via the validation of acquired prior experiential informal and non-formal learning (*VAE- Validation des Acquis de l'Expérience*). They all fall within the range of three overarching basic categories: a)-National qualifications awarded under the responsibility of different State ministries and designed or

updated on the basis of decisions undertaken by their advisory bodies (such as *CPC, CPN, CTI* and *CNESER*); b)- Vocational qualification certificates (*CQP- Certificats de Qualification Professionnelle*) which are sectoral or inter-sectoral qualifications, created and developed by the sectors under the responsibility of social partners; c)- Qualifications awarded by different ministries (without advisory bodies), chambers, public and private providers/organisations under their own names (OECD, 2003; Dif, 2010). Since the social modernisation Act of 17ᵗʰ January 2002, all these competence-based qualifications (including the certificate supplement called "*supplément descriptif du certificat*") are validated and registered by the National Commission for Vocational Qualifications (*CNCP- Commission Nationale de la Certification professionnelle*) within the National Repertory for Vocational Qualifications (*RNCP- Répertoire National des Certifications Professionnelles*).

Under the impulse of the European framework recommendations defining eight key competences for lifelong learning (EU recommendation 2006/962/EC), the Ministry of National Education introduced (via the Decree of 11ᵗʰ July 2006) a common ground educational programme within initial compulsory education. It consists of the following seven key competences: mastery of French language, practising of at least one modern foreign language, basic competences in mathematics and in scientific and technological culture, mastering the usual ICT, acquiring a humanistic culture, developing social and civic competences, autonomy and sense of initiative. For the concerned students at the end of their compulsory schooling at the of age 16 in 2013, it was observed in 2016 that the competences mastered by them were mainly French (competence1) at 79% and competence 3 in mathematics and a scientific and technological culture at 77% (DEPP-MEN, 2017c). However, this framework was reformed (via the Decree 372 of 31ˢᵗ March 2015) and enriched starting from the school year 2016/2017 by a new common ground framework for knowledge, competences and cultures based on five large fields for key-competence-based initial compulsory education:1)-Languages for thinking and communicating (learning French, a foreign language and where appropriate a regional language; scientific, computer and media languages as well as languages of the arts and the body), 2)-Methods and tools for learning (explicit teaching of access means to information and documentation, digital tools, the management of individual and collective projects as well as the organisation of learning), 3)-Training to be a person and a citizen (learning about life in the society, in the collective action and citizenship, through a moral and civic teaching respectful of personal choices and individual responsibilities), 4)- Learning about natural and technical systems (to develop curiosity, the sense of observation and the ability to solve problems), 5)-Learning about the representations of the world and human activity (understanding learning about societies through time and space, interpretation of their cultural production and understanding contemporary social world).

3   Competences development within the framework of human resource management

The development of the concept of competences within the framework of human resource management emerged in France during the second half of the 1980s as an effective practice within some large companies. On the 4ᵗʰ of October 1984, Cegos, one of the largest private training organizations of that time, had focused its attention on the notion of competence by organising a symposium on continuing vocational education and focusing on the project of creating a stronger link between the CVT and the company's strategies (Cannac & Cegos, 1985). The focus was on new competences needs for the economy and on the role of the enterprises in developing them. One of the pioneering practices in this connection, was that of IBM France. In 1985, this company introduced within its Corbeil Essones plant in the south of Paris, a "competence-based management" approach aiming at facilitating the specialist's search for helping in the orientation and reorientation of careers and the organisation of internal training to meet the company's needs in the medium and long term. This led to the identification of 740

competences defined as "know-how associated with the workstation" (e.g. resin synthesis), classified into 53 specialities (e.g. chemical analysis laboratory) grouped, in their turn, into 12 families (e.g. chemistry). This experience was an effective anticipation of the emergence of competence-based HRM (human resource management) as it is, more or less, practised nowadays (Bouteiller & Gilbert, 2005; Winterton, Delamare-Le Deist, & Stringfellow, 2006).

These competence-based HRM practices have emerged and developed in connection with certain changes in work organization, labour management and, more generally, in the management of production plants. As the affected people were initially low-skilled workers, this notion has mainly accompanied a progressive move from the previous collective approach towards a more individualising model of HRM. The emergence of this individualising model was a logical consequence of previously occurring economical and organisational changes. Focusing on the notion of competence, this management model is characterized in particular by a forward-looking competence management, focused on the development of employability and individualised competence performance evaluation and development. In the early 1990s, the development of competence-based systems was intensified, and its implementation was institutionalised through both collective bargaining agreements between social partners and legislative initiatives. On the 17th of December 1990, an important agreement concerning the management of the steel companies' activities was concluded and signed between the Group of Iron and Steel Industries and the trade unions (Sectoral Agreement ACAP 2000). Moreover, the forward-looking management of jobs and competences (*GPEC*) became the major vector for competences management and development within a large number of companies (Gilbert, 2006; Bouteiller & Gilbert, 2005).

4 Competences development within labour market and related CVT inclusion policy instruments

In 1993, the public authorities encouraged further the development of competence-based practices when the national employment agency called then ANPE (*Agence National Pour l'Emploi* transformed into *"Pôle Emploi"* since 2006) modified its labour market repertory for trades and occupations (*ROME- Répertoire Opérationnel des Métiers et des emplois,* i.e. the Operational Repertory of Trades and Occupations) to become a competence-based repertory. According to this modified version of ROME, the concept of competence is a set of knowledge, know-how and know-how to be (social and behavioural competences) which are connected with the individual's job or occupation in a given situation of the professional activity within a trade family. In its 1997 version, ROME distinguishes between three types of competences: technical core competences, specific competences (or capacities) and associated competences (ROME, 1997). In its last online version (3rd version) of 2009, they are regrouped for each job-profile (and its potential alternative mobility job profiles) into two main categories: basic and specific competences. Then the descriptors of each of these overarching categories of competences are detailed trough two types of competences: Theoretical and procedural knowledge (know-how) and action knowledge (practical specific know-how) (ROME, 2009). In this online version of Labour market repertory, each ROME job-profile is linked to one or several corresponding required vocational qualification(s) registered within the online version of NQF repertory (*RNCP- Répertoire National des Certifications Professionnelles*). Each ROME job-profile is also is connected with one or several corresponding *"formacodes"* classified by training domains within the training supply thesaurus FOMACODE (Centre Inffo, 2018). This development contributed effectively to stimulating academic debates about the notions of competences and encouraged the enterprises to adopt an individualised competence approach in human resource management and development and abandon relying on the use of previous non-labour market focussed notion of qualification (Dif, 2010).

Also Under the impulse of the European recommendations framework for the transposition of the recommendations of the European Parliament and Council of 18 December 2006, the Ministry of Labour and employment set out a framework programme for access to key competences for a sustainable integration into the labour market via the Circular of 3 January 2008 issued by its General Delegation for Employment and Vocational Training called the *"DGEFP"* (now *DIRECCTE-* the Regional Directorate for Enterprises, Competition, Consumptions, Labour and Employment). The focus was only on the following five key competences (considering that the other three can be dealt with transversally): communication in French, mathematical culture and basic competences in sciences and technology, digital culture, learning to learn and communication in a foreign language. Although this programme targets primarily vulnerable people (such as job-seekers, early school leavers without or with insufficient qualifications and beneficiaries of assisted vocational inclusion employment contracts), it is also open to all beneficiary employees of various adult education training instruments and related financing mechanisms, including innovative and experimental specific training programmes such as "forward-looking management of jobs and competences" (*GPEC-Gestion prévisionnelle des Emplois et des Compétences*), "validation of acquired experience (VAE)", alternating vocational training contracts, etc.

In March 2009, a practice-based referential standards framework for professionally situated key competences *(CCSP- Référentiel des Compétences Clés en Situation Professionnelle)* was established by the ANLCI in cooperation with its partners, namely the social partners, CVT accredited joint funding collectors *(OPCA)*, regional authorities, the State and several professional sectors. As it is constructed on the basis of observed work situations and not on pre-established definitions based on academic knowledge, the CCSP adopted resolutely a professional approach in identifying and defining inclusive key competences. In fact, it is based on connecting the analysis and description of a work situation in its various dimensions (activities, criteria, professional capacities) with an analytical inventory of general and applied knowledge used in this work situation. The identified professionally situated key competences are organized within this framework according the first three (out of the four) degrees of the "national standards framework" established by the ANLCI in 2003. Additionally, by taking into consideration the recommendations of the EU framework in its inventory of key competences, the CCSP also adopts an interdisciplinary approach where the key linguistic competences (reading, writing, and speaking) are looked at as a broader package covering other dimensions and constituting in all the key competences. The CCSP targets various users, namely: (a)-enterprises and local authorities as employers; (b)-private and public funding organizations and institutions such as the sectoral and inter-professional *OPCA* (CVT accredited joint funding collectors), the State and local authorities and the national centre for local civil servants (*CNFPT- Centre national de la Fonction Publique Territoriale)*; (c)-training providers; (d)- consultants and counsellors in VET and vocational inclusion institutional operators such as: the employment poles, local missions and multi-annual local plans for integration and employment *(PLIE- Plans Locaux pluriannuels pour l'Insertion et l'Emploi)*; (e)- different employees, their representatives and job seekers (including beneficiaries of various vocational inclusion programmes and contracts) (ANLCI, 2009).

As an implementation of the annex of the article 12 of National Inter-professional Agreement (ANI) of 14 December 2013 and the Act of 5 March 2014 (Art.L6323-6 of Labour code), the "Observatories and Certifications Committee *(COC- Comité Observatoires et Certifications)*" of the National Inter-professional Joint Committee on Employment and Training *(COPANEF – COmité PAritaire interprofessionnel National pour l'Emploi et la Formation)*, prepared a referential standards framework for the development of knowledge and professional competences *(S3CP- Socle Commun de Connaissances et de Compétences Professionnelles)* called alternatively CléA referential on the 28th of May 2014 (COPANEF, 2017). It was

formally introduced through the implementation Decree n° 172 of 13 February 2015 and then completed by a set of corresponding referential assessment and validation criteria of acquired competences leading to obtaining a certification-based qualification (called CléA qualification) which is also validated and referenced by the CNCP within the NQF repertory. Its inclusive quality within the labour market is guaranteed by its awarder COPANEF in cooperation with the "National Joint Employment Committees" *(CPNE- Commissions paritaires nationales de l'emploi)* for employees and the "Regional Inter-professional Joint Committee for Employment and Training" *(COPAREF- Comité Paritaire Interprofessionnel Régional pour l'Emploi et la Formation)* for job seekers and the *"Inffo Centre"* for accompaniment (CNCP, 2016). Like the referential framework "CCSP", the "S3CP" (CléA referential) is characterised by its sufficiently wide scope which allows for undertaking, within each sector or branch of activity, the relevant adaptation and contextualisation to each learner's occupational and professional career development needs. It is composed of seven fields (regrouping 28 field units with their corresponding 108 assessment and validation criteria) for the development of knowledge and professional competences: communication in French; capacity of using basic calculation rules and mathematical reasoning; ability to use the usual techniques of information and digital communication; ability to work under defined team-working rules; ability to work independently and achieve an individual goal; ability of learning to learn throughout life; mastering gestures and postures and compliance with the hygiene, safety and basic environmental rules (COPANEF, 2017). The S3CP's targeted groups include professionally active people, job seekers, individuals on vocational inclusion schemes, training providers, social partners and regions (Decree 172, 13 February 2015).

5   Institutional setting of basic involved stakeholders

There is a variety of stakeholders involved (via a networking of cooperation and partnerships) in the development and implementation of inclusive key competences through the whole educational and training system and active labour market policy instruments at national, sectoral and regional levels:

1. Educational and training providers: With exclusion of higher education (with about 69 universities) and general compulsory education, the IVET (Initial Vocational Education and Training) providers counted in 2017 for about 62600 senior professional schools (upper secondary colleges: *lycées professionnels*) of which 8900 are private (DEPP-MEN, 2017a & 2017b). Within the CVT system, the training provision is an open competitive market where there are, in 2014, more than 68500 providers involved in CVT provision for employees, self employed individuals, jobseekers and others. They are grouped into two basic categories of training providers: a)-private providers which are dominating in adult education provision in terms of their number (97% of all providers), b)- public and semi-public providers (APLF, 2018).

2. The State institutions which include namely: a)-different ministries involved in education and training connected with their field of responsibility (such as the ministry of national and higher education, the ministry of agriculture and fisheries and the ministry of labour); b)-The "national commission for vocational qualifications *(CNCP- commission nationale de la certification professionnelle)*" in charge of the NQF repertory *(RNCP- répertoire national des certifications professionnelles)* which were both created in 2002; d)-the "national council for lifelong vocational learning *(CNFPTLV- conseil national de formation professionnelle tout au long de la vie)*".

3. Social partners which play an important consultative and decision-making role in the competence-based qualification formation processes (such as the creation and up-dating of qualifications, including the design of related competence-based referential standards).

4. Regions and their networks: Their role has been progressively reinforced since the launch of the decentralisation process in the 1980s. In order to implement their responsibilities as regional public authorities responsible primarily for vocational training, the regions have created their own dedicated administrative structures and instruments in the form of vocational training committees, VET related directorates, observatories and forward-looking development schemes. Moreover, relevant information and guidance concerning the implementation of different framework programmes and instruments for the development of inclusive key competences are provided through the following networks: (a)- the regional "network for the guidance and follow-up of the access to key competences and employment"*(ROSACE -Réseau pour l'Orientation et le Suivi de l'Accès aux Compétences Clés et à l'Emploi)* notably in cooperation with accredited counsellors, the employment poles, the local missions and DIRECCTE (the Regional Directorate for Enterprises, Competition, Consumptions, Labour and Employment); (b)–the network of regional centres for the organisation and coordination of information concerning VET *(CARIF- Centres d'Animation et de Ressources de l'Information sur la Formation)* or that of the regional observatory for employment and training *(OREF- Observatoire Régional Emploi Formation)*; (c)- Regional centres for resources information concerning Illiteracy (*CRI- Centres Ressources Illettrisme)* which take in charge the fight against illiteracy (via the provision of relevant information and technical support and sharing educational resources and teaching tools) (DGEFP's Instruction of 18/01/2010 and Circular of 03/01/2008).

6   Outcome conclusions

The inclusive role of different competence-based instruments developed within the whole educational and training system and through labour market inclusion active policy measures are evaluated (within this investigation) basically in terms of the rate and the pace of effective access to employment after graduation and obtaining the competence-based qualifications. In this connection, it is important to underline the following main outcome conclusions:

1. 86.8% of all initial education graduates during 2013, 2014 and 2015 on average, were holders of competences-based qualifications covering all levels of the NQF framework (44.5% at higher education levels and 42.3% at those of upper-secondary education). The remaining 13.2% were equally representing the holders of the end of compulsory education certificate *(DNB- diplôme national du brevet)* and those without any formal qualifications (6.6%) (DEPP-MEN, 2017b). Eight out of ten on average among the graduates of the 2013 generation had access to their first jobs within a period of less than six months. This rapid access to employment was, however, accompanied by a great instability, as the majority of their first jobs (70%) were on the basis of fixed duration work contracts. The access to their first permanent employment increases with the increasing level of obtained competence-based qualifications. 43% of the holders of EQF level 7 qualifications started with open-ended work contracts, i.e. with 23 points more than the holders of EQF level 3 qualifications with only 20% for instance (Céreq, 2017). Access to executive and intermediary employment positions was also increasing with the increased level of obtained competence-based qualifications as its rate went up after three years following the graduation from 17% for graduates without formal qualifications to 27% on average for the holders of upper secondary education qualifications to reach 78% for higher education graduates.

2. The weight of on-the-job and work-based learning dimension in the obtained qualification is observed to have an important effect on the rate and pace of its holders' access to employment. This is why, the apprenticeship graduates have a faster and higher access rate to employment than the school-based ones. 69% of all the apprentices who completed their apprenticeship up to EQF level 5 in 2016 had an effective access to employment within the following seven months (54% on permanent employment contracts) compared to only 48% (33%

with open-ended work contracts) for all those completing their school-based VET programmes at the same EQF levels (Marchal, 2018a, 2018b). The access rate to employment within the first seven months following graduation in apprenticeship at all levels is far higher for graduates holding qualifications (73% dominantly on permanent employment contracts with 55%) than those without any qualifications (54% where 48% on open-ended work contracts). By contrast this access is 51% (32% permanently employed) for graduates holding qualifications within the school-based educational track and 37.5% (34% on unlimited duration employment) for those without qualifications (Marchal, 2018a, 2018b).

3. The rate and pace of an effective access to employment are also high for the holders of work and competence-based qualifications acquired within the framework of the implementation of work-based CVT schemes such as the VAE (the validation of acquired experiential informal and non-formal learning) and the professionalisation contracts (*CP- contrats de professionnalisation)*. Within the latter, the inclusive performance is even higher than that of apprenticeship. 73% of its beneficiaries had an effective access to employment within six months after the completion of their professionalisation contracts in 2015, dominantly via open-ended work contracts (60%) usually obtained (at 57%) within the same training enterprise (Pesonel, 2018).

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Beyond Comparative Institutional Analysis: A Workplace Turn in English TVET

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Abstract

Vocational education analyses often compare national patterns seen to favour industry-based training, state schooling or personal investment in skills acquisition: these are increasingly offered as 'templates' to new and established industrial economies. Institutionalist scholarship has correspondingly foregrounded skill formation as key to national policy differences; in particular historical institutionalism has focused on the role of labour market and state actors in negotiating and contesting arrangements for skill formation. Whilst paying relatively little direct attention to educational practice, these approaches provide theoretical tools to understand policy differences and to identify possibilities, limitations and strategies for change. This paper draws on their application in England, where apprenticeship and technical education reforms are periodically represented as relocating skills formation to the point of production on the model of collectivist systems: case study data is examined for evidence of institutional change strategies within emerging educational practices. Whilst the absence of engaged labour market actors renders the adoption of a substantially different model improbable, contestation over knowledge, control and educational roles is nevertheless evident, indicating the deployment of strategies for significant change. Their outcomes will determine the availability of transitions, with a layering of selective opportunities threatening to diminish the opportunities available to others.

1 Introduction

National 'models' of technical and vocational education and training (TVET) are recognised widely in Europe. Greinert (2005) distinguished between liberal-market, state-regulated and dual corporate systems, associated respectively with Britain, France and Germany, whilst additional patterns are evident in Nordic countries (Jørgensen et al., 2018). These patterns have largely withstood historic and recent pressures for convergence (Scott & Kelleher, 1996; Petrini, 2004). More recently the best-known features of particular countries have become magnified into national 'blueprints', marketed by national bodies: the 'myths and brands' identified

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by Heikkinen and Lassnigg (2015). These then drive notions of policy transfer and policy borrowing, which are taken in turn to imply the possibility of significant change to established national patterns of TVET, despite longstanding evidence of the difficulties of transferring particular models into, or out of, new international contexts (Deissinger 1997, 2015).

Alongside the education-based studies cited above, broader analyses of political economy have theorised both the basis of such differences and the basis on which change has taken place. In terms of national differences, political economy scholars denoted institutionalised skill formation as central to mutually-reinforcing social policies, including employment, welfare and banking (Crouch et al., 1999). These accounts denied the universality of arrangements in liberal, Anglophone jurisdictions, which assign responsibility for human capital to individual investment (Becker 1964; Mincer, 1974): the latter were instead identified as characteristics of 'liberal market economies' that were only one more-or-less successful 'variety of capitalism' (Hall and Soskice, 2003). But, they argued, the Anglo-Saxon model was not the inevitable basis of liberalisation and policy convergence: a refutation of supply-side economics and deregulation was identified in the collective arrangements, distinctive roles and expectations of social actors that support dual training in Germany and are not easily understood from outside (Streeck, 1989). Adding neighbouring countries, Busemeyer and Trampusch (2012) defined 'collectivist' skills formation by the high involvement of firms in providing, administering and paying for vocational training; the role of intermediary employers' associations and, varyingly, trade unions in collaborative bodies; the provision of certified skills that are recognised nationally; and the location of VET in firms as well as schools (2012, pp. 14-15).

These perspectives are useful for analysis of education policy discourses, which often suggest convergence around internationally 'agreed' models despite evidence of differences (Clarke & Winch, 2015). Their focus is on labour market and other actors who shape the 'institution' of skills formation, rather than on educational practice, necessarily since skills have to be applied in the workplace. Yet skill formation overlaps with broader educational systems that include academic and school- or college-based routes; and plays out in different approaches to educational practice. Thus, whilst both France and Sweden have moved from largely schools-based VET to more employment-based transitions, students in these settings retain important school and college protections (Grytnes et al., 2018). Pilz's (2016) international typology of VET arrangements includes mapping of educational practice and relationships between teaching institutions and the workplace are not free of tensions even in countries where workplace learning is strong (Ertl & Sloane, 2004; Fischer & Brauer, 2004).

A second, emerging but important, institutionalist contribution has been its more theorised account of the way that institutions change over time. (By its nature, a focus on institutions emphasises their enduring, autonomous and 'non-plastic' [Conran & Thelen 2016, p. 52] characteristics.) The key empirical account has been Thelen's (2004) study contrasting the formation of England's skills regime, a struggle between employers introducing high numbers of young people as cheap labour and engineering unions seeking to resist them, to the foundation of collectivist skills formation in Germany. Here Bismarck's labour laws instituted chambers controlled by craft organisations (Handwerkskammern) to regulate apprenticeship, which became the focus of struggles by large-scale industry and by labour organisations for control. By contrast with earlier 'varieties of capitalism' literature, with its rather functionalist assumption that particular arrangements flourished because they worked, historical institutionalist approaches to change share the view that institutions are '(a) the legacy of concrete historical processes and (b) the object of contestation' (Conran & Thelen 2016, pp. 60-61). The compromises that lead to every institutional settlement entail both winners and losers, who do not go away (Thelen, 2004, p. 295).

Here too attention to educational perspectives can supplement the focus on labour market negotiations and contests: universities contribute to the erosion of 'dual training' in Germany

through 'segmentalist' firm-based higher education provision, in contrast with nationally-certified initial VET (Graf, 2018). Lassnigg (2015) noted that political decisions were implemented by schools and teachers unevenly in Austria, although this account characterises VET development as largely a process of 'muddling through' (Lindblom, 1959). As education becomes more enmeshed in economic policy, it can become the impetus for more change initiatives, although the relationship among these aspects of policy is complex (Keep & Mayhew, 2014).

This paper therefore draws on the theoretical insights of historical institutionalism to review a recent turn by the UK government to create additional elements of post-school learning in England within the workplace, and with a more employment-driven curriculum. Two key developments have taken place: the first in apprenticeships, where qualification-based 'frameworks' are being replaced by employer-led 'standards'; and the second the addition of substantial work placements to school- and college-based learning for full-time students of vocational (and now 'technical') education. In the case of apprenticeships, the Richard Review (Richard, 2012) also led to the replacement of continuous competency testing by 'end-point' assessment and the institution of an employer levy as the basis for a target of three million apprenticeships. For full-time students, the Sainsbury Review (Independent Panel for Technical Education, 2016) proposed the addition of substantial work placements of up to three months for courses designated as 'technical education' (a term little used since further education colleges developed broader missions in the 1970s and 1980s). In each case new arrangements have been entrusted with the mission of better representing skills valued by employers: the 'Trailblazer Groups' who produce the apprenticeship standards; and technical education 'panels' designing 'T-levels' (upper secondary technical education qualifications: the term is a reference to the 'A' levels taken by students on academic pathways).

These arrangements on their own hardly constitute the remodelling of TVET on the lines of collectivist skills formation: learning in the workplace does not alone constitute a replica dual training system (Ryan, Gospel and Lewis, 2007). It is not difficult to see the references in key policy texts to European workplace learning (Independent Panel for Technical Education, 2016, pp. 88-101; Casey, 2013, for example) as somewhat wishful or rhetorical; but such a judgement would not serve to dismiss all questions about the nature of current changes to institutional arrangements in England. The hypothesis of this paper is not that TVET in England is being transformed on the lines of an alternative continental model but that, following the dissolution of relatively corporatist post-war arrangements during the first three post-war decades, the changes now emerging have the potential to lead to a range of different outcomes, depending on how these changes are negotiated and contested. Historical institutionalism suggests useful tools in terms of possible strategies for change, including 'conversion' (Thelen, 2004; Conran & Thelen, 2016) with different actors assuming the leading role over time in substantially continuing arrangements; and layering (Schickler, 2001) by which an additional set of arrangements can be added, which then influences the operation of the existing system. Beyond most historical institutionalist accounts, however, the paper specifically looks for evidence of these strategies in emerging patterns of learner transition and educational practice. The basis of the paper is therefore the analysis of data collected from sites at the forefront of this turn. The following section sets out the methodology of this analysis, including both the theoretical basis of the study and the specific methods of data collection that have provided its findings. A summary of key findings follows, prior to the conclusions of the paper.

2 Methods

The data discussed here constitute together what might be described in historical institutionalist terms as a case study: one in which institutionalist arrangements are subject to policy change. It should be said at this point that the set of arrangements supporting skill formation is normally

considered as the 'institution' in historical institutionalist analysis, notwithstanding that social actors involved in negotiating and contesting their form (employer bodies, government etc.) can also be described as institutions, as can education providers. But this data is drawn from a series of four smaller case studies of settings where changes are currently being implemented or tested.

The case studies include both apprenticeships and work-based learning for full-time students: they were conducted using documentary analysis and interview data, analysed to present a picture of how changes to apprenticeship and the introduction of technical education are giving rise to a new institution of skills formation. The first study of workplace learning by full-time students, at a time when their placements were organised under the earlier policies introduced following the Wolf Report (2011), was conducted in order to illustrate the challenges facing young people and providers following the Sainsbury Review and was published earlier (Esmond, 2018). Data was collected both at college and workplace locations and included interviews with placement students, their tutors and employers. Further evidence of these developments is now emerging during an ongoing evaluation of pilots for this policy. The first study of apprenticeships was conducted among apprenticeship practitioners who are now assuming roles as trainers, rather than as assessors of workplace competences as in earlier models of work-based learning in England. The second was based on studies of practice at apprenticeship providers, with documentary study and interviews among providers and employers.

All of these studies, based on interview and documentary research, were qualitatively based. Sample sizes varied across the case studies according to the possibilities of each setting, but their main significance is that each case study focused on a field where contemporary policy changes are being implemented. All interview data was transcribed in full and coded for thematic analysis. All of these studies and their methodologies were approved by university ethics panels following detailed consideration of the possibilities of harm. Each study has focused on emerging educational practices relating to policy reforms but for the purposes of this study, the coded data has been further reviewed in relation to concepts developed in historical institutionalist scholarship, in particular to what extent change could be seen as the product of conflicting forces; and in relation to the 'strategies' for change discussed above: conversion (Thelen, 2004) as power balances change, and layering (Schickler, 2001) with new arrangements affecting those already existing. The applications of these concepts in data analysis has provided the basis of the discussion that follows.

3 Results

The first important theme to emerge from the data relates to whether these reforms have called into being new arrangements for organising and certifying workplace learning. Until now apprenticeships and any elements of workplace learning for full-time students have been organised on a fairly voluntarist basis, albeit with substantial funding incentives for recent apprenticeships. The case studies provided evidence of providers developing systematic networks that would support placements for full-time students although these were only able to generate large numbers of high quality placements on courses with a few, high-level candidates (Esmond 2018, pp. 201-202). Other providers made use of third-sector support to generate and monitor placements and this has been a feature of placement trials for technical education, which have supported small numbers into more substantial placements. But there is so far little evidence that these might command participation on the basis that employer bodies might achieve in more collectivist system. The voluntarism of the English model appears effectively unchanged, in the absence of such arrangements as the chambers through which German dual training is supported, or the systematic support that the school-based system in Holland enjoys. The continuing absence of labour market actors, then, would at first sight seem to imply the persistence of the national model and the 'stickability' of institutions; that because there is no enforced

requirement for social partners to play a full role in regulating youth transitions to skilled work and that the kind of 'conversion' discussed by Thelen (2004), with different actors assuming dominant roles in processes of negotiation and conflict, is ruled out in England.

But evidence of negotiation and conflict, which is evident in the policy literature, also emerges in the data. An important example is the recognition of qualifications: both the Sainsbury Review (2016) and the Richard Review (2012) discuss the need to replace varied national qualifications with authoritative, widely recognisable industry standards, in an echo of the state's role in Germany and neighbouring states. Yet in the case studies it became clear that, far from the achievement of portable industry qualifications, apprenticeship standards increasingly lack recognised certification, and this makes progression difficult. Apprenticeship practitioners reported the gap emerging between higher-level qualifications, designed to compete with degrees, and low-level qualifications that carry no qualification at all. These difficulties were for them reflected in the challenges of progression from work-based programmes at earlier levels to more knowledge-based courses taught in colleges. These distinctions, keenly noted by apprenticeship practitioners, have the potential to emerge in work placements for full-time students.

These distinctions in curricula are seldom well-defined in workplace learning: apprenticeship standards are defined in two-page documents and work placements for full-time students generally lack any specific curriculum unless negotiated briefly between provider and employer. Correspondingly, challenges of workplace learning contrast with relatively clear expectations of school-based teaching roles and of the Meister in German apprenticeship. There is much uncertainty about the extent to which work-based assessors in England will move effectively into teaching roles and, as full-time students come to spend more time in the workplace, many if not most providers appear unwilling to allow full-time teachers opportunities to support their workplace learning.

In this respect, also, a degree of differentiation is evident. For established 'trades' or skilled occupations, courses providing established routes to well-paid jobs, were mainly taught in classrooms (and most frequently to young men). Even within the workplace, apprenticeship staff reported reasonable opportunities for off-the-job training. These routes contrasted with pathways to less well-rewarded work, more often for young women, which could be adapted more easily to workplace teaching and which is obliged to put up with its distractions. For lower-ranked employees, time away from work appears often to create problems despite a nominal 20% time off-the-job on apprenticeship standards.

Despite the repeated emergence of differences across the case studies, the possibilities of apprenticeship and workplace learning are by no means entirely negative. Learners, educators and industry representatives alike offered valuable illustrations of how curriculum knowledge could be applied in the workplace, or practical experience could enrich classroom-based study. But these opportunities appear unevenly distributed, with the higher levels of apprenticeship and workplace learning offering the greatest advantages. The following section discusses the implications of this generalised picture, drawing on institutionalist insights.

4 Conclusions

At first sight the data appears to confirm a widespread scepticism of policy change in England. Re-orientation of the country's 'FE and Skills sector', even of its name, has continued unabated for a quarter century since Further Education colleges became corporations in 1992. Claims about the significance of apprenticeship changes and of technical education have been met with substantial scepticism. In this analysis the dominance of established national patterns appears confirmed by the absence of German-style collective employer bodies and chambers, or at least the systematic support for a school-based system as in Holland. Long-established national

patterns appear to be confirmed irrespective of the strategic negotiation and contestation discussed above.

However, historical perspectives indicate the way that institutional arrangements are emerging nevertheless. In the post-war period in Britain, the state began to provide more systematic technical education with employers and unions drawn into corporate arrangements which reached their height after the Industrial Training Act of 1964. These relatively weak corporatist arrangements were subject from the outset to employer pressure for more liberal arrangements for skill formation, leading to the abolition of all but the Construction Industry Training Board by the 1980s. Renewed pressure from short-termist employer groups is also evident in contemporary demands for an end to the recent apprenticeship levy, in pressure to end the 20% off-the-job training and in a fall in apprenticeships as employers offer fewer opportunities to replace low-quality schemes recently abolished. Indeed, employers and government often sharply criticise, for failing to represent business, bodies that were earlier privatised in order precisely to serve employer need, such as the Awarding Organisations (AO)s that certificate learning, or college and private providers. Thus, even without the full participation of collective employer and trade union bodies in Trailblazers or the corresponding 'T-level' panels, there is evidence of conversion, with new conflicts over such fields as the content and certification of learning.

The data in the study, however, suggests that a substantially different strategy is being pursued. A layering of skill formation appears to be under development, with selective opportunities becoming available for a minority of students. These are evident in the kind of opportunities that young learners on engineering and professional construction routes accessed in the first study of full-time placements, or on the more privileged higher apprenticeships. This implies that, as one route provides more selective, the remaining routes can be deemed 'inclusive', open more widely to students, but also more marginal, with fewer opportunities for young people who have rejected or been deemed unsuccessful in academic education allocated fewer resources. This remains a chronic problem for vocational education across the UK, which is widely seen as a means of providing opportunities for young people who have rejected or been deemed unsuccessful in academic education. Ironically, technical education and higher levels of apprenticeship have been proposed as a remedy for its marginalisation. It is not yet clear that the results will not be to reinforce institutional arrangements which exclude substantial numbers of young people from meaningful transitions to rewarding employment.

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Improving the Quality of In-Company Vocational Training. Approaches and Results of a German Pilot Project Programme

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Abstract

In the paper, approaches and results of the German pilot project programme for "Quality development and quality assurance in in-company initial vocational education and training" are described. This programme was funded and carried out nationwide from 2010 to 2014 under the oversight of the German Federal Institute for Vocational Education and Training (BIBB) with ten pilot projects in the fields of crafts, industry and services. In conjunction with training practice in small and medium-sized enterprises, pathways to improvement of the quality of dual vocational education and training were designed and analysed. In parallel, a conceptual framework was developed in order to answer the question, how the quality of vocational education and training systems can be explained and influenced. The framework as well as a selection of results from the pilot projects is presented in the paper.

Keywords

quality, in-company training, pilot project programme

1 Introduction

A debate on the quality of vocational education and training has emerged worldwide. When states are in an economic crisis and young people lack work prospects, as is currently the case in a number of Mediterranean countries, consideration is given to the introduction of a dual system of vocational education and training (VET) (Deutsche Bundesregierung [German Federal Government], 2013) – a combination of company-based and school-based VET in the secondary sector, i.e. below the level of higher education. Such a dual VET system exists in the German speaking countries (Germany, Austria, Switzerland) and is associated with a relatively low level of youth unemployment. Even in the USA, which cannot by any stretch of the imagination be described as a core country for organized vocational education and training, President Obama's State of the Union ad-dress of February 2013 extolled the dual system of vocational education and training in Germany. He said: "So those German kids, they're ready for a job when they graduate high school. They've been trained for the jobs that are there." (New York Times, 2013)

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Apart from Obama's misunderstanding of the German VET system as purely school based, also in Germany the past several years have seen an ongoing debate about quality in the German vocational education system. The Bundesinstitut für Berufsbildung (German Federal Institute for Vocational Education) and the Bundesministerium für Bildung und Forschung (German Federal Ministry of Education and Research) have initiated the pilot project programme "Qualitätsentwicklung und -sicherung in der betrieblichen Berufsausbildung" (Quality Development and Assurance in Vocational Education). Here, intensive educational institutional cooperations, the right kinds of quality assurance instruments, and improved trainer qualifications aim to further develop the quality of vocational company training. Ten pilot projects have been sponsored and scientifically accompanied by this programme (see Hemkes & Schemme, 2013).

In conjunction with training practice in small and medium-sized enterprises, pathways to improvement of the quality of dual vocational education and training were designed and analysed. Scientific supervision for the pilot projects was provided by the Research Institute for Vocational Education and Training (f-bb) in cooperation with the Institute for Vocational and General Education at the Karlsruhe Institute for Technology (KIT).

1.1 Debates about quality in VET

Quality is often discussed when it is insufficient or not present. This raises the question of how the issue of quality specifically pertains to the quality of the German vocational education system. To answer this question, the functions can be analyzed that a vocational education system needs to fulfil for a society. These include (see Greinert, 1995):

1) The utilization function: This takes a look at the costs and benefits of vocational education – for learners and instructors, for companies, and for society as a whole. And it can in fact be seen here: Vocational education costs and benefits are not evenly distributed in Germany. More than three quarters of all companies benefit from the fact that the rest (i.e. not they) do the actual investing in education and training. Added to this is how the vocational education system is increasingly state subsidized by the systems supporting preparatory phases of training and professional transitions in early years (the so-called Übergangssystem) in general; and specifically, by subsidies paid to trainee and apprenticeship programs.

2) The selection and allocation function: The German economy's demand for skilled labor is by no means covered by the vocational education system. This is due in part to the low amounts of companies offering training and apprenticeships (not to mention the low amounts of people actually completing these programs). And to make matters worse, some booming sectors of the economy (e.g. service) are insufficiently set up to provide training.

3) The qualification function: There's doubt about whether all trainees can obtain the competencies that they will actually need in today's economy with its increasing professional demands. The extensive competency analyses conducted with trainees in some German states indicate a need for improvement in this area, and not only in the quality of the actual vocational education, but also when getting ready to enter vocational education while still in the secondary school system.

4) The retention and integration function: Despite the better balance that now exists (compared to ten years ago) between training programs offered and the demand for them, there are still issues concerning the initial transition from school into professional education. This has consequences for the integration of young people into the job market. There are currently around 300,000 young men and women in this transitional stage. And the transition following this (from training into the actual work force) has become more problematic in Germany, causing some unions to respond with corresponding contracts and limitations.

So, the question was and still is: How can the quality of vocational education and training be developed and improved?

1.2 How can VET quality be understood?

Quality assurance in German vocational education has often been approached from a so-called input quality perspective: Are there in fact mandatory frameworks in place for training? What about the infrastructure for technical aspects and personnel? Is the training staff qualified to do what they should do?

This question (along with similar ones) was posed when exactly these aspects did not exist at that exact moment in time. For example, the time around the start of the 20th century saw an extensive liberalization of educational regulations ("economic freedom" declared by the German Reich's industrial code of 1869), and a "breeding of apprentices" by personnel who were however not required to have specific qualifications. This in turn led to the call for measures to counter the "sloppiness" present in crafts and trades. Back then, this was not referred yet to the term "input quality", but to the need for a decent technical apprenticeship.

The input quality factors of German vocational education were also a key focus of the Sachverständigenkommission Kosten und Finanzierung der beruflichen Bildung (Expert Panel for Vocational Education Costs and Funding) (1974), also known as the Edding Kommission. This panel identified clear qualitative differences between professions requiring apprenticeships and companies offering vocational education. The panel in turn saw this as a result of input factors such as (the lack of) well-planned training, training staff qualifications, etc. Their report makes clear that the system-level input quality (e.g. based on German Vocational Training Act regulations) can vary greatly from the input quality on the level of individual companies that offer vocational education.

So, it makes sense to understand and analyze quality in education as existing on a number of different levels, differentiating between the macro level (educational system level), the meso level (the individual educational institutions), and the micro level (the teaching-learning processes level). The Edding Kommission also introduced the differentiation between the input dimension of quality (the pre-existing company framework conditions for training that need to be assured) and the output dimension (result quality: completed trainings, graduation statistics, competencies, and satisfaction of trainees and instructors).

This means that when analyzing and developing vocational education quality, the quality dimensions throughout the training process (input, process, output, and outcome quality) need to be kept in mind in combination with the levels of quality development (the micro, meso, and macro levels) (Fischer, 2013).

2 Methods

For scientific supervision of the pilot project program formative and summative evaluation methods were used. For summative evaluation a questionnaire was developed and used that intended to adapt the programme objectives to the horizon of different target groups involved in the project (apprentices, trainers, company managers etc.). Formative evaluation was based on methods of empowerment evaluation (Fetterman et al., 1996) which had been further developed for a German pilot project program in vocational schools (Deitmer et al., 2004) and which were now again adapted with regard to in-company training. The concept of formative evaluation is a guided method of self-evaluation, which combines programme and project evaluation: Project representatives (n= 5-15) are asked to relate project specific goals to programme objectives and to rate (by numbers from 1-10) the project success according to those project specific goals. The subsequent guided debate between project actors about diverging ratings usually reveals the current status of the project according to project and programme objectives. This participative evaluation approach helps to develop and to accept recommendations towards the further development of the project.

3   Results

The main question for research and development in the above mentioned pilot project pro-gramme was: How can the quality of vocational training be improved in small and medium sized enterprises (SMEs)? By answering this question, one has to bear in mind that companies offer and improve training on a voluntary basis, even if national regulations for suppliers of initial vocational training do exist. For this reason, quality development pathways were elabo-rated closely emerging from practice enabling a bottom-up process with the assistance of aca-demic research support. More than 80 instruments, methods and procedures were developed and tested directly aligned to the conditions governing practice and to the possibilities for action open to the stakeholders at a local level. Those instruments are targeted at quality fields like:

> Negotiating quality objectives: Where do we want to go?
> Developing quality awareness
> Using the legal framework
> Improving cooperation among learning venues
> Qualifying teaching personnel
> Assisting in the transition to initial vocational education and training
> Improving the quality of learning
> Securing learning outcomes

Some of these instruments can be seen in more detail in the "Compendium Quality of In-Company Vocational Education and Training" published by the German Federal Institute for Vocational Education and Training (Gaylor et al., 2015).

At the same time a conceptual framework was developed in order to answer the question, how the quality of vocational education and training systems can be explained and influenced. In this framework levels of quality are combined with dimensions of quality along the training process in order to locate the work of the pilot projects within the framework and to identify relevant indicators for quality improvement.

3.1   Quality dimensions throughout the training process

Training processes require certain inputs, e.g. technical and personnel-based infrastructure; training centres, material, and planning; etc. The quality of these requirements is labelled with the term input quality. In the teaching and learning process, these guidelines are combined using selected didactic elements, and then filled with life. Doing this (more or less) achieves the pro-cess quality of training in the hope of encouraging an output, i.e. a learning result. Output qual-ity relates to this learning goal in terms of what training is meant to achieve, e.g. the acquisition of professional competencies by the trainees. "Outcome" means the application of the achieved competencies in the workplace and on the job market. This can also mean e.g. being offered a decent job by the company who provided your training once it has been successfully completed.

These quality dimensions can be ascribed to indicators that are all more narrowly defined by the respective input, process, output, and outcome quality:

- Input quality (also known as structure and/or potential quality) deals with the quality of the training factors prior to its start. Indicators of this include material, organizational, and personal equipment; qualifications of the training personnel; the quality of the teaching and training (framework) plans; tools; teaching and learning materials; trainee entry require-ments; etc.
- Process quality (also known as implementation and/or throughput quality) looks at the teaching-learning process and its didactic configuration. Indicators are e.g. the quality of

the methods and media used; availability of training personnel and how often work processes are described; the degree of orientation to the training framework plan and/or whether training plans are adhered to; the quality of the relationship between the instructor and trainee; etc.

- Output quality (also known as result quality) talks about what is achieved by the end of the training – e.g. passing the final exam and achieving the formal degree or certification and grades; obtaining professional employment ability; a qualitative improvement in the learning performance of trainees; trainee and instructor competencies and satisfaction; etc.

- Outcome quality deals with the transfer of what has been learned into productive employment and its value on the job market. It tends to require a longer period of observation. Indicators here are e.g. trainees' development of learning competencies and independence; promotion of individual learning pathways; lowering dropout rates; mandatory hiring levels by the company offering the training; break-in times once the new hire has started work upon completion of training; youth unemployment rates; etc.

3.2 Quality development levels

As mentioned above, input quality can on the system level (for example based on the regulations set forth by the German Vocational Training Act) be clearly different from the input quality on the educational level found within a company providing training. Because of this, the quality dimensions described above are organized into the micro level (teaching-learning processes and/or training units), the meso level (individual vocational education institutions such as trade schools, companies offering training, chambers of commerce, inter-company educational institutions, etc.), and the macro level (the vocational education system level with its legal regulations, guidelines, recommendations, etc.).

VET Quality	Input	Process	Output	Outcome
Micro Level Teaching & Training	e.g.: qualified VET staff is available for trainees	e.g.: mistakes of trainees are accepted and problems are solved in a solution-orientated manner		
Meso Level Companies, Vocational Schools	e.g.: qualified VET staff is available in the company		e.g.: high apprentice retention rate	
Macro Level Government, Federal States	e.g.: ordinance on trainer aptitude is in force			e.g.: social inclusion via VET and recognized occupational work

Figure 1   Vocational company training quality framework matrix (Source: Fischer et al., 2014, p. 148)

This can help in the assessment of (project, company, or system-related) training quality, and also allows for the determination of quality changes that might be needed.

3.3 Different perspectives towards VET quality

All kinds of different reactions emerge in answer to the question of which quality aspects can fill the framework suggested here. As an example, for years the qualifications of the training

staff were seen as critical for training quality. Along this line of thinking, the qualifications of adjunct instructors (skilled workers providing training) were considered as needing improvement. Later on, however, a survey of companies performed by the German Federal Institute for Vocational Education and Training (Ebbinghaus, 2005) identified the qualifications of the trainees as playing a key role in training quality. On the other hand, trainees saw things differently in an earlier survey (Feller, 1995) that was also conducted by the German Federal Institute for Vocational Education and Training. In this instance, trainees were the happiest with adjunct instructors compared to their full-time counterparts.

So, the term of quality itself doesn't really say anything about what quality actually is. Instead, it depends on how people conceive it. Empirical investigations show that the different societal groups who do trainings have different conceptions of quality; these correspond most greatly to their own interests. Instructor qualification regulations play the largest role for training administrators for whom training is about input variables that aim to ensure the qualification function of training. Companies offering training programmes are more focused on output variables, i.e. finding the right kinds of qualified employees. They tend towards more of an allocation function of training; if input factors come into play from a company perspective, these are the requirements that trainees themselves bring to the table. Trainees appear to see relationship quality as important that is achieved within the process dimension of training – here, adjunct training staff apparently have the most to offer.

VET Quality	Input	Process	Output	Outcome
Micro Level Teaching & Training	e.g.: qualified VET staff is available versus trainee is qualified for accessing VET	e.g.: mistakes of trainees are accepted versus trainees accomplish real work tasks		
Meso Level Companies, Vocational Schools			e.g.: high apprentice retention rate versus demand for skilled workers is satisfied	
Macro Level Government, Federal States				e.g.: social inclusion versus cheap workers are always available

Figure 2   Different perspectives towards VET quality

None of these perspectives are absolutely wrong. They simply show that VET quality needs to be seen as a multi-perspective entity. Only when the different observation and action perspectives are actually set into motion can an idea ultimately result about what VET quality can actually be!

The above mentioned scientific findings offer an opportunity to see input, process, output, and outcome quality in relation to one another and/or create this kind of correlation. A system of quality indicators and/or factors for vocational company training needs to keep this in mind. The correlation between input, process, and result variables is however probably of a non-deterministic nature: Despite the high level of input quality in the German vocational education system, quality problems may occur on the process level if e.g. a relationship quality between the instructor and trainee does not exist. In Switzerland, more at-risk (weak) learners than

previously thought were able to successfully complete a vocational education (Stalder, 2011), meaning that (missing) input quality does not automatically lead to a certain output quality. This is why the "interfaces" between input, process, output, and outcome quality need to be examined closely when assessing the quality of a vocational education system. The input quality is no deterministic indication of the outcome quality of a vocational education system, and vice versa. Often, as is the case in Spain and Italy, an oversimplified perspective concludes that youth unemployment levels, a possible indicator of vocational education system outcome quality, correlates to or is the result of lacking input quality. But the enormous fluctuation of youth unemployment rates in these countries in the past ten years (between 20 and 50 percent) shows that this kind of explanation is insufficient and needs to take additional factors into consideration. And the similar rates of youth unemployment found at times between Great Britain and Germany are hardly proof of both countries having an equal input quality in their respective vocational education systems. Great Britain after all has a system that basically lacks all of the fundamentals such as professional outlines, training framework plans, defined qualifications for instructors, etc.

Nevertheless, the research question in the German pilot project programme was not a comparison or VET systems (which could also be done via the quality matrix introduced above) but a determination of indicators for quality improvement and efforts to improve the quality of in-company training. Due to different VET quality perspectives a participative approach for research and development seemed to be of particular importance (Fischer et al., 2016)

4   Conclusion

All the pilot projects were evaluated by the research institutions involved in the programme and it came out that mostly the process quality of vocational training has (successfully) been influenced. However, the evaluation with the help of the above-mentioned framework also revealed some weaknesses concerning the construction of such pilot project programmes and their evaluation: Some possible effects of such programmes, e.g. improving the outcome-quality of vocational training cannot be observed during the runtime of the programme and also the transfer of results into other companies which were not involved in the programme can only be evaluated in a very rudimentary way.

VET Quality	Input	Process	Output	Outcome
Micro Level Teaching & Training	e.g.: qualified VET staff is available for trainees	e.g.: mistakes of trainees are accepted and problems are solved in a solution-orientated manner		
Meso Level Companies, Vocational Schools	e.g.: qualified VET staff is available in the company		e.g.: high apprentice retention rate	
Macro Level Government, Federal States	e.g.: ordinance on trainer aptitudes in force		e.g.: skilled workforce is available	e.g.: social inclusion via VET and recognized occupational work

Figure 3   Incomplete evaluation of pilot project programmes

These weaknesses imply the involvement of other methods of research like e.g. longitudinal studies and the inclusion of transfer partners while the programme is running (see Fischer, 2017; Fischer et al., 2017).

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Learning Together: Evaluating and Improving Further Adult and Vocational and Education through Practice-focused Research

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Abstract

This paper argues that the relationship between educational research and educational practice cannot be reduced to the simple application of knowledge gained from research conducted by others. It contends that far from teachers being passive consumers of knowledge produced by others, often in the form of 'blueprints' or 'recipes' for good practice, teachers are in fact creators of new educational knowledge as well as potential generators of and contributors to educational theory. It asserts that the new learning involved in putting an idea, concept or theory from educational research into educational practice *is* a process of inquiry and therefore an important and legitimate form of educational research. The paper discusses how an approach to the continuing professional development of teachers, based upon practice-focused educational research and inquiry-based pedagogy, coupled with a programme of dedicated research support, can enable teachers to produce significant, well-theorised and systematic educational research, leading to improvements in educational practice. This paper concludes that a practice-focused and inquiry-based model of educational evaluation and improvement offers education and policy professionals in the Vocational Education and Training sector (and potentially in the schools sector) an alternative to current technical-rational, top-down approaches to inspection and improvement in educational contexts.

Keywords

educational evaluation, educational improvement, educational research, further, adult and vocational education (FAVE).

1 Introduction

Political, policy and educational professionals responsible for the evaluation and improvement of Further Adult and Vocational Education (FAVE) in England are currently faced with a number of challenges. The first is that top-down, micro-managed approaches to the evaluation and improvement of teaching, learning and assessment in FAVE system, such as those currently used widely in the England by the Office for Standards in Education (Ofsted), incur expensive

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overheads. These are becoming increasingly difficult to justify in terms of empirical and robust evidence of educational improvement. The second is that despite significant levels of public investment in the continuing professional development of teachers in the FAVE sector, the return on this financial outlay has not yielded discernible value for public money in terms of actual improvements in the form of raised levels of achievement for learners. The first challenge points towards potential systemic problems in current approaches to the external evaluation and improvement of educational practice in the sector, suggesting they are in urgent need of review. The second draws attention to how educational improvement within organisations, through taken-for-granted approaches to the continuing professional development (CPD) of teachers, often based upon 'CPD days' and other management-led 'CPD events' might also be failing. We argue that these problems place a duty upon those currently responsible for educational evaluation and improvement and the provision of widely accepted approaches to teacher CPD to investigate what is going wrong and why with the aim of identifying how these issues might begin to be addressed.

Problems of evaluation and improvement in systems of professional and vocational education based on blunt measures of educational outcomes are not new. Indeed, they have been widely criticised in the literature on the grounds of their rationalist technological concept of knowledge which seeks to separate ends from means and theory from practice (Carr, 1995; Dunne, 1997). From a technical-rational perspective, theoretical, disciplinary knowledge can and should be separated from practical skills, creating a systematic separation of the theoretical from practical in which the theoretical always dominates the practical in circumstances where the former is routinely imposed from the top-down *by* those who 'know better', *upon* those whom it is assumed 'know less' (Carr, 1995).

Coffield (2017) draws attention to the high financial and human costs of expensive, flawed, top-down, technical-rational systems of educational evaluation and improvement. He notes how they divert scarce resources away from pressing educational issues creating a climate of fear, fuelling an impulse, towards what Ball has described a kind of 'preformativity' (Ball, 2008). For Ball, conditions for 'performativity' are brought about through the introduction of new policy technologies. These policy technologies he argues are devices which change the meaning of practice and social relationships in education and in other public sector activity. The same policy devices he contends, introduce forms of control linked to the language of the market, competition, outcomes (targets) and accountability which 'articulate new ways of thinking about what we do, what we value and what our purposes are', reducing 'education to a commodity rather than a public good' (Ball, 2008, p. 42). A key factor in all of this is that these new policy technologies are not only internalised but also realised by teachers and education leaders by way of the production of evidence demonstrating compliance and adherence to bureaucratic measures of quality (Sennett, 2008; Coffield, 2017).

In a policy climate in England in which the lines between educational practice, educational theory and educational research are becoming ever more firmly drawn, and where approaches to educational research are increasingly based upon randomised control trails and the elevation of 'research intensive' universities above their more lowly 'teaching' counterparts, this thinking is on the rise. This movement appears to be founded on at least three rather dubious assumptions. The first is that teachers are passive consumers of knowledge gained from research conducted by others. The second is that the role of teachers is simply to apply this knowledge in their practice. The third is that theory comes from research (not practice) and that knowledge gained from practice is somehow inferior or 'second rate'. The implications here are that educational practice, educational theory and educational research can and should be developed in separate contexts, by different groups of people, for different purposes. This paper argues that such separatist ideas are not based upon an adequate understanding of how educational practice is constituted and how it develops but are instead founded in questionable technical-rational

epistemic perspectives. One-sided rationalist understandings of how educational practice is constituted and developed, it is argued, are not only misplaced and inadequate, they also lead to serious problems in the evaluation and improvement of education. Sarason (1990) describes this tricky technical-rational bind as the 'predictable failure of education reform'. He notes how systems of education based on a technical-rational world view, lock power relations in place in which teachers are expected to act as if experience is not real. In this situation he argues fabrications of truth and reality are demanded and supplied on demand. Nothing really changes because it cannot. The conditions of the transaction are not there to allow truth and reality to 'appear' because this might cast doubt upon/question how 'rational' and how 'technical' the approach really is. In this way, Sarason claims education reform based upon technical-rational approaches to educational evaluation and improvement becomes locked into predictable failure.

By challenging the basic epistemological assumptions which separate educational practice, theory and research, this paper invites consideration of alternative ways of going about all three. However, changing the way that we tackle the evaluation and improvement of educational practice in the FAVE sector in England is unlikely to be easy. Voices from across the field of educational research warn that such developments are hard won and that what appear to be 'quick fixes' seldom, if ever, 'fix' anything and never quickly. Furthermore, the relationship between educational research, the improvement of educational practice and the development of educational theory is complex and contested. In the UK, recent proposals to reshape the landscape of educational research and its connections to teaching, place increasing emphasis upon identifying the impact of research upon educational practice. In addition, expensive shortcomings of approaches to the improvement of educational practice developed remotely by educational researchers/policy/political professionals, imposed upon teachers from the top-down and evaluated in terms of outcomes-based metrics have become well-documented in the literature over the past twenty years, bringing this debate into sharper focus and the therefore more open to public scrutiny (Elliott, 2001; Ball, 2008; Coffield, 2017).

Of particular concern here, is the way in which top-down approaches to educational evaluation and improvement are based upon a particular kind of technical-rationalist logic which overlooks the importance of context and undervalues the role of teacher judgement. Such technical-rationalist approaches tend to oversimplify educational problems and enduring educational issues regarding what can and should be measured and valued in education. They do this in order to reduce educational outcomes to what can be easily and instrumentally measured. It is argued that this approach is operating to inhibit real improvements in educational practice by overlooking subtle, complex and crucially important aspects of the realities of how educational practice is constituted, how professional knowledge is 'transferred' and how a practice actually improves.

Research conducted in England in the schools sector (Fielding et al., 2005; Ball, 2008) and in the FAVE sector (Gregson & Nixon, 2009; Coffield, 2017), indicate that the imperatives of highly prescriptive, top-down systems of accountability, performativity, inspection, league tables etc., introduce a climate of fear and distrust between teachers, education leaders and evaluators and that this in turn encourages and increases tendencies towards instrumental behaviour and fabrications of compliance discussed above. In a climate of austerity, responsibility for and the costs of educational improvement are laid firmly at the door of teachers and education leaders. At the same time, overall levels of funding are being reduced, budgets are getting tighter and teacher workloads are increasing. There is a deep irony here. While the Ofsted inspection regime in England controls the field of judgement, what is judged and what criteria for measurement are used, the work of collecting performance data, monitoring and reporting in order to produce and supply the volume of information needed by inspectors and the inspection process to make those judgments (for the purposes of monitoring and controlling the sector), the weight of this work is placed upon the shoulders of teachers and education leaders. Elliott

(2001) and Coffield (2017) point out how the burden of this activity consumes so much time, morale, energy and resources that in fact this it is operating to seriously limit and even debilitate the sector's capacity to make real improvements in practice. Elliott observes the seductive and fatal flaw in technical-rational systems of education is that ends can masquerade as means while real educational needs remain unmet.

2   Methods: Beginning with ourselves

Hunt (1989) argues that the quality of human experience is a neglected aspect of educational research and that the starting point in the change process is personal and practical knowledge rather than theoretical knowledge**.** Following Hunt, this study began with problems in a practical setting, namely the practical experiences of teachers (our own and those of others) in relation to approaches to educational evaluation and improvement in England. It is important to note that we encountered this troubling aspect of educational practice *before* we came to see that it called for and could not adequately be addressed without engaging in critical consideration of the epistemic relationship between educational practice, theory and research and the assumptions about this relationship inherent in technical-rational approaches to educational improvement. This eventually led to a co-operative search by policy professionals in the ETF, practitioner-researchers from across the sector and researchers at the University of Sunderland to explore an epistemic alternative to current approaches to educational evaluation and improvement based upon pragmatic rather than technical-rational epistemic perspectives. We did not begin with an understanding of what the epistemic conditions for this alternative might be. These have come to light in the course of this study. They are still emerging.

   We did begin however with some assumptions of our own which are worth reiterating here. Our own experiences of educational practice and educational research had helped us to see that that the relationship between educational research and educational practice cannot be reduced to the simple application of knowledge gained from research conducted by others. Our own work in the fields of educational evaluation and improvement and studies of reflective practice, originated in problems we encountered in putting these and other educational theories and ideas from educational research into practice. This helped us to see that far from teachers being passive consumers of knowledge produced by others, often in the form of 'blueprints' or 'recipes' for good practice, teachers are in fact creators of new educational knowledge as well as potential generators of and contributors to educational theory. Finally, we came to see, through the work of Dewey (1933), Carr (1995), Eraut et.al. (2004) and Fielding et. al (2005) that the new learning involved in putting an idea, concept or theory from educational research into educational practice *is* a process of inquiry and therefore an important and legitimate form of educational research. What follows is an outline of some emerging guiding principles which seem to be important in realising an alternative approach to educational evaluation and improvement in practice. These guiding principles are offered by way of an invitation to the reader to help us to improve them. Please contribute to their development by adding your ideas to ours and pointing out what we may have misunderstood something or key issues that we may have underestimated or overlooked, by contacting us at: maggie.gregson@sunderland.ac.uk and trish.spedding@sunderland.ac.uk

2.1 The ETF-SUNCETT practitioner research programme

The ETF-SUNCETT PRP is an extensive national programme of practitioner-research in England which aims to develop understandings of the practice-focused educational research, its role in improving educational practice and its potential to contribute to theory. The PRP aims to open up pragmatic epistemic conditions in which teachers, education leaders, policy professionals and University research active staff can systematically co-operate in identifying, planning, carrying out and critically evaluating a research investigation designed to explore and

improve an aspect of educational practice identified by teachers as being in need of improvement. Depending upon the scale and scope of the research this includes documenting the investigation and its contributions to knowledge, through the production of 5000 word written assignment at Masters Level or an MPhil thesis. Other research outcomes include the production, presentation and justification of the findings of the research in the form of a research poster and a research presentation at the Foundation's Annual Research Conference in London. These research outputs are providing important sources of evidence of the results from the PRP. In addition to the above, different forms of quantitative and qualitative data are being collected in terms of research impact grids and evaluations of residential PRP Research Development Workshops.

Research Development Workshops are used in the ETF-SUNCETT PRP project to investigate how various stakeholders experience and respond to challenges in conducting, completing and reporting their practice-focused research, including sharing the findings of their research with their colleagues, wider stakeholders, policy professionals and other researchers in the field. The current cohort of the PRP research population consists of forty-five practitioner-researchers from across the FAVE sector in England. According to their previous research experience and qualifications, practitioner-researchers are allocated to either an MA Short Course or MPhil programme of customised research support. The overarching purpose of the PRP is to create epistemic conditions in which teachers, education leaders, policy professionals and university researchers can talk openly about problematic aspects of educational practice from a teacher's perspective and in the context of direct experience. PRP practitioner-researchers aim to address a number of questions including the question of, if/how educational practice and the development of educational theory can be improved through practice-focused educational research. The study employs a number of research methods. These include the analysis of a variety of research outputs produced by practitioner-researchers (including scholarly research posters, MA Short Course assignments, MPhil theses, case studies, critical incidents and other reported measures of impact in the form of case studies). These data sets are being supplemented by data from evaluations of Research Development Workshops.

2.2 Six guiding principles of the PRP

Direct, practical, co-operative and mutual engagement in practice-focused research appears to be a central principle in the ETF-SUNCETT PRP. This suggests that a starting point for educational research should be an issue or concern in educational practice identified by the practitioner in the context of their own professional experience.

The second principle is that each PRP participant should have the support of a research active mentor from a University who has previously worked as a teacher in the FAVE sector and who still has direct contact with the sector.

The third principle is that attending a number of residential Research Development Workshops where practitioner-researchers work alongside a research-active mentor of the SUNCETT team, helps practitioners to begin to engage in the research process by enabling them to talk openly about the 'problem in practice', think about it more carefully in order to try to develop a deeper understanding of the nature of the problem and the extent to which the work of other researchers might contribute to helping to address the problem.

The fourth principle is that the mentor and the practitioner-researcher embark on process of co-operation and mutual engagement in identifying an intervention which may potentially address the 'problem in practice. The practitioner-researcher then implements the intervention and examines the consequences of the intervention in practice in collaboration with their mentor. It is important to note that this is not a one-way process in which teachers simply applies the ideas and theories of others to their own practice, or where the mentor simply tells them what to do. On the contrary, it is a process through which teachers and their mentors question

and challenge theory and published research in the light of and with reference to their experiences of practice. In this way, teachers use practical experience to contribute to the development of theory and develop the courage, care and qualities of mind to critically examine and challenge ideas from research conducted by others in practice.

The fifth principle is that each residential workshop is designed to reflect relevant stages in the research process. At each workshop, University mentors provide stage relevant research training for PRP participants. It is important to note that this involves SUNCETT and other invited research mentors sharing their own experiences of research with PRP participants at each stage in the research process (including, mistakes made, and lessons learned). Residential Research Development Workshops are designed to provide time and space where PRP participants can talk openly with their mentor and other PRP participants about what is really happening in practice. Workshops also provide time to think, time to read and time to write about what is happening in practice with reference to the work of others who have thought, read and written about the same issues in educational (and other forms of) practice.

The sixth principle is that each practitioner-researcher is expected to prepare and present and justify the findings of their research in the form of a research poster and an assignment/thesis, depending on their pathway.

3 Results

Results from previous PRP cohorts and data from the current cohort support the claim that teachers in the FAVE sector do not routinely have enough time, space, support or resources to conduct systematic research into their own practice with a view to improving it. The same data indicates that they are also increasingly limited by time and space made available to them for their continuing professional development. This lends further support to the argument that current technical-rational approaches to educational evaluation and improvement in England, based on the assumption that it is enough just to tell teachers about the good practice developed by others, is failing to enable teachers and education leaders to realise educational improvements in practice. Practitioners repeatedly cite these problems as being a direct result of the financial and human costs involved in providing data for real and anticipated short notice Ofsted inspections. According to the teachers in the current cohort, the lack of opportunities to engage in research into their own practice in order to improve is made difficult by the lack of supported opportunities to systematically investigate and address aspects of their practice which they already know are in need of improvement. Teachers and education leaders who do get opportunities and support to engage in practitioner-research through the PRP, report that traditional approaches to CPD based upon management organised 'events', together with historical and socially constructed divisions between educational practice, theory and research, which routinely elevate theory and research above practice, have in the past discouraged them from engaging directly in research practice-focused research and from using practice to interrogate, challenge and extend ideas generated from theories and question research conducted by others (Duffy-McGhie et al., 2018).

Results from the PRP to date suggest that co-operation between practitioner-researchers and their research-active SUNCETT Mentors, coupled with mutual engagement in a research project designed to investigate an educational problem identified by teachers in the context of their work, is crucial in developing research capacity across the sector, building appropriate levels of scholarship, capturing 'hard' and 'soft' evidence of impact and securing real improvements in practice. Almost all (98%) of the practitioner-researchers who begin the PRP see their research through to completion and present the findings of their research at the ETF Annual Research Conference. Around the same number (96%) successfully submit written accounts of their research in the form of an MA assignment or MPhil thesis. To date one practitioner-researcher from a previous cohort has completed a PhD and co-authored a book with her

SUNCETT mentor A further three from the current cohort are beginning to pursue their research at PhD Level. Eight PRP participants from current and previous cohorts are contributing chapters to a book edited by their SUNCETT Mentors and the policy professional who is ETF Head of Partnerships.

4   Conclusion

The alternative to technical-rational approaches to educational evaluation and improvement outlined above, attempts to draw upon what we know about how the incremental ways in which a practice is constituted and how it develops through problem-finding, problem solving and critique (Sennett, 2008). It criticises current technical-rational approaches for their expensive and time-consuming shortcomings in practice. It is motivated by a desire not to idly criticise but to constructively challenge systems of educational evaluation which make intelligent people do stupid things in the name of the kind of unintelligent accountability which accompanies technical-rational approaches.

We have argued above that experience, learning and the development of knowledge happen though participation in practices and that it is in practice that theory is tested through the processes of inquiry involved in putting an idea into practice

Following Elliott (1996) and Coffield (2017) the alternative approach and emerging guiding principles discussed above, aim to make educational evaluation and improvement more democratic and educational for those participating in a wide variety of practices including the practices of education, evaluation, theory-development, research and policy-development.

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Biographical notes

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Quality in Swedish and Austrian VET and VET Teacher Education. A Comparative Study

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Abstract

The paper provides an overview of VET for youngsters in Sweden and Austria, two countries that differ in institutional structures and the development of VET. In Sweden, VET has been integrated in upper secondary school since the 1970s. The Austrian system, on the other hand, provides a strong upper secondary VET school sector, and has retained in parallel a strong separate apprenticeship sector also, with a completely separate governance structure from the state-led school sector. Quality is not a word with a single meaning but a contested concept, used in different ways, by different actors, national bodies, etc. and for different purposes. Yet, the interest of comparison has been on "quality" in VET and measures taken for "quality improvement" in the two countries. Some descriptive data are presented but the main focus in the article is on current policy discourses and reform agendas. Four themes are addressed and structure the comparison: competencies, procedures, teachers and supervisors. The conclusion brings forth how the notion of "quality" and steps for "quality improvement" differ in these two countries, but also how it, due to the elusiveness of the concept, is difficult to use for a comparison of different VET systems.

Keywords

quality in VET, VET systems, VET teacher education

1 Introduction

The 'quality turn' in education has arisen with considerable force in the past two decades. The notion of quality claims an idea of a singular fixed meaning, but the concerns and views of quality show a contested nature (Zoellner, 2016). This article where the 'quality' of VET in Austria and in Sweden are identified discussed is influenced by institutional theories and educational policy researchers (e.g., Czarniawska & Joerges, 1996; Ozga, Dahler-Larsen, Segerholm, & Simula, 2011) who provide an understanding of how general ideas such as 'quality' travel globally across institutional settings and are translated, interpreted and given meaning differently in different educational sites.

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Austria and Sweden are two countries with different sociohistorical context and infrastructures of VET. Austria has a tracked structure of compulsory school from the age of ten, and the VET structure interacts with the tracked lower secondary school. VET has emerged as a distinct hierarchical structure providing hundreds of programmes, with a strong traditional apprenticeship system at the lower end, and two tracks of full-time VET schools with strong pluralist VET colleges at the higher end that provide realistic access to higher education. Sweden has a comprehensive structure from grade 1 to 9. Upper secondary school begins when the youngsters are 16. In Sweden, VET has been integrated in upper secondary school since the 1970s. Since the early 1990s, both vocational and academic upper secondary education have been organized as three-year programmes. There are 12 VET programmes, which can be attended as school-based VET with 15 weeks of workplace learning or as an apprenticeship alternative, where at least 50% of the three-year programme is workplace learning. The Austrian infrastructure of VET is not dual in the same way as VET in Germany and Switzerland. Parallel to the separate apprenticeship sector, the Austrian state system also provides a VET sector with schools and colleges. Thus, there are also similarities between the Austrian VET and the Swedish VET structure.

In this article, we identify and compare similarities and differences in the national discourses of quality of VET in the two countries, and current areas in which quality improvement is pointed out and undertaken. Initially, some descriptive data of VET in Austria and in Sweden are provided regarding attendance, eligibility requirements, steering documents and ownership.

2 Descriptive data: Sweden

2.1 Attendance

Upper secondary school is voluntary, but 98% of the cohort start upper secondary school. The participation rate among Swedish 18-year-olds in education has been stable at between 93 and 96 per cent (Eurostat, 2012). In 2016, 55% of the total amount of students in upper secondary school attended a higher education preparatory programme, 27% attended a VET programme and 18% an introductory programme. The throughput of students taking their exam within three years has varied between 65-70% during the last decade. Students are allowed to continue their studies if they have not met the 2500 credits that the programme exam consists of. The statistics of throughput for students with also a fourth and a fifth year is ~ 80%. In vocational programmes it is generally 10% lower.

2.2 Eligibility requirements

There are eligibility requirements to both the vocational and academic programmes. For students who do not match the eligibility requirements, there are five so-called introductory "programmes". Until 2011, the minimum eligibility requirement was the grade 'Pass' in the subjects Swedish, Maths and English for both vocational and academic programmes. With the reform of 2011, the minimum requirements to enrol in a vocational programme rose with the grade 'Pass' in five additional subjects. For students enrolling in academic programmes the eligibility requirements are higher.

2.3 Steering documents

All forms of Swedish steering documents for compulsory and upper secondary school are under the Ministry of Education. The National Agency for Education is the central administrative authority. Examples of steering documents for all forms of VET in upper secondary school are The education act, The upper secondary school ordinance, The upper secondary school curriculum, diploma goals and subject syllabuses. The Government Bill (2008–09:199), introducing the reform of Swedish upper secondary education 2011, was titled *Higher requirements and*

quality in the new upper secondary school. The title gives an indication of the emphasis of "quality" in the latest reform launched in 2011.

2.4 Ownership

The ownership of upper secondary education (including all forms of VET) is the public sector, but with a quasi-market. In 1990, a major decentralization shift was carried out and the authority to run compulsory and upper secondary school was transferred from the state to the municipalities. In various reforms, decisions were made of lump sums to the municipalities, steering by objectives and results, and increased local responsibility and freedom at the local level. A student voucher system and publicly funded independent schools established a school market. Today ~ 28% of the students in VET attend an independent school.

2.5 Structure

Since 2011, the structure of Swedish upper secondary VET is illustrated in Table 1.

Table 1   Structure of Swedish upper secondary VET

12 VET programmes	
School-based VET	Apprenticeship (Built up from the same subjects and courses as school-based VET
General subjects Diploma project	
Min. 15 weeks workplace based learning	Min. 50% workplace based learning

In 2017, 27% of the students in upper secondary school attended a vocational programme. 10% of these were in the apprenticeship path.

3   Descriptive data: Austria

Attendance: In Austria the VET school sector starts within compulsory schooling at grade nine. Alternatives at this grade are the academic upper secondary school leading to university, and a one-year preparatory school that leads into apprenticeship that starts at grade ten, in the first year after the end of compulsory schooling. About 5% of young people have left formal education after the end of compulsory school; recently a general obligation of attending some kind of education or training has been established ('Ausbildungspflicht') that can also be fulfilled by attention of alternative programmes of labour market policy. The new government additionally wants to guarantee the fulfilment of the basic educational standards for all young people. A cohort at upper secondary level (15-19 years) attends to about two thirds a VET programme, with apprenticeship and the five years upper level VET colleges of about equal size (a bit more than a quarter of a cohort each), and the mostly three years medium level VET fulltime schools about 10 per cent (Graf et al., 2011).

Eligibility requirements: The eligibility requirements differ substantially between the fulltime school sector, where the positive completion of lower secondary school is required, and apprenticeship, where access is completely under the discretion of the training enterprise (with no formal educational requirement except the completion of compulsory school age; informally several enterprises run acceptance tests on their own). Apprenticeship is based on a contract between the enterprise and the applicant and is a kind of employment contract with collectively negotiated wages, and regulated employment conditions. In reality the access into

the different VET sectors is heavily driven by a two-step selection process: young people start a fulltime VET school programme (to some extent also the academic school) during their last year of compulsory education, and after this year to a large part move into apprenticeship (partly this move is planned in advance, partly the movers have failed at school). Overall the VET fulltime school sector is highly selective. Only about half of the beginners of the five years colleges complete this track, the drop outs then shift to lower level programmes or apprenticeship, so in the end the proportion of drop outs is not so high. Quality discourses come into play in two respects. Firstly, the quality of applicants for apprenticeship programmes is strongly under dispute, whereby the results of the PISA assessments are used as an indicator. Secondly, the high selectivity of VET schools is also under debate, partly defended as a sign for the high quality of the completers, partly as sign for low quality of the institutions because of the production of high drop out.

Steering documents: Two different governance systems with different steering documents are in place in Austria, one in the full-time school sector, the other in the apprenticeship system. The school sector is steered by a complex legal apparatus administered by the Ministry of education, with an organisation law (Schulorganisationsgesetz) providing the programme structure, and an instruction law (Schulunterrichtsgesetz) providing the process regulations, including assessment and examinations. Several additional laws regulate the obligation of compulsory school, the industrial relations and the remuneration of the teachers, the teacher education, etc. (currently the legal structure is under reform). The ministry regulates the curricula for each programme established by the organisation law. The apprenticeship sector is steered by two completely different laws administered by the Ministry of economic affairs and the social partners, manly the employers chamber, the trade law (Gewerbeordnung) providing the basic programme structure, and the vocational education law (Berufsausbildungsgesetz) providing the basic regulations for training. Each programme must have a training profile, regulating the basic tasks/competences to be acquired, and the final examinations are a main steering instrument. Apprenticeship includes a compulsory part time school (mainly one day per week, or an equivalent number of weeks per year); this school is steered by the Ministry of education.

A strong divide exists in Austrian educational policy between the dimension of power politics and the dimension of goal-oriented sector policy making and steering (Lassnigg, 2015). At the political level concerning the fulltime school sector, the understanding of quality is still mostly input related, meaning that more resources (public expenditure, class size) indicate higher quality; consequently, the yearly negotiations about the public budget are the main political arena for quality discourses. At the policy level, things are more complex. The international large-scale-assessments have pointed to the output and outcome side, and test results have emerged as a main quality indicator. However, as VET starts at age 15, the available PISA results give indications rather about the competence levels at the access stage, and thus about the quality of the applicants.

Concerning the apprenticeship system, the main political quality indicator is low youth unemployment that is mainly supported by labour market policy measures (Lassnigg, 2017). The relative high proportion of risk-students at the completion stage of compulsory education has also supported the doubts about the quality of potential applicants into apprenticeship, and to some extent diverted attention away from the actual competence outcomes of the apprenticeship system itself.

Ownership: The ownership of Austrian schools is public, with a complex governance structure that allocates decision making power to the central, the regional, and the local levels; this structure is under reform currently, with some reshuffling of responsibilities. Fulltime VET schools are governed by the central level, whereas the part time school of apprenticeship are governed at the regional level. The ownership of apprenticeship is primarily situated at the enterprise level, with the regional economic chambers and the Ministry of economic affairs

having main responsibilities in the governance of the system (the chambers are responsible for the examinations, and the ministry is responsible for the training programmes).

Structure: The apprenticeship system is much more diverse than the VET school sector, the number of programmes is much higher (about 200), and the training enterprises are highly decentralized (about 40.000 sites), whereas the VET schools are concentrated in cities (about 1.000 sites), differentiated to different sectors (engineering, arts, business, tourism, services, etc.). The school programmes consist of general subjects, vocational subjects, practical workshops, and require internships in enterprises during holidays. The implementation of apprenticeship is mainly controlled by the individual enterprises, who mostly employ small numbers of apprentices (one to three).

The quality discourse is related to ownership and structure with respect to the actors involved and the logic of problems addressed. At the level of politics, a gradual shift from cooperative to competitive politics is under way, with education being to some extent affected from this movement. As a historical coincidence, the PISA 2000 results came out, when a first wave of a right-wing government coalition has excluded the social democrats from government, and also started an attack against the tradition of social partnership. As a consequence, the unexpected bad PISA results were politicized by the social democrats and used for attacking the government, which at the time also tried to contain the high costs of education. The gradual developments towards quality improvement at the policy level were overruled by this political change. The media took a strong role in scandalizing low educational quality, and since then a negative public discourse about Austrian school quality prevails at the politics level. Several attempts and measures at the policy level could not gain enough attention and were not successful either. A main actor in Austrian education politics - the teachers interest organizations - took a distant or negative stance against measures of quality improvement, always with charges for more resources as a main point.

4   Method

The investigation has involved reading, interpreting and discussing policy documents on "educational quality" and "quality improvement" in the VET sector of the two countries. International research publications on the VET sectors of the two countries have also been used. Further, the investigation included three interactive workshop days in Vienna during April 2018, where the following six questions were the topic:

- What are the main themes in the quality debate of VET in the two countries? What can be identified as the main problems behind the rhetoric?
- What are the similarities and differences in the respective country, regarding the quality debate of VET and the quality debate of general (academic) education preparing for higher education access?
- What are the formal requirements for teaching in VET?
- How is the VET teacher education organized?
- What are the formal requirements and education/training arrangements for supervisors or trainers at workplaces?
- How are the two topics of quality debates and teacher education interrelated?

Together, the approaches above have provided the possibilities to find a background frame, and to identify and discuss the 'systems of reason' at work in the respective countries.

5 Results

The results of our investigation have been categorized into four themes: competences, procedures, teachers, supervisors. These are presented by country. The results mirror the differences shown in the section of descriptive data above.

5.1 Competences: Sweden

A degree from Swedish upper secondary education (including VET) implies three years studies and 2 500 credits. With the reform of 2011, a diploma was introduced. As put in *Upper Secondary School*, from National Board of Education (p. 21): "A diploma from the upper secondary school certifies and strengthens the quality of Swedish upper secondary education. An upper secondary diploma also states that students have completed their upper secondary education and achieved specific defined results." In accordance with this line of reasoning from the of 2011, students completing a vocational programme graduate with a vocational diploma. Concepts like "readiness for employment"/"employability" also became central in the policy texts. The close connection to the vocational diploma is shown from this passage in the proposal of the 2007 Reform Commission: "A vocational programme leads to a vocational diploma that provides a recognized qualification that in turn enhances employability. The vocational educational programs I propose shall enhance employability and the upper secondary level will in future be defined by the established diploma objectives for each programme in cooperation with receivers (SOU, 2008:27, p. 65)." The role of the so-called "receivers" was emphasized in the policy reform text, in order to improve quality. This will be further developed on in the following theme of "Procedures".

One quote connected to the theme of Competences gives a picture of the frequent usage of "quality" in the Swedish upper secondary VET context. Each VET course has a syllabus, and each syllabus has courses with knowledge requirements. Also, these are referred to as 'quality', and 'quality levels', as in the following sentence from National Board of Education (Upper secondary school, p. 59): "The knowledge requirements express the quality level students should demonstrate in terms of their expertise in relation to the goals."

5.2 Competences: Austria

As sketched above, the quality discourse in Austrian schools is still situated mainly on the input side, with resources as the main indicator. In apprenticeship the avoidance of youth unemployment and thus bringing young people into employment is the main quality dimension. Competences do not play such a role at the level of politics. However, at the policy level, several measures have been taken, to make the rhetorical shift from input to output and outcome orientation more real.

Austria has developed a National Qualifications Framework (NQF) through a process backed by research. The analyses have shown that the profiles of apprenticeship have been to some extent formulated as 'can do'-statements; however, the school curricula have been transformed into competence models though a large-scale systematic process, involving selected teaching personnel from the sector (Lassnigg, 2012). The NQF has been amended, with a preliminary classification of programme types to the levels, and after the establishment of the national reference point the existing programmes will be accredited to the framework. The apprenticeship system did not establish such a system. In this sector the quality topic is under dispute between the different stakeholders. The employers' side is defending the existing – very soft – procedures, whereas the employees' side is charging transparent instruments for quality development.

5.3 Procedures: Sweden

With the reform 2011, stakeholders were given a central role, inspired by VET in Germany, Switzerland and apprenticeship education in Austria. However, as VET in Sweden is integrated in upper secondary school it is the school that is responsible for providing places in work-based learning and ensuring that these places fulfil the requirements set up for the education. Work-based learning is also supposed to be steered by the subject syllabuses. Thus, it is the teacher who is responsible for grading, after having discussed with the supervisor(s) at the workplace.

To ensure "high quality of education and strong involvement from industry" (Upper secondary school, 2001, p. 12), "coordination between school and working life must be strengthened". One of the arrangements to establish such cooperation, was making so-called local programme councils mandatory. These shall "contribute to organised and close cooperation between organisers and stakeholders. It is vital to develop the quality of vocational education, not only school-based education but also upper secondary apprenticeship education." (Upper secondary school 2011, p. 28). Suggested possible tasks for the local programme councils are, for instance, "to assist the organiser in arranging places for workplace-based learning and to participate in organising and assessing diploma projects" (Upper secondary school 2011, p. 25).

The Swedish Schools Inspectorate has become a key actor for supervision and quality assurance: "The role of the Swedish Schools Inspectorate is to monitor and scrutinize. In connection with these supervisory and quality auditing activities, the Swedish Schools Inspectorate provides advice and guidance as to what a school needs to rectify on the basis of the requirements of legislation."[1] Inspection reports from the Swedish Schools Inspectorate (e.g. Skolinspektionen, 2016) has reprimanded the collaboration procedures between many schools and work-place learning settings. The "lack of cooperation of good quality" is articulated (Skolinspektionen, 2016, p. 7), which in turn leads to that the intended "quality" is not reached. It is pointed out are that the syllabuses seldom frame or are part of work-place learning, and critique is raised on student learning at workplaces, planning and assessment procedures in work-place learning and follow-up routines when students come back to school-based VET. Severe critique is formulated towards the strategies and activities of the local programme councils, and that stakeholders often do not attend meetings.

5.4 Procedures: Austria

At the policy level, the Austrian quality discourse has been concentrated on procedures for quality improvement and quality assurance (QI/QA) since the 1990s. Education research in Austria was strongly focused on qualitative processes of (bottom up) school development and has contributed a comprehensive framework of QS/QA in the early 2000s (Eder, 2001). The Austrian development was linked to the European initiatives of the EQARF-development, and in the VET school sector a procedural framework for quality development (QIBB-Qualität in der Berufsbildung) at the different levels was developed in the mid-2000s. The basic strategy has been, not to determine the content, but to require from schools and the administrative institutions at the regional and central levels to establish concrete procedures of QI/QA for working on a problem of choice.

In this approach quality is operationally defined as an observable movement towards goals. However, the political level has not set observable goals. A milestone in this respect was the set-up of a huge project of regular measurement of educational standards at grade 4 and 8 in compulsory school, with a dispute between setting clear minimal standards for which schools

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[1] https://www.skolinspektionen.se/en/About-Skolinspektionen/The-activities-of-the-School-Inspectorate/

should be held accountable, vs. the setting of average standards, which should somehow improve competences.

5.5 Teachers: Sweden

The current Swedish VET teacher education programme was launched in 2011, together with the many educational reforms of this year. The programme has 90 ECTS credits. There are two requirements to get admitted: (1) a general university entrance requirement based on completed high-school studies, (2) specific competency-based requirements for vocational knowledge and skills in subjects matching the upper-secondary vocational subjects in different areas. As pointed out by Fejes and Köpsén (2014) there were contradictions in the 2011 policymaking: despite the major policy initiatives of "improving quality" and new regulations requiring that teachers had to have teacher qualifications to become permanently employed as teachers, vocational teachers were exempted from this requirement.

The VET teacher education programme is considerably shorter than the other teacher programmes. The reason as argued in the 2010 Government Bill (Prop. 2009/10:89) is the shortage of VET teachers and the high importance of specific VET knowledge and skills. The short teacher education programme was presented as an incentive for unqualified VET teachers to attend. However, the percentage of qualified VET teachers has remained the same for the last ten years, in 2017 it was 62% (SOU 2017:51, p. 236). In a review of the 2011 reforms, (SOU 2017:51) with the aim to strengthen the quality of teaching and improve results in education, it is stated that from 2022 VET teachers need to have a VET teacher education exam in order to become permanently employed as teachers.

5.6 Teachers: Austria

Teachers in Austrian VET schools are differentiated to several categories, and also differ per sectors. The teachers of vocational subjects are mainly professionals in the vocations; their identity as teachers has been comparatively weak till now. A recent reform has subsumed the VET teachers to the general teachers, and strongly increased the educational content. It remains to be seen how this will work in practice. Practical experience in the vocations was a main requirement for access to teaching positions, and it is quite common that teachers in VET school work part time and run part time an enterprise or work in their profession beside teaching. This is seen as a main mechanism to guarantee up to date skills, and thus quality teaching (Lassnigg, 2002).

In the public quality discourse teachers hold an ambivalent position. The media are mainly critical towards teachers, whereas the teachers' interest organizations, seconded by some experts, see the teachers as victims of adverse societal changes and of misguided educational reform initiatives.

5.7 Supervisors: Sweden

With the reform of 2011 with the focus of improved quality in VET, the government allocated specific funding for universities for development programmes for supervisors in workplaces. The supervisors can take a web course, or a course with five days campus meetings at a university. For supervisors that travel to university campus meetings, the National board of education pays for travelling expensed that exceed € 20. There are yet no report that stage the total number of supervisors that have fulfilled these courses.

5.8 Supervisors: Austria

A main gap in Austrian VET is the lack of preparation of apprenticeship supervisors in training methodology. There is only a week requirement as part of the master examination, and even

the persons examined are not required to be supervising. So, apprenticeship training mostly occurs beside regular work, reflecting the small number of apprentices in most enterprises.

This dimension is mostly neglected in Austrian quality discourses. In apprenticeship the quality of the work environment, and the opportunities it provides for learning is in fact the main issue of quality. However, this aspect is more or less completely suppressed in the discourse, in which the economic chambers are a leading force, who clearly have to defend their members. The structural problem is inadequately turned into the issue of individual 'black sheep' among employers.

6   Conclusions

The quality discourses and efforts of quality assurance of VET are vivid and ongoing in both countries. However, our investigation and attempt to compare show two very different educational contexts and governance of VET. Although the context and the structures differ widely, the results show how the reasoning about the VET sector in both countries focus strongly on quality improvement. The politics of VET is striking regarding Sweden, whereas the description and analysis of Austrian VET show how different sectors, stakeholders and ministries involved.

How quality in VET is to be accomplished varies both at national levels, and as shown in recount of VET in Austria, due to stakeholders and different ministries One clear difference that exemplifies different solutions to improve quality in VET is VET teacher education. In Sweden, a short programme was established in 2011 with this ambition, in Austria the idea of a longer programme for VET teacher qualification is the prevailing idea for the improvement of quality in VET.

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Training Agencies as Intermediary Institutions in Apprentice Training in Norway and Switzerland: General Purpose or Niche Production Tools?

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Abstract

Norway and Switzerland have both introduced training agencies (TA), local intermediary organizations of employers, which attend to the needs of firms involved in apprentice training. The starting point for the formation of TA in the two countries was roughly similar: They were considered in terms of building new structures that enabled more firms to participate in apprentice training. However, TA have developed differently in the two countries. In Switzerland, only 2- 3 percent of apprenticeship contracts are concluded within a training agency, and the development has stagnated. In Norway, 80 percent of the apprenticeships are organized through training agencies. How can this difference in outcome be explained? The paper finds that the two national VET systems and their development paths provide different habitats for the development of TAs as intermediary institutions, and that the TA in Norway and Switzerland have developed different profiles. The Norwegian TA are low cost, they do not intervene in firm autonomy, and have succeeded in balancing the logic of membership with the logic of influence. The Swiss TAs are high cost and challenge firm autonomy in decisions on recruitment and rotation of apprentices. While the Norwegian TA have developed into general purpose tools, the Swiss have evolved into a niche for a small selection of firms with special requirements.

Keywords

VET systems, training agencies, intermediary organisations

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1   Introduction

The search for new policy instruments and institutions in vocational training has been a constant feature in most European countries since the millennium (Culpepper, 2003). As most national educational systems have reached a stage where (almost) the whole cohort of youth enrol in upper secondary education, there is a new awareness of the role of apprenticeship and the virtues of firm-based training. Norway and Switzerland started in the 1990s to launch training agencies (TA), local intermediary organizations of employers, which attend to the needs of firms involved in apprentice training. In both countries, the starting point for the formation of the TA was roughly similar: Training agencies were considered in terms of building new structures that enabled more firms to participate in apprentice training. In Norway, TA were expected to strengthen the quality and boost company-based training in order to enable a considerable enlargement in the provision of apprenticeships (Michelsen & Høst, 2004). In Switzerland, TA were intended to solve problems of dual-tracked VET provision in a period of shortage of apprenticeship places, but also to enlarge the skill set of apprentices (Walther & Renold, 2005). However, TA have developed differently in the two countries. In Switzerland, TA seems to appeal to a small number of firms engaged in apprentice training, as only 2-3 percent of apprenticeship contracts are concluded within a TA, and the development has stagnated. In Norway, by contrast, hiring apprentices through a TA have been increasing and today comprises around 80 percent of young people's apprentice training contracts. This contrast in outcomes raises an interesting research question: How can the difference in outcomes between the two countries be explained?

1.1   Theoretical perspectives: Training agencies as intermediary institutions

Relevant streams of research for cross-national comparisons of TAs can be identified in theories of neo-corporatism (Streeck, 1987, 1992) and theories of skill formation systems (Busemeyer & Trampusch, 2012a). Focus of these theories have been on the precarious role of relations between the state and employer organizations. We argue that there is a need for extending this focus, and that new institutions like TA fruitfully can be analysed as intermediary organizations, that is, social formations that have other organizations as members (Streeck, 1987). Intermediary institutions and their policies could be regarded as a product of the values, perceptions and interests among members, the logic of membership. They have to adapt to a diversity of expectations in their domains, as not all members have similar interests. In this type of perspective, the focus of the analysis is on agency-membership dynamics, internal governance structures, and the ability of the agency to serve member interests. Intermediary institutions also mediate between the members and the institutional task environment in which they are embedded. In this particular logic of influence, they have to communicate with representatives from public authorities or para-state institutions, secure legitimacy, honour obligations and seek practical solutions. Intermediary institutions have to balance the logic of membership and the logic of influence in order to achieve autonomy. TA with little or no discretion in its relation to member firms might look like loose networks without a stable centre and will probably find it hard to develop long-term training strategies and fruitful engagement with public authorities and actors. Through prolonged and systematic interaction with regulatory agencies, however, TA might obtain access to resources and legitimacy in return for paying heed to and adhering to their policy agendas. TA can therefore be considered as hubs in the public policy implementation chain in VET. However, if the agencies develop too far in this direction, they might look like the equivalence of public control institutions and loose the loyalty of their members, which might defect.

The emerging literature on collective skill formation systems allows us to sharpen the argument in comparative terms (Busemeyer & Tampusch, 2012b). The approach focuses the

embeddedness of training institutions in networks of political and socio-economic institutions. These networks are not considered as a result of rationalistic processes of deliberation among firms searching for optimal investments in training. Instead, it is related to the historical formation of actor constellations, where decisions on the division of labour between firms, associations, and the state in providing, financing and monitoring skills is at the core. The formation of a new mediating institution intervenes in these relations, and in that process the TA are shaped by these relations as well as reshaping them in to more structurally diverse systems.

Historical institutionalist approaches suggest that historical regime differences and legacies remain crucial for understanding how different countries experience new structural problems and why they have different capacity to act and react on them (Trampusch & Busemeyer, 2012b; Thelen, 2004, 2014). They emphasize the resilience of institutions and practices and the significance of path dependency. Under conditions of change and new government policies for inclusion and quality, the requirements from member firms and external stakeholders might play out in different ways. The development of VET and apprenticeships in new areas can be seen as a strategy for incremental change but also as a catalyst for a transition to a new regime more adjusted to universal educational systems. Intermediary institutions like TA might play an important role in establishing new apprenticeships through the formation of supporting networks. They might also try to spur more radical reform in member orientations.

1.2 Measuring profiles of training agencies

In order to map the division of labour between the member firms and the TA, as well as between the TA and external actors we propose four different dimensions upon which agency profiles can be investigated. These dimensions are presented in the form of four different questions focusing "who does what": Who trains, who pays, who monitors and who recruits. The first three questions are adopted from the political economy on collective skill formation systems (Busemeyer & Trampusch, 2012b). Because recruitment is an important area of cooperation and possible contention, we propose a forth question on that topic. Answers to these questions provide a basis for analysing the TA profiles in relation to country specific VET systems and the position of the TA in line with theories on the workings of intermediary organizations. The four dimensions are analytically separate, but in reality, interrelated.

Who trains?

In general, the apprentices are considered as embedded in the firm structures in which they are located or trained. Membership in TA allows the production of broader as well as more versatile skill profiles that transcends the training capacity of the individual member firm. However, this requires that the apprentice is relocated to other member firms for additional training of various types or to other training venues organized by the TA. As empirical studies show, the construction of inter-firm rotation schemes also challenges the classical relation between the apprentice and the training firm. Multi-site training trajectories expose the individual training firm to poaching strategies and require considerable trust among members. We assume that the fact of who provides the training will affect the power relations between the training firm, the agency and the public authorities, as well as coordination practices.

Who pays?

The central issue here is who pays the costs for the training. Financing issues have a potential for conflicts between members as well as between member firms, TA and the state about the distributions of costs and benefits. The level and structure of financing have implications for the position of the agency in relation to members as well as towards public authorities. High levels of public subsidies of training and low levels of firm investments will probably create a

low threshold for firms to join a training agency and thus reduce the dependency of the TA towards the individual member firm. High levels of firm funding of TA will mean a higher threshold for membership, and high level of dependency of the TA in relation to the individual member.

Who monitors?

Monitoring encompasses traditional forms of recognition, where the individual training firm must obtain VET accreditation from relevant public authorities. Yet, conditions have changed as most European countries have developed national quality assessment frameworks and monitoring today might also comprise gathering of systematic information about the training which the individual apprentice goes through. The extent of monitoring depends on national regulations, how they are practiced and by whom (Busemeyer & Trampusch, 2012b). In collective skill formation systems, strong forms of formal standardization in tandem with a high degree of detailed monitoring can be intimately related to flexible enforcement, providing room for local adjustments and adaption (Gonon & Maurer, 2012). The extent and intensity of information requirements represent challenges for training firms, and the responsibility might be delegated from the member firms to the TA through the application of systems of quality assessment. Nevertheless, the role of the TA might be ambiguous and subjected to different norms and practices. On the one hand, the TA might adhere to older practices and norms, were the member firms can be protected from new demands and expectations from various stakeholders. On the other hand, the agency might evolve into an important agent for the development of new form of quality assessment and their implementation in firm-based training.

Who recruits?

The general view on recruiting emphasizes the tight coupling between the training firm and the apprentice, where the firm recruits apprentices as a source of labor. Recruitment processes are also dependant on the characteristics of the societal transition system from school to work in which the firm is embedded. In these transition systems, TA have a potential role to play as a mediating institution. The first indicator on the role of TA in recruitment would be the division of labor between the TA and member firms. Is the function of the TA confined to branding and PR, screening of applicants or does it also include the organisation of the application process and the final selection of applicants and allocation to the apprenticeships (respectively firms)? The second indicator would focus on the different tests (school report, assessment, performance test, trial day), and the criteria for recruitment that are developed. Do they support universalistic selection processes by relying on criteria like grades) or do they draw on criteria like fitting/matching into the workgroup /firm culture, ability to be on time, low absence, motivation to learn the craft, or the significance of local networks and family relations? Recruitment processes can be linked to a number of different agendas where public authorities might have issues, like for instance the number of training placements or various types of affirmative action, where specific groups are targeted. Here also we might find different constellations in the division of labor between the TA and the members and public authorities, depending on policy contexts, member perceptions and values.

2   Methods and Results

2.1 Cases, data and applications

We argue that a systematic comparison of the Norwegian and Swiss case provides an interesting contribution to the literature on VET reform, intermediary VET organizations and institutional change. Switzerland is often considered as one of the primary examples of a continental

collective skill formation system, where apprenticeship learning in the firm is at the core (Busemeyer & Trampusch, 2012b). Collective skill formation in the form of portable standardized skill profiles acquired through apprentice training is based on some crucial institutional preconditions. Apprentice systems tend to grow in coordinated economies rather than in liberal ones. These structures provide conditions for the formation of collective preferences and the production of productive constraints (Streeck, 1987).

The continental skill formation regimes are characterized by vocational training in firm-specific and industry-specific skills as well as the separation between welfare arrangements/social policies and education, while in the social democratic regimes, there is a tradition for strong state intervention and education (also dual VET) is recognized as a part of the welfare state. Busemeyer and Schlicht-Schmälzle (2014) place Norway in the statist category based on numbers illustrating the strength of the school component in VET. This conceptualization underestimates the undeniable strong collectivist dimension in Norway, where the employers and their organizations play an important role in the regulation of working life and in VET (Michelsen & Høst, 2018). Thelen (2014) distinguishes between two versions of collective skill formation systems, state-led (Norway) and firm-sponsored systems (Switzerland). This suggests that the issue of collective action and the formation of a collectivist orientation on behalf of employers can be solved in two ways, through state-led collectivism or employer-led collectivism, both emphasizing shared interests.

The two different national systems provide different habitats for the shaping of new intermediary institutions like TA, which might lead up to a diversity of outcomes. Norway and Switzerland have a number of similarities, which warrant comparability. Both are normally considered as small consensualist states with a strong collectivist orientation (Lijphart,1999). Even though Switzerland and Norway are organized differently as nation states, they are also quite comparable as far as decentralization, that is, vertical dispersion of authority, is concerned. Vertical dispersion tends to be (but is not necessarily) greatest in federal systems, where powers are formally delegated to sub-national tiers of government, and least in centralized and unitary states. Norway is as example of a decentralized unitary state, while Switzerland is a federalist state. This feature presents problems as conditions for LTA formation vary somewhat between the different Norwegian counties and the Swiss cantons.

We have charted the evolution of the model of TA, the tasks they perform and their relations to member firms and external stakeholders (state/municipalities/para state organizations) in the period 1990-2015. In addition to public sources, we rely on two surveys of the entire population of training agencies and their affiliated companies in Norway in 1997 and 2014, and an evaluation (questionnaire) which comprises all training agencies and their affiliated companies in 2008 by the Swiss federal government (BBT 2008). Furthermore, we have collected a broad set of interview data from a selection of TA and their member firms, from Switzerland (2011-2014) and Norway (1997 and 2014). The research groups have also interviewed representatives of the federal government of VET and the conference of cantonal ministers of VET in Switzerland, and the national VET council, the national educational authorities, the regional VET-councils and the county councils in Norway. The data have enabled us to compare the TA in Switzerland and Norway, in terms of organization of relations between the training firms, the agencies and external stakeholders along the four above-mentioned dimensions.

2.2 Mapping TA questions and findings

Table 1: Profiles discovered in Norway and Switzerland

Questions/countries	Norway	Switzerland
Who trains	The individual member firm	Rotation between member firms
Who pays	High state subsidies. Low firm costs	No or low state subsidies. High firm costs
	Low firm costs	High firm costs
Who monitors	Accreditation of the firm through public steering at a distance	Accreditation of the firm through site visits
	Individual apprentice rights and firm obligations monitored by TA documentation of training. Documentation required for skilled workers test and certification	No national instrument document or tool for monitoring individual training
		TA responsible for quality assurance of in-company training
	TA mediation and documentation central in the negotiating of grievances	TA mediates in cases of problems between company and apprentice
Who recruits	The individual member firm	The training agency
	Training agency branding and screening	Individual member firms sometimes try to regain influence
	Mixture of collectively organized/individualized transition system	Individualized transition system

The profiles discovered in Norway and Switzerland suggest that TA formation is not just a matter of quantity (80 versus 3 percent) but that the differences are also qualitative. The TA are differently placed in the two VET systems, which are characterized by different dynamics and relations between training firms and the state.

3 Conclusion

At face value, TA were devised as relatively similar solutions to capacity problems in apprentice training in Norway and Switzerland. However, the comparative study of the profile of these institutions seems to indicate that they have evolved into solutions to different problems. As such, their respective profiles have been strongly influenced by the institutional environment, which they were assumed to impact, but in different ways. These differences could be attributed to the character of the Norwegian and the Swiss VET systems and their development paths. In Norway, the training agencies have developed parallel to a remarkable growth in the apprenticeship system. They have evolved into general purpose tools, where a highly heterogeneous membership of training firms, covering more than 80 percent of all apprenticeships, seem be able to benefit from their services. Joining a TA is comparatively cheap, and the state provides heavy subsidies. Practices of TA in recruiting and training do not challenge member firm autonomy.

In Switzerland, TA seem to have found space in a niche where a more selective number of training firms, representing only 2-3 percent of all apprenticeships, find such arrangements beneficial. The central position of the TA in recruitment and rotation practices seems to create tensions (Leemann & Imdorf, 2015), and the membership costs are high compared to the

Norwegian situation. In Norway, the TAs have grown into a new and important structural component of the VET system. This was by no means intended and has created new tensions. The National Federation of Employers as well as some county municipalities have developed a wary eye towards the "uncontrolled" growth and fuelled demands for new regulations containing this process. The Central Trade Union is critical to the private TA-system taking over public tasks. However, the shaping of the TA also suggest that they have adjusted to long term institutional conditions structuring the Norwegian VET system, its voluntarist moorings and the autonomy of the firm in skill formation. This is interesting, considering the strong welfareist foundation of Norwegian upper secondary comprehensive education. Despite the formal integration of apprenticeship-system in the upper secondary education, there is still considerable distance between the school part and apprentice training in the firm.

In Switzerland, the autonomy of the apprenticeship-system is traditionally highly valued and represents the dominant form of upper secondary VET. Around two thirds of the youth cohorts enter the labor market through the apprentice system. The contrast to the Norwegian trajectory where apprenticeship has grown from a marginal phenomenon to comprise approximately 30 percent of a youth cohort is considerable. The Swiss data suggest that some TA have been installed by (para-)state actors with the objective to recruit member firms and create training positions for socially disadvantaged youth, while other TA have been founded by professional organisations, aiming at improving skill profiles by rotation. Moreover, some firms were requested by local authorities to join the TA (e.g. public transport, hospitals). The result has been the construction of a marginal niche for (para-)state actors and firms with special requirements and problems. In contrast to the Norwegian case, the normative structure circumscribing Swiss VET makes it hard for the federal and cantonal authorities to intervene by means of heavy financial incentives. Much of the tensions in the Swiss TA have focused on the problems of rotation as well as insider-outsider issues and the development of more inclusive practices in recruitment (Leemann & Imdorf, 2015; Imdorf & Leemann, 2012). The combination of TA control of recruitment and coordination of rotation practices represent a strong challenge to the employer dominated Swiss system and the autonomy of the firm in skill formation. Actually, the external imposition of such practices could be compared to the logic of school-based, statist VET systems, where pupils are allocated to and placed in schools. Developing in this direction would imply a major transformation of the Swiss VET system, where the role of the firm in apprentice training is reconfigured.

This also finds resonance in neo-corporatist approaches. In the Norwegian system TA seem to have developed a balance between state demands and member needs. Strong state commitment in the form of encompassing reforms in upper secondary education, high public subsidies, NPM oriented governance regulations and practices have given the TA a significant position in the space between the firm and public authorities. They participate in publicly organized transition processes of pupils to apprenticeships as well as in monitoring of training quality and the handling of individual grievances. They do not intervene in firm prerogatives in recruitment and shelter the training firms from direct state intervention. The contrast to the Swiss situation is staggering. In this context, federal and cantonal intervention is quite moderate. Our interpretation is that this constellation has furnished the Swiss TA with scant possibilities to excerpt influence in their dealings with other stakeholders.

These findings firstly suggest that state commitment and member involvement cannot be seen as a zero-sum game in the shaping of TA. The Swiss TA intervene more strongly in member firm autonomy, but they are also more dependent on member contributions than their Norwegian equivalents. The Swiss TA do not produce much added value in relation to the state/the cantons, as the state/cantons in general seems more passive and less interventionist. The Norwegian educational authorities are more active, producing a different kind of configuration. Then there is the issue whether the Swiss TA can be seen as catalysts for a transition to a new

regime more adjusted to universal educational systems. Compared to the Norwegian TA, Swiss TA seems full of internal tensions. Their potential for developing influence in relation to external stakeholders seems small, and so are the prospects for developing autonomy in relation to their member firms.

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Perception of One's Own Transition: Young Adults with Different Risk Patterns Describe their Vocational Orientation Process

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Abstract

A key requirement for being an integrated member of our achievement-oriented society is the successful transition from school to work. This article aims to present a multi-dimensional point of view on de-standardized vocational orientation processes. Vocational orientation therefore is understood as an active, constructive process of young adults, which are socially and institutionally bounded. Data is based on a mixed-method design with 406 young adults who completed a standardized questionnaire and 12 qualitative interviews. With this design, we aim at answering the following questions: (1) which patterns of risk can be identified and (2) how representatives of different risk patterns describe their individual vocational orientation process. Three groups of risk patterns were conducted by latent class analysis, which differ not just in terms of individual factors but also regarding social resources of family, school and workplace. If we take a closer look at the individual perception of vocational orientation by representatives of these groups, vocational orientation has been perceived differently depending on one's agency.

Keywords

vocational orientation, risk patterns, agency

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1 Introduction

Being accepted as an integrated member of our achievement-oriented societies is related to one's integration into the labour market. A key requirement concerning this integration is the successful transition from school to work (Blossfeld et al., 2011; Kogan et al., 2011). Related to this, two transitions are crucial: The first transition from compulsory school into vocational education and training, or another post-compulsory education, and the second transition into the labour market. The successful management of the described transitions is especially relevant in employment-centred transition systems like in Switzerland (Gonon & Stolz, 2013; Walther, 2006). In comparison to other transition systems, employment-centred transition systems are characterised by early selective allocations into different career paths and low acceptance of prolonged transitional phases (Walther, 2006).

Switzerland has a low unemployment rate and a well-established system of vocational education and training. A large percentage of youth gain direct access to vocational education and training or further education after compulsory school. Because of this well-known successful structure and the importance of transitional processes, young adults experience high pressure to be successful during the transitional processes. This is even more crucial, as the transition is highly decisive for further success in the labour market (Stolz & Gonon, 2013). Nevertheless, about 25% of youth face challenges and failures while trying to manage the first transition (Kriesi et al., 2016; Berweger et al., 2013). Young adults who fail to enter vocational education and training or further education directly, are challenged regarding their vocational orientation. Due to the outlined importance of success concerning the transitions from school to work, there are several formal support offers (e.g., special vocational orientation provided by compulsory school, career guidance, a year of pre-vocational training) and support provided by persons (e.g. parents or friends) that intend to support young adults regarding the accomplishment of transitional processes. These support offers vary with regard to their accessibility for different groups of youth.

The current study aims at analysing individual vocational orientation processes of different groups of youth.

After a summary of the current state of research, research questions for this study will be derived in section 2. Afterwards, section 3 contains theoretical background, while the methodological approach concerning the investigation of the research questions will be illuminated in section 4. Section 5 pursues to report the results. A summary and final conclusion will be drawn in section 6.

2 State of research and research questions

While there are several studies in Switzerland with a limited focus regarding specific sections in the transitional processes, there are only a few which present a broader focus on the whole vocational orientation process (e.g., TREE-Study by Bertschy et al., 2007; FASE B by Neuenschwander et al., 2010). These studies focus on the social and structural patterns of vocational orientation.

With regard to transitional processes, several studies report correlations between difficulties concerning the (first) transition and several risk factors (Scharenberg et al., 2016; Häfeli & Schellenberg, 2009). These risk factors include, according to the authors, individual, family-based, school- and workplace-related risk factors (ibid.). Research on individual risk factors comprise factors related to the person such as gender, migrant background or academic achievement (i.e., Hupka-Brunner, et al., 2016). Research on family-based risk factors include in particular the influence of parental aspirations or the relationships to parents, sometimes in combination with migrant background of the family (i.e., Neuenschwander et al., 2016). School-related factors include career guidance of different actors while workplace-related risk factors

consider motivational aspects as identification and satisfaction with the chosen profession, occupational self-efficacy and professional fit.

To sum up, research on vocational orientation is mainly focussed on certain moments in transition, while a processual viewpoint with the individual as an agent of his vocational orientation is rarely examined. Furthermore, as young adults in transition cannot be seen as a homogeneous group, there should be more research that takes into account a multi-dimensional approach of different risk factors.

Referring to the outlined lack of research, this study seeks to answer the following research questions:

1. Which patterns of risk can be identified and characterized within the vocational orientation process?
2. How do representatives of different risk patterns describe their individual vocational orientation process?

The first research question aims at giving a more concrete picture on different patterns of youth at risk, taking into account already existing theoretical multi-dimensional approaches (Häfeli & Schellenberg, 2009). The second research question illuminates the agency of individuals (see Evans, 2002) within their vocational orientation. Both aspects will be reflected in the following section.

3 Theoretical background

3.1 The complexity of vocational orientation

There is a lot of theoretical and empirical evidence which points out the ongoing de-traditionalisation and individualisation of modern societies (e.g., Beck, 1992). Transitions from school to work have become fragmented and reversible, or as Walther (2006, p. 121) calls it *"Yo-yo-transitions"*. Vocational orientation can therefore no longer be seen as a one-time decision for one's working life but as an ongoing process starting at an early age and enduring in adulthood. Still, the transition from school to post-compulsory education and training and later into work is of long-term importance for one's vocational orientation. This is especially true for employment-centred transition systems as in Switzerland. In these countries young adults are navigated towards an early integration into standard trajectories or/and into the labour market (Blossfeld et al., 2011; Kogan et al., 2011).

Therefore, vocational orientation is understood as a long-term, active and constructive process that emerges from perceptions und experiences of young adults with a different range of opportunities (Müller, 2009). This definition of Müller (2009) enhances not only the processual character of vocational orientation but also understands the young adult as an actor in this process in interaction with his environment. This environment can be perceived as enabling or limiting one's vocational orientation.

3.2 Agency and risk factors

As we perceive vocational orientation as at least partly individual-driven, this theoretical perspective is in line with what Evans (2002, p. 262) reflects in the concept of *bounded agency*. *Agency* stresses the individual, proactive decision-making process of young adults in their vocational orientation (ibid.). The annex *bounded* refers to the limitation through structural foundations and ascribed characteristics of one's action (ibid.). These ascribed characteristics were discussed as so-called "risk patterns". Risk patterns comprise of individual and environmental characteristics that are associated with difficulties regarding the transition from school to further education or/and training and later into the labour market (Gebhardt et al., 2017). As Häfeli

& Schellenberg (2009) show, these risk patterns include a variety of individual, familial, school- and workplace-related risk factors. In addition to the need of a multi-dimensional perspective on "youth at risk" the interpretation of such "risk patterns" from an individual perspective is of interest. It is important to take into account the complexity of biographical and structural aspects interrelating in one's vocational orientation.

4   Data and method

To acquire a better understanding concerning the complex and long-term transitional process from compulsory school to vocational education and training, and further into the labour market, we combine a quantitative survey and a qualitative study that were both carried out in the German-speaking part of Switzerland. This mixed-methods approach is designed as an explanatory sequential design, as the qualitative sampling procedure was based on results compiled within the quantitative study (Creswell, 2014).

Quantitative data (n=406) was gathered using a standardized questionnaire, including participants involved in a longitudinal sample (questionnaires distributed in 8th and 9th grade, and three years after), and young people who attended a specific transitional program (one year of pre-vocational training) during 2010, 2011 or 2012. The questionnaire contains questions and items concerning risk factors, transitional paths and the perception of the used support offers. The validity and reliability of the used scales were statistically proven.

The identification of different risk patterns (RQ 1) was tackled applying latent class analysis (Muthén & Muthén, 2012; Collins & Lanza, 2010). Various individual (gender, migrant background, academic achievements), family-based (educational aspirations of parents, relationship to parents), school-related (support provided by school, special career lessons and teachers) and workplace-related (perception of one's own autonomy and competence in the course of an apprenticeship) risk factors were included within the latent class analysis (based on Häfeli & Schellenberg, 2009).

The sampling process concerning the collection of qualitative data was based on the identified distinct risk patterns, due to the researchers' aim to interview participants with different combinations of risk factors. Twelve problem-centred interviews were conducted and analysed by using qualitative content analysis (Mayring, 2015). To gain a deeper understanding regarding the agency of vocational orientation of youth with different patterns of risk (RQ 2), perceptions of interviewed participants about their individual experiences and thoughts on their vocational orientation process were analysed.

5   Results

5.1 Descriptions of distinct risk patterns

To analyse in a person-oriented approach similar patterns of individual characteristics – in our case patterns of risk – we chose latent class analysis (Collin & Lanza, 2010, p. 8). Due to empirical quality criteria for latent class analysis, a three or four class model is the most appropriate, with the recommendation to choose the few classes possible (ibid, p. 109). An overview of the criteria for the decision-making process is depicted in table 1.

Table 1   Results of latent class analyses to identify groups of risk

Latent classes	AIC	BIC	aBIC	BLRT	Entropy
2	6200.417	6312.525	6223,678	-3138.593***	0.809
3	6132.121	6288.272	6164.520	-3072.208***	0.702
4	6085.754	6285.948	6127.292	-3027.060***	0.771
5	6052.372	6296.609	6103.048	-2992.877***	0.730

Note. *** p < .001

For all of the class solutions BLRT is significant, as the other criteria do not give a clear hint for decision-making. With one exception, AIC, BIC and aBIC are smaller, the more classes are included in the model. Values concerning entropy vary. Considering additional content-driven reflections on these solutions, a three-class model seems preferable.

The following table 2 facilitates an overview of the characteristics of all three conducted risk patterns, which will be discussed in the following section.

Table 2   Description of distinct risk patterns

Risk group	Academic achievements[1]	Sex % male	Migrant background % native	ESCS[2]	Aspira-tion (pressure by parents)[3]	Relationship to parents3	School-related factors3 (sum)[4]	Workplace-related factors3 (sum)[5]	% sample
Good initial position, many social resources	513	32%	86%	0.32	2.49	3.52	2.58	3.16	66% (n=267)
Moderate initial position, few social resources	465	23%	44%	-0.21	3.29	2.24	2.30	2.82	13% (n=51)
Bad initial position, many social resources	403	41%	0%	-0.85	2.92	3.58	2.69	3.14	21% (n=87)

Note. 1 Based on the achievement-points of a standardized test called "Stellwerk" with a range of 200-800 points, which aims at locating one's personal achievement in the 8th and 9th grade of compulsory school. 2 z-standardized, based on the mean of the indicator. 3 Based on the means on a scale from 1=strongly disagree to 4= strongly agree.. 4 School-related risk factors include 11 items on career guidance through 1) teachers, 2) career educations lessons and 3) schools. 5 Workplace-related risk factors include 14 items on the experience of 1) autonomy, 2) competence and 3) social integration

The first pattern (66% of sample) is characterised by the designation "good initial position, many social resources", because participants exemplify relatively high academic achievements, a prosperous socio-economic background, seldom migrant background, well-perceived vocational preparation provided by school and workplace, and supportive parents. Pressure exerted by parents is comparatively low. To sum up, this risk group barely faces risks. The risk level of

the second group (13% of sample) can be designated as "moderate initial position, few social resources". In comparison with the two other groups, academic achievements as well as the socio-economic background are middle-sized, while the perceived parental pressure is relatively high and relationships between youth and parents are rated quite low. Furthermore, support provided by school and workplace is assessed comparatively low. The third group (21% of sample) can be described with the phrase "bad initial position, many social resources", because academic achievements and socio-economic background are considerably lower compared to the two other groups, whereas support provided by parents, school and persons at workplace is assessed relatively high.

These risk factors were the basis for the subsequent qualitative survey that was conducted with members of the different risk patterns. The following section will focus on a deeper understanding of individual vocational orientation processes, by giving participants of the three patterns a voice.

5.2 Perceptions of the vocational orientation process by different groups of young adults

Based on the deductive-inductive process of a structured content analysis, two main categories characterise the vocational orientation process. The main category *vocational choice* was inductively sub-structured into: *already existent, independent, adjusted, and rational decision*. In addition, another main category summed up different challenges. All interviewees report the lack of *career choice readiness* and the feeling of *vocational orientation as a coincidence* as most challenging regarding their vocational orientation process.

In the following sections, we mention differences in these two categories by the three identified risk patterns.

Starting with the group "good initial position, many social resources", interviewees (n=4) describe having long-term occupational aims but also having to adjust them due to the fact that their aims turned out to be accomplishable or unrealistic. Vocational aims were therefore conceived as reversible in alignment with personal capabilities. These adjustments were not perceived as a biographical failure, as shown in the following excerpt:

Adrian: I think I just thought... in this case, this is not how it's going turn out. If one door closes, another open. I'm actually grateful that it turned out this way.[1]

So even in times of high uncertainty, Adrian sees his vocational orientation as little challenging. He further perceives information during vocational orientation as sufficient and experiences a lot of emotional and concrete support of his parents.

In contrast, participants of the risk pattern "moderate initial position, few social resources" (n=5) do not report an existing strategy in their vocational orientation. One main challenge which is perceived is a lack of information. They consider their occupation-related decisions as coincidental and with long-standing consequences.

Kavitha: In my opinion one could show children a more diverse picture of professional options. (…) I have the feeling, we all have been thrown in at the deep end: "now go for it" and then you either interrupt your apprenticeship or you go on with it. You have to look after yourself. And I know A LOT of people which actually stopped their apprenticeship because it wasn't what they expected. I for example, I didn't dare quit, I had the feeling I wouldn't find anything else.

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[1]   The interviews were conducted in Swiss German with an idiomatic translation to English.

As shown in the quotation by Kavitha, vocational orientation is perceived as barely self-directed. The reason given for this lack of orientation is not having had enough information concerning occupational options or further education and concerning conditions of apprenticeships. In contrast to an active decision-making process within this disorientation, Kavitha chooses to stay in her apprenticeship due to anxiety of not finding another solution.

In the group "bad initial position, many social resources" (n=3), vocational orientation was described as being self-regulated. Challenges and failures occurred while trying to find an appropriate apprenticeship due to individual deficits during one's vocational orientation process.

Jane: So, I already began searching for an apprenticeship in the third year of secondary school. I was ready and knew I wanted to do business administration (.) but I didn't find anything. I wrote about 50 applications and I always received rejections. I thought: I don't want to do anything else. So, I started a year of pre-vocational education and training. There I wrote 8 applications and received 4 confirmations.

In contrast to the flexibility of Adrian and the disappointment of Kavitha, Jane describes her vocational education as a self-regulated process. Despite her failure to find a direct entrance into post-compulsory training, she sticks to her original plans. Individual deficits as low performance in lower secondary school or problems during the application process can be managed as the individuals of this group report coping strategies in their vocational education. While parents were not reported as playing an important role, interviewees refer to other social resources, which they knew to activate when needed.

6   Conclusion

To sum up, we identified three groups of risk patterns, which differ not only regarding individual factors but also due to social resources provided by family, school and players at workplace. In particular, it is interesting that very different risk factors have been identified in two of the three groups: In the one group, risk is mainly due to low academic achievements and low socio-economic background, whereas in the other group, risk is characterised by low social resources. Compared to the former groups, the third group hardly faces any risks. Representatives of both groups with many social resources (no matter their good or bad initial position) describe themselves in the interviews as active agents of their vocational orientation while the group with few social resources perceive their vocational orientation barely self-directed.

If we embed the results of this mixed-methods research into the present discussion about vocational education processes, we see frictions between trends towards de-standardised transitions and the perceived lasting or even increasing importance of early career choices in Switzerland. So even though transitions from compulsory school to further education and training were increasingly reversible and fragmented according to Walther (2006), interviewees describe as a main challenge the lack of career choice readiness and the feeling that career choices at this age not as a controlled decision but a coincidence in one's biography. To be an agent (see Evans, 2002) of one's vocational orientation, the existence of social resources can be seen as a core aspect. Switzerland has an employment-centred transition system, which takes place at an early stage in peoples' biographies. The main challenge for young people is not whether they participate in post-compulsory education or training – as it could be the case in sub-protective or liberal transitional systems – but whether this transition has been self or external directed (Walther, 2006). Agency is of high importance, as in Switzerland the chosen path of post-compulsory education has a long-during impact on later career paths (Gonon & Stolz, 2013).

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Teacher´s Constructions of Differences in Vocational Schools for Pedagogical Professionals

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Abstract

Heterogeneity and inclusion are current concepts in vocational schools for pedagogical professionals. The following article deals with an ongoing research project in the field of teacher education for vocational schools in Germany. As part of a research program for teacher education, this project focuses on processes of creating, working on and reflecting on differences (Sturm, 2016) by (future) teachers. In order to design an inclusive teaching practice, it is important to know more about how teachers construct difference. The fundamental research conducted in the context of this project contributes to filling the gaps of previous empirical findings (Sturm, 2016; Burda-Zoyke & Joost, 2018) and specific demands of socio-educational courses. Given the relatively limited amount previous research on the inclusion-oriented handling of heterogeneity in vocational training, especially in socio-educational programmes, group discussions were conducted with vocational school teachers. In this article, the theoretical and methodological approach is introduced. The article concludes with an outlook on the future implementation of the results and development of teacher education.

Keywords

reflexive inclusion, vocational training for educational professionals, construction of differences

1   Introduction

The paper focuses on the theoretical framework of the research project and discusses the opportunities and challenges in the context of didactics of social education. First of all, the paper reflects on inclusive education between international demands and challenges of the examined field, the German social education, followed by the theoretical frame of heterogeneity and difference. Subsequently an overview of the research design, the methodological approach as well as an outlook on the processing of the research data is given. Finally, the possibilities of a future implementation of the results and the development of teacher education are presented and a reference to the European context is given.

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1.1 Inclusive education – international requests and national challenges

Inclusion is a human right. Currently, the most important policy document is the United Nations Convention on Rights of People with Disabilities (CRPD) (2006), which most European countries have signed.

"Internationally inclusion stands for the human rights-based program of a comprehensive de- segregation of marginalised individuals and groups disadvantaged in social participation that encompasses all areas of society" (Häcker & Walm, 2015, p. 11, translated by the author).

Special attention is drawn to CRPD-Article 24 which states: "(…) States Parties shall ensure an inclusive education system at all levels and lifelong learning (…)" (United Nations, 2006). Even though the challenge of inclusion concerns society as a whole, in most cases the field of education is held responsible for developing and implementing useful concepts. Currently, high expectations are put on inclusive education. However, a lack of substantial definitions and concrete concepts is evident. In summary, inclusion is both a mission statement (Friese, 2015, p. 149) and a process (Häcker & Walm, 2015, p. 11). So, inclusion is first a political guiding principle that now has to be designed pedagogically. That means, that inclusion especially is a process, "evolving inclusive strategies" (Booth & Ainscow, 2002, p. 8).

„Inclusion involves changes. It is an unending process of increasing learning and participation for all, an ideal or aspiration that is never fully reached. There is no fully inclusive setting. (…) An inclusive setting then may best be described as one that is on the move" (Booth et al., 2006, p. 5).

The claim that the inclusive process applies to all educational institutions is the same worldwide; from childcare to school and to university. In contrast, the design of the process and strategies of inclusion vary across countries and related to administrative, financial and educational regulations (Meijer, 2010). In Germany, legal requirements have been adopted in recent years, such as: "Guidelines for the Education Policy of the German Commission for UNESCO" (DUK, 2014) or the Recommendations for schools for diversity published by the Conference of Presidents and Rectors of Universities and other Higher Education Institutions and the Standing conference of the State Minister of Education and the Arts in the Federal Republic of Germany (HRK & KMK, 2015). In summary, these guidelines emphasize the didactical perspective such as individual advancement, the cooperation within and outside the school and last but not least teachers' attitudes to inclusion and heterogeneity (Burda-Zoyke & Joost, 2018, p. 16). This latter topic is also the starting point of the research project.

1.2 Research project

The research project „Recognising heterogeneity in socio-educational courses" (Heterogenität in sozialpädagogischen Bildungsgängen (an)erkennen, January 2016 - June 2019) is part of the research programm "DoProfiL- Dortmund Profile of inclusive teacher´s education" funded by the Federal Ministry of Education and Research (BMBF) in the as part of initiative "Qualitätsoffensive Lehrerbildung" (teacher education quality initiative). The funding programme helps universities to modernise and adapt their teacher education programmes to new demands as new media, inclusion or an increased practical orientation (BMBF, 2017).

The focus of the sub-project is the reflective perception and dealing with heterogeneity in socio-educational courses. The project aims at raising awareness among students regarding to a conscious and reflective approach to difference in class by dealing with the processes of creating, working on and reflecting on differences (Sturm, 2016). Specifically, the students learn to deal with individual ideas of heterogeneity and to recognise the influence these ideas have on their own lesson planning as well as their own teaching practices.

Therefore, previous empirical findings in the field of general-education schools need to be clarified with regard to socio-educational programmes. In addition, with regard to teacher education, the question arises whether specific differences are particularly relevant. The processing

in this sub-project takes place via two approaches: One is a conceptual approach, where a teaching concept for teacher education is developed against the background of the reflection processes described above. As this requires deeper knowledge on how heterogeneity is dealt with in socio-educational courses, the second approach is about the conduction of group discussions with vocational school teachers.

1.3 Background: Teachers in school-based programmes for educational professionals

For a better understanding, a short outline of teachers in socio-educational courses is given. Vocational education in Germany is offered in the form of the dual system and in full time schools. This school-based vocational training is offered in a wide range of school-based programmes (Hippach-Schneider & Huismann, 2016, p. 21). It is very common in professions like nursing/social pedagogy, nutrition and health/care. Hence there are many educational programmes, types and levels of qualifications for pedagogical professionals. For example, the most famous qualification is called "staatlich anerkannte Erzieherin", it is a course of training at an upper secondary level including work experience, leading to the official qualification of educator ("Erzieherin") (Oberhuemer et al., 2010, p. 181). "Erzieherinnen" trained in this way are qualified to work in kindergartens and infant-toddler centres and in areas of youth services. But there is only one teacher's education programme with the specialization in social education to train all these educational professionals in different fields.

This teacher´s educational programme for vocational training specializing in social education is offered only at five universities in Germany. Besides that, it should be mentioned that social pedagogy exists as courses of study at universities and universities of applied sciences. However, these are not considered in this article, as the focus is not on the training of social educators, but on teaching social education in vocational training (Gängler & Wustmann 2004, p. 1). Teachers with a specialization in social education represent only one quarter of all teachers in social-education programs while there are many teachers with different qualifications (Kleeberger & Stadler 2011, p. 15). On the other hand, the socio-educational courses have received enormous quantitative expansion in recent years. This is mainly due to changes in the field of early childhood education in Germany and expanding daycare services for children under three resulting in an enormous demand for "educators/Erzieherinnen". Here, the contradiction between expansion of socio-educational courses and a lack of research activity in corresponding teacher education becomes obvious.

1.4 Research in teaching and learning in socio-educational programmes

Practical and theoretical relevance in socio-educational courses requires specific didactics with corresponding research and theory development (Karsten 2003; Gängler & Wustmann, 2004). What is the current state of research? The field of didactics of social education is characterized by a lack of research activity (Karber, 2014). Ursula Rabe-Kleberg (2008) notes that there are hardly any studies available referring to socio-educational courses, the form and content of training or the learning environment or the qualifications of teachers. This statement is still largely valid today and becomes even clearer in the context of personal services occupations. Marianne Friese (2010) describes the research as deficient in terms of qualification and curriculum research, didactic surveys and educational research. Some individual exceptions can be mentioned such as the research projects of the German Youth Institute (Deutsches Jugendinstitut/DJI) or the study by Andreas Gruschka (1986).

In order to design inclusive teaching practice, it is important to know more about teacher's conceptions of difference. In particular this applies to teachers in courses for educational professionals. Inclusion and heterogeneity are current concepts in the debate on vocational education and training. However, in the discourse on inclusive education, vocational schools have

been less focused than other schools and their teachers. This is especially true for courses for educational professionals.

According to previous empirical findings in the field of general-education schools, the following constructions of difference are of special interest: differences along social categories such as gender, socioeconomic status or migration background as well as pupil´s achievement (Budde, 2013; Sturm, 2018). On this basis, Tanja Sturm (2018) identifies important results from various studies such as language and the manner of its use or the orientation towards stereotypical gender roles. Also planning of teaching is dominated by these categories (Budde, 2013). Conversely Andrea Burda-Zoyke and Janine Joost (2018) conducted their study in the field of vocational training. Their empirical findings show, that most vocational teachers tend to be positive towards inclusion, depending on different vocational programmes, forms of disability and heterogeneity categories. These results are now to be reviewed and specified for socio-educational programmes. This is needed because the field is characterized by a lack of research activity and by a contradictory situation, as shown above.

1.5 Theoretical framework – heterogeneity and difference

From a historical perspective heterogeneity is not a new concept. What is new, however, is the orientation towards heterogeneity in school compared to an earlier orientation towards homogeneity. In addition, the term heterogeneity is often used as an indefinite concept and suggests difference as constructed exclusively outside school (Budde, 2017, p. 25). Moreover, heterogeneity and difference are understood as a social construction (Budde 2017; Sturm 2011). Heterogeneity and inclusion are to be understood as concepts that aim at the "interaction of social difference categories, subjectivity and educational practices" (Budde & Hummrich 2015, p. 165, translated by the author). From this point of view difference is not only brought into the school by pupils, moreover difference is socially constructed in interactive situations. Accordingly, due to teaching practice and didactical interaction differences among pupils are (re)produced (Budde, 2017, p. 25). Therefore, the perception, interpretation and recognition of difference between teachers are the basis for a conscious and reflective treatment of difference in the classroom and contradictory demands on school and teaching (Sturm, 2016).

In order to inclusive teaching practices the theoretical framework of this study is based on a reconstructive research approach to teaching practice. For this reason, an essential point of reference in this paper is "reflexive inclusion" (Budde & Hummrich, 2015; Dannenbeck & Dorrance, 2009). Reflexive inclusion describes a specific understanding of difference. Differences are understood as socially constructed and (re)produced in interactions, so that difference categories are the product of social constructions (Budde, 2015). Briefly, the starting point is the development of a critical attitude towards (own) pedagogical practice as well as the reflection of processes of stereotyping and reification (Budde & Hummrich, 2015). Inclusion in this sense means a *process* (see above.), change and transformation, as well as a "specific mode auf reflection" (Häcker & Walm, 2015, p. 11).

Reflexive inclusion aims at the perception of differences, understanding of incorporated social disadvantages and discarding of implicit norms through their deconstruction (Budde & Hummrich, 2015). Therefore, it is important to recognize the dynamics of the social construction of difference. Heterogeneity is not simply existent, but is always created through practical action, differentiation und categorization (Dannenbeck & Dorrance, 2009). In this context the professional orientations of the teachers are of central significance for the implementation of inclusive concepts.

2   Methods

This explorative study refers to the dealing of heterogeneity by teachers in socio-pedagogical courses. Therefore, a reconstructive perspective of school and teaching research is taken.

Research questions refer to the didactical strategies teachers do follow in dealing with heterogeneity and how differences are handled within them.

2.1 Methodological framework and Outlook on the processing of the research data

At this point, only a very brief insight into the applied methodological framework is possible. The methodological framework is based on the documentary method (Bohnsack, 2010; Przyborski, 2014) the approach of which refers to action and collectivity. That means also the "change from the question *what* social reality in the perspective of the actors, to the question *how* this reality is produced or accomplished in these actors' every day practice" (Bohnsack, 2010, p. 102). Practice is understood as action as well as talk, presentation and argumentation.

Referring to the works of Karl Mannheim, access shall be provided to guidelines for action and thus to teaching practices. The documentary method distinguishes two different levels of knowledge - the reflexive or theoretical knowledge and the conjunctive or tacit knowledge. Important components of the documentary method, particularly the interpretation of group discussions, are the distinction of immanent and literal meaning and the process of the discourse as well as to identify its "culminating points in the dramaturgy of the discourse" (Bohnsack, 2010, p. 105).

To reconstruct conjunctive knowledge referring to the documentary method data was collected in group discussions. The requirement is that they must contain descriptions of everyday teaching practice. In this sub-project five group-discussions were conducted. Three to five teachers practicing in vocational training for educational professionals were involved in each group discussion.

"Concerning the practice of research, this methodological difference between the immanent and the documentary meaning, resp. the difference between the observations of the first and the second order, results in a clear-cut separation of two working steps" (Bohnsack, 2010, p. 110). The first step is called *formulating interpretation* and the second step *reflecting interpretation*, which includes the "interpretations in reflection upon implicit self-evident knowledge" (Bohnsack, 2010, p. 110). Later on, the next step of analysis is the step of typification. So far, culminating points in the group discussion have been selected and initial formulating interpretation and the reflective interpretation are currently worked out. Due to the current evaluation, no final results can be presented yet. Only first indications can be given. On the one hand, they refer to previous research; on the other hand, there are references to specific conceptions of difference. The latter refer to a broader range of backgrounds and ages among pupils and thus to the specific framing of vocational training. Further evaluation, especially the reconstruction of conjunctive knowledge, will extract the results more specifically.

3 Conclusion and outlook on future implementation of the results

Following the UNESCO´s statement, inclusive education aims at the realization of the human right of education, equal opportunities and social participation for everyone. This claim needs to be realized by teachers and teaching practice. Against this background and taking into account future inclusive educational practice as a frame for the investigation, empirical findings are required for a contextual supplement to teacher training. Tanja Sturm (2011) argue for gaining more knowledge about conceptions of difference by teachers, because this seems "to deliver interesting ideas and options for supporting teacher training both in- and pre-service. It can already be concluded that didactical understandings as well as the one of one´s profession should be raised and reflected upon within teacher education" (Sturm, 2011, p. 39).

This project tries to put this into concrete terms for socio-pedagogical training. In the future, the results will be incorporated in teacher education such as in form of transcript excerpts as a support offer in the sense of Case-based learning. This is intended to support reflecting teaching orientations.

The demand on reflection in teacher training seems to be relevant beyond the national borders, but the didactical design is related to educational regulations of the countries. But that would be another empirical question.

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Problems of VET Governance and Scope for Improvement - a Comparative View

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Abstract

The panel aims at the analysis of problems in VET governance, according to the framework of VET research proposed at the Vocational Skills Week, Brussels. Issues of multilevel coordination were identified as a main challenge. Examples from four countries (Austria, Germany, Hungary, Italy) are discussed, to illustrate the challenges in governance of VET. Different methodologies are used, and issues of the relationship of central control and local delivery, and about strategic guidance and operative freedom of action are tackled. The German and Austrian examples point from different angels to issues of cooperation between the many involved stakeholders. The Hungarian and Italian examples both give emphasis to apprenticeship policies and show some pitfalls of VET policies because of too weak or too strong power policies.

Keywords

governance, centralisation, responsibility

1 Introduction

This paper includes the contributions to a panel at the ECER conference. The panel aims at the analysis of problems in VET governance in a comparative perspective. It builds on the discussion based on the framework of VET research proposed at the Vocational Skills Week,

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Brussels, 2017. Issues of multilevel coordination were identified as a main challenge. Examples from four countries (Austria, Germany, Hungary, Italy) are discussed, to illustrate the challenges in governance of VET. The examples are sketched in the following sections.

The authors use different methodological approaches, some are more based on literature review, others on reflection of policy evaluations.

2   Comparative Governance studies into dual VET with Germany in the focus (Ludger Deitmer)

In my short reflection I want to study the question why is it so difficult to implement a more integrative governance practise which follows the question: How to improve the quality of dual VET in Germany? Three studies give some input to formulate a first strategy by reflecting some dimensions in VET: allocation operative and strategic functions, balances output and input orientation, consistent legal frameworks and involvement of bodies and actors as well as adequate resources.

The Bertelsmann study (Rauner & Wittig, 2013) studied and compared the governance of dual training systems of Denmark, Switzerland and Austria in contrast to Germany, based on four evaluation workshops involving different country experts. Strong governance follows a concentration of strategic functions on national level and locally more operative flexibility for local VET actors. The study comes to the conclusion that Germany follows a less integrative governance strategy while there is an in-balance of central and local functions. This is notified in several elements of the system, such as: re-configuration of curricula, dysfunctions within the vocational examination process. As regards the allocation of strategic and operative functions, the results suggest that a higher autonomy of the local bodies (companies and schools and intermediate institutions like Chamber) concerning the implementation of vocational training represents a specific advantage of the Danish, Austrian and Swiss system but not for the German VET (Rauner & Wittig, 2013).

A recently finalized CEDEFOP Study (Hauschild & Wittig, 2015) applied a specific expert driven evaluation approach and developed the methods of the study above one step further. The result of these workshops is a 'Governance equalizer' that shows first an ideal configuration based on 6 main and 22 sub criteria. Second, country VET experts developed configurations of the actual status of VET systems in the countries Italy, Spain, Sweden, Latvia and Portugal during five evaluation workshops. These configurations are far away from the optimum and are indicating priorities for strategic attempts. For Italy (Hauschildt et al., 2015, p. 51) it was shown that a more consistent structure of the legal frameworks is needed, and the allocation of the strategic functions should allow a better balance between regional and central functions and support; the quality development and assurance is in need of an more dynamic approach, and more shared financing of public as well as private financial resources is necessary. This study delivers for an action-oriented evaluation approach which could integrate more actors into the governance policies.

Fremy (2018) analysed the governance of an important part of VET: the final examinations. He interviewed examination teams of the German North West region in several group discussions. Two of the examiners came from VET training mechanical engineering companies, and one from the local VET school (VET teacher with professional background in mechatronics). In 90% of the cases the examiners themselves had completed an apprenticeship in their domain and in most cases also attained higher vocational (e.g. Technician or Meister) or academic education (e.g. Engineering).

The apprentices select an innovative and challenging company work order which they have to develop for being tested. Examiners acceptance and rating of the order follows certain assessment criteria: the difficulty level addressing innovative mechatronic workers' skills, but also manageability in terms of time, material, production etc. The interviewees expressed the

need for a better balance between central and local responsibilities. The central regulations are not fitting well to the practices, while clear regulations are also missing. Other parts of the regulation are too much binding the local users, e.g. too concrete criteria. Examiners, moreover, judge them not as being applicable. For example, the given time frame with 20 hours was found as too narrow. In reality, it is exceeded by at least 100%. Other critique points are concerning the assessment sheets and missing attention weight for documentation.

The hypothesis of a balance between central and local functions was agreed. The examiners should have more freedom to expand – if needed – time and frequency of local inspection visits such as meetings with trainers and the apprentices within the training company (Deitmer et al., 2015).

2.1 Conclusions 1: sustaining more integrative governance strategies

A sustainable and integrative governance strategy would mean that the different actors (e.g. trainers, teachers, apprentices who are those ones taking responsibility) coordinate their teaching to allow for a better cooperation of the different learning venues e.g. companies, VET schools, training centres, chambers (Deitmer et.al., 2015; Gessler, 2017). More details for an integrative governance strategy addressing legal frameworks, actor cooperation, allocation of strategic and operative functions, as well as innovation strategies are to be found in the INAP memorandum (Deitmer et al., 2013). The above valorised action evaluation methods could support for a better coordination of the local and central actors.

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3 Centralization and dualization of the Hungarian VET. Concerns and worries (Magdolna Benke)

The level of democratization in the society, the autonomy and responsiveness of different groups, the dialogue and partnership between the key actors, the role of the social partners, the power of the civil sector, all determine the governance of the education and training system of a given country and the degree of centralization in the system (Billett & Seddon, 2004; Rainbird, 2010; Benke, 2015a; Loogma, 2016).

In Hungary the previously decentralized education system has become centralized again. In January 2013, all schools previously maintained by local or county governments were taken over by the state. With regard to VET, the role of the Hungarian Chamber of Commerce and Industry (MKIK) has been increasingly significant; it has become a key actor in shaping VET policy and performs important duties in accordance with its 2010 agreement with the government. The MKIK is now responsible for developing standards, framework curricula and examination procedures for the majority of qualifications required for blue-collar jobs, it participates in the organisation of IVET examinations, and performs quality assurance functions, among others, in cooperation with entrepreneur associations and advocacy organisations. The state is now responsible for providing education, hiring teaching staff (including the head teachers) and paying their salaries. From September 2015, the maintenance of public VET schools had been taken over by the Ministry of National Economy. The number of VET schools (currently around 7-800) is also to be radically reduced, based on a one-by-one review of their training profiles (Cedefop Refernet, 2014a).

The aims of the Government are to make the maintenance and professional management of VET schools more efficient; make VET even more responsive to the needs of the economy; and further strengthen and increase dual VET. The Government expressed its commitment to raise the share and prestige of VET by making manual skilled worker training programmes less theoretical, with more training conducted at enterprises. The most important differences in comparison with the former system are the following: the 4 to 5 year-long vocational school programmes have been replaced by a uniform 3-year programme, the so called 'dual VET model'. The proportion of practical training in these new programmes is significantly higher, while that of vocational theoretical education and particularly general education have been reduced.

Encouraging the participation of the enterprises in training provision, i.e., increasing the share of practical training provided at the workplace vis-à-vis school workshops is one of the main objectives of the VET policy of the government. Since 2011 several steps have been made to increase the financial incentives related to practical training. Companies can be reimbursed for the majority of their training costs from the training sub-fund of the National Employment Fund. The new approach that emerged in recent years, the increasing 'dualization' of VET aims to retain young people in education and training and ensure the supply of skilled workers by starting VET earlier – just as before 1998 – at the age of 14 (year 9) in their first VET grade.

In the case of ISCED 3 level professions, which typically train for blue-collar jobs, the larger share of practical training has already moved to enterprises. At the same time, the involvement of enterprises in post-secondary VET is still insignificant; economic actors do not yet show an interest in increasing dual training at this level, therefore it is still mostly provided in school-based training.

The majority of manual skilled worker training programmes students participate in enterprise-based training, usually based on a training contract. Since 2001 the number of training contracts has quadrupled. The availability of apprenticeship training contracts varies by sector/occupational field/occupation. In May 2014, practical training based on a training contract took place in more than 200 professions. However, 58% of apprenticeship training offered at ISCED 353 level qualification covered only 10 occupations.

There are different opinions about the dualization process in VET. According to the official opinion the idea itself that the dual system should be strengthened and expanded enjoys broad support (Cedefop Refernet, 2014b). At the same time, trade unions in the education sector and some VET experts have expressed serious concerns about the above reforms. They are afraid that a forcefully, overly practice oriented VET will lead to a weaker, downgraded VET, which does not prepare students for lifelong learning. The growing emphasis on practical, work-related training, and the stronger ties to labour market needs, all express the intention to train better skilled workers in the new types of VET schools rather than preparing them for further education. According to the trade unions, there is no doubt that a sharp increase in vocational school enrolment (and, in parallel, a sharp decrease in grammar school enrolment) could better serve the acute, short-term needs of the economy. The longer-term, knowledge-based future of the economy and society might then, however, be at risk (Kunert, 2016).

There is growing dissatisfaction in the society towards the Hungarian vocational education and training system. Teachers and students worry about the immoderate centralisation of the education system (European Trade Union Committee for Education, 2016). Politicians (of the opposite) and education experts are increasingly concerned about the excessive centralization of VET and the inadequately prudent dualization process.

3.1 Conclusions 2

My research attempts point to the circumstances the government has not taken into account while forcing dualization. The research demonstrates the negative effects of excessive centralization and the hasty dualization. At the same time, some lessons from the 'Learning Regions' research project in Hungary give a good example how local innovative agro-product development by learning communities can bring together local people and appears as a good starting point to develop strong local governance which maybe can support to set up efficient local VET governance (Benke, 2015b).

The employed research methods are literature review, secondary processing of research results and expert interviews.

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4 The Italian VET system: between reform and stabilization processes (Marco Perini and Giuseppe Tacconi)

Since 2010 the rate of Italian youth unemployment remains above the 30% (Istat, 2018). In order to counter this problem and the early school leaving, the Italian government reformed the apprenticeship regulations introducing the Dual-System in 2015 (State-Regions agreement of 24 September 2015). These arrangements have been integrated in the Italian VET system in place, named Istruzione e Formazione Professionale (IeFP). IeFP was introduced in the school year 2011/2012 through several regulations issued by the state-region conference. IeFP is mainly focused on initial VET activities providing three and four years programs which allow students to get, respectively, the professional operator certificate (Level 3 EQF) and the professional technician diploma (Level 4 EQF). Also, one and two years higher technical education and training programmes are provided but, the number of participants is still low.

The elements that lay the foundations of the IeFP system are (CEDEFOP, 2014): a set of training standards for basic skills to be developed during three and four years programmes; a set of minimum standards (valid at national level) for technical and vocational skills in relation to the occupation profiles included in the national qualifications register (the occupation profiles are currently around 22) and a set of intermediate and final certifications that are valid at national level. Despite these efforts, the IeFP system includes only 10% of the entire population of the secondary level (MIUR, 2016). The management of the system is divided up between the central government and regions. Consequently, there are many differences region by region in terms of participants' number, and courses' quality (CEDEFOP, 2014). Through the analysis of the last INAPP report about the Italian VET system (INAPP, 2017a), the following critical elements seem to emerge:

- the unclear shared management between central government and local administrations;
- the territorial heterogeneity of the available training due to the differences of the local economic and social contexts;
- the dangerous separation between the production system and the educational system, with the risk of leaving unanswered the new demands of the labour market (e.g. additive manufacturing skills) despite the high unemployment;
- the poor visibility of the system (Scalmato, 2015).

Furthermore, the apprenticeship reform, mentioned above, is still in the experimental phase and does not yet cover the whole national territory. Indeed, according to the monitoring actions conducted by INAPP (2017b), 15 regions (Abruzzo, Campania, Emilia-Romagna, Friuli Venezia Giulia, Lazio, Liguria, Lombardia, Marche, Molise, Piemonte, Sicilia, Umbria, Toscana, Valle d'Aosta, Veneto) declared that dual-system programmes have been activated at the end of 2016. Others, Basilicata, Calabria, Puglia, Sardegna had not yet activated any kind of activity related to the reform. On the one hand that's due to the different local policies, on the other hand, that is because in some regions the productive fabric is weak and the company partners for apprenticeship are lacking (Tacconi & Gomez, 2018).

At the end of 2016, the total number of students enrolled in the Italian dual-system experimentation was 23247: 59% of these students were enrolled in order to obtain the qualification (3 years programmes), while about 29% were enrolled in 4th year IeFP courses (to obtain the technician diploma). More than half of them were situated in Lombardia Region. The students enrolled to IFTS (Higher Technical Education and Training) are also located in the same

geographical area and they represent only about the 5%. Only the remaining share (about 7%) was enrolled in apprenticeship (INAPP, 2017a).

4.1 Conclusions 3

The picture emerging from the monitoring reports shows that the Italian dual-system is still taking its first steps while the IeFP system is also being strengthened. Maybe, the implementation of dual-system could offer new opportunities for young people, especially to those who plan to continue beyond the three and four years programmes (Tacconi & Gomez, 2018). However, the new Italian dual-system seems to grow over time, but the available data are still few, and it is too early for judging the reform effectiveness. Perhaps, to better plan the next actions, both at a regional and at a national level, it would be useful to collect qualitative data on experiences made by students, teachers, company trainers and tutors during the system experimentation.

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5   Bridging multilevel problems by the Austrian lifelong learning strategy? (Lorenz Lassnigg)

In Austria the governance of VET is strongly fragmented to different sectors (full-time school and apprenticeship, labour market policy, higher education institutions), different actors (state bureaucracies, social partners, enterprises, the public employment service) and different levels of government (local, regional, central). Overall, education is governed by separate systems that do not allow for overall coordination. In periods of demographic decline the different sectors are competing for applicants, and it is not possible to find agreements about clear priorities about improving the matching of supply and demand – each of the sectors chooses its own priorities. The core area of VET is situated at the upper secondary level in a dualistic structure of a strong apprenticeship system in parallel with a strong full-time school-based VET system

(Lassnigg, 2011). Moreover, the responsibilities for the apprenticeship system are distributed between the social partners (mainly chambers of commerce) and two ministries (economic affairs for the enterprise part and education for the part-time school part), whereas the responsibilities for most of the full-time VET schools are situated in the ministry of education (some sectors still govern to much part their own education systems, health and agriculture). Until now the VET schools have been governed by a separate directorate, organised by vocational sectors (engineering, business, services), who also ran different policies.

On this background and influenced from European policy proposals a government based lifelong-learning-strategy (Republik Österreich, 2011) was set up during the 2000s to coordinate lifelong learning across the different policy silos: four ministers have taken responsibility for this strategy: education, science, labour and economic affairs. The strategy was build up in a long stepwise consultation process that involved the several actors of the field and tried to cover the whole process of lifelong learning from early education till post-employment education of older people. Main elements of the strategy were (i) some guiding instruments (principles, guidelines, goals and benchmarks) laid down in the written document, (ii) a content structure that proposed ten lines of action ('Aktionslinien') according to certain sectors combined with priorities (e.g., improvement of equality of opportunity in compulsory education; or three action lines for adult education (AE): employment related non-formal AE, enterprise based learning conditions, community education; or support of mobility to name a few), and (iii) the main element was a social platform organised by the ten action lines that should bring together the interested stakeholders to develop feasible policy measures; (iv) a regular monitoring process should support the efficacy of the strategy.

This strategy can be analysed as an exemplary attempt of how the various NPM tools (definition of goals and indicators, involvement of actors in temporary working groups and projects, open fund raising, etc.) might work in such an open and flexible governance structure, and it can also be analysed as an approach of experimenting policy learning. The experience with this well meant complex and comprehensive strategy after about six years shows a terrific disaster. It has only integrated measures that were under way anyway, and the stakeholders in the actions lines have found no way of action, or some initial attempts have faded away. In 2017 the last of the four ministers went out of office, and the platform does not meet any more. What can we learn from this attempt about governance (Lassnigg, 2014, 2017)?

5.1 Conclusions 4

- First, a NPM strategy that is not based on a legal basis, can fade away without much ado, despite many stakeholders are involved;
- second, a (public) strategy without a budget, that instead tries to collect resources from the stakeholders, seems not feasible, even if it is based on good ideas and an experimenting approach;
- third, maybe this is a most fundamental point, if public policy makers are involved at key positions, they will try to control a broader collective process and try to push their agenda through;
- finally, a professional approach, even if it is started quite carefully with consultation, and structuring of work, is too weak vis-à-vis politics.

Indirectly commenting on some ideas brought forward in contributions to the panel, this experience shows the dominating role of the power structures in governance. Ideas about good structures, content, and instruments, and about (central) strategy and (local) delivery must consider the interest of the political actors today to mainly stay in office and use power for this purpose. In fact, the basic structure of the strategy was disastrous wrong, as the policy makers tried to engage the stakeholders who should also pool their resources, without providing

additional financial means from the political level (strategy without budget), and at the same time trying to control the activities of the stakeholders. This was attempted through a task force of representatives of the four involved ministries that was given central coordinating power.

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Conclusion

Based on the conclusions of the individual contributors, some more general points can be made. The contributions take quite different perspectives, and to some part a silently underlying topic is the relationship of politics to governance issues, which are more directly related to policies.

The German contribution points to pitfalls in the integrative coordination among actors and sketches some approaches towards using evaluation for a more systematic analysis and a better understanding of how governance works and should work. The Austrian contribution also deals with the coordination among actors, but the experience with the lifelong learning strategy leads to less optimistic expectations about the potentials of NPM-oriented governance. A main message is that politics must be taken into account and seems to be stronger than a quite carefully developed 'soft' governance strategy.

The Italian and Hungarian contributions are situated on the edge of politics and governance. They try to give some assessment of recent policies towards VET in the countries. The pitfalls they find point to some extent in opposite directions. In Hungary politics seemed to fail because of too powerful interventions, in Italy the interventions seem rather too weak to provide results. Both underline qualitative micro level aspects as being very important for successful policies: collecting qualitative data on experiences of the involved actors, and local learning communities are hoped to improve governance and politics efficacy. The Austrian experience makes us rather cautionary in this respect.

Biographical notes

Lorenz Lassnigg works as Senior Researcher at the Institute for Advanced Studies in Vienna, Austria. His research interests are about VET policies and governance and the development of lifelong learning, more recently he has started to work about social progress in education and the relationship of VET to democratic education.

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Giuseppe Tacconi is researcher at the Department of Human Sciences of the University of Verona. He is the coordinator of the Center for Action Research in Vocational Education and Training (CARVET: www.carvet.org); he is also member of the Scientific Committee of Italian Journals for VET ("Rassegna Cnos", "Professionalità studi"). He has focused for years on issues related to the VET system. His interests are about the epistemology of practice based upon reflection in/on action, the relevance of work practice and personal experience for the improvement of continuous VET practices and Teacher Education, and the relationship between learning and work.

Marco Perini, PhD student, enrolled in the third year of the PhD program in the Human Sciences at Department of Human Sciences, University of Verona. His main area of interest and research include Vocational Education and Training, educational technologies, work-based learning and teacher education. Prior to enrolling at University of Verona he worked for four years as freelance Moodle and IT teacher in VET centers and schools. He also worked as training manager and tutor in several projects funded by the European Union

Labour Migration, Vocational Education and Training in the Norwegian Plumbing Industry

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Abstract

This short paper is a tentative work where I discuss Eastern European labour migration, work organization and effects on training agencies and apprentices, work environment and the building progresses at the construction site. Through further work on this paper I will present my findings and discuss domestic challenges at the construction site.

Keywords

apprentices, trainings establishments, work migrants

1 Introduction

The Norwegian Vocational Education and Training (VET) model bases on two years in school followed by two years apprenticeship in a training establishment. Upper secondary VET in Norway consist of eight programs that lead to more than 180 different trade- or journeyman's certificate. Plumbing belongs in the Building and Construction Program, along with 25 crafts and vocations. This broad dual model creates a "bridge" between school and work life, meaning that VET constitutes a way of recruitment for enterprises as well as being a formal part of Norwegian upper secondary education. Through the EEA Agreement, Norway is a member of the Single Market and participate in several EU programs and institutional arrangements, such as Cedefop, the Lifelong Learning Programme and the Youth Programme (Norwegian Directorate for Education and Training, 2009). The European approach is recognized in the Norwegian education system like The Knowledge Promotion Reform from 2006, where the most prominent features are basic skills and outcome-based learning (Norwegian Directorate for Education and Training, 2009). The former national foundation of the Norwegian VET-system has transformed from being specialized occupational oriented educations to an international mobility-system based on quality assurance and qualification frameworks (Deichman-Sørensen, 2015; The Copenhagen process, 2004).

After the European enlargement of the EU in 2004 and 2007, Norway like many other Western European countries, experienced the flow of Eastern work immigrants. Like in most countries, construction is among the heavily affected industries (Haakestad & Friberg 2017). According to a cross-country review by Cedefop, eastern work migrants move only for

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economic reasons like better wages, better jobs and better working conditions. Despite that, the report also shows underutilization of migrant worker skills, who are mostly overqualified for the job they do in the host country (Cedefop, 2011). Kraft shows how Eastern European work migrants in Norwegian construction industry, categorizes by language distinctions, more than by professions. The study tells how "professional values" like craftsman skills, lose their value due to lack of language and communication skills (Kraft, 2017). Clear and professional communication is pivotal in any building process, as the progress and logistics totally depends on interaction between qualified insiders (Lensjø, 2017). While new logics of production gain a foothold in the Norwegian construction industry, Haakestad & Friberg (2017) argue for a de-skilling process and a shift from "craft-centered" to "neo-Taylorist" management principles. They also argue that the inexhaustible access of migrant workers in the job market, may have contributed to changes in the production regimes which otherwise would have been difficult to implement (Haakestad & Friberg 2017). While new "categories" of dexterities in the work force calls for new regimes, the re-organization of the Norwegian construction industry put pressure on the two different, although complementary logics of work and learning, referred to by Ellström as the logic of performance and the logic of development (Ellström, 2005, 2012). The tensions and indicated shift between the divergent regimes or logics, presents a paradigm shift in Norwegian education and working life.

In this paper, I discuss how work migration affects Norwegian apprentices and plumbers in training establishments at the building site, and in what ways different working conditions, languages and craft skills influence the work environment and the learning processes between Norwegian plumbers and apprentices in communities of practice.

The study has a qualitative approach, and the empirical findings build upon rich field notes and interviews with apprentices and plumbers. My position as "work-along" field worker as a plumber, made it possible to observe how the two "regimes" affected each other's working conditions and work environment. The aim of my fieldwork was to collect nuanced empiric material from the apprentices every day learning processes. In this paper, I discuss how the autonomous craftsman, the VET-system and work migrants play against each other in a combat between different political and human values and capitalistic goals.

2 Norwegian VET

Differences between VET-models is recognized by structure and content of training, how the training is regulated, where the training takes place and the degree of the involvement of the state and the work life. Nyen and Tønder (2015) depict three models for VET. First, a *liberal market economy model* were the governmental regulations are dim. Britain and the United States are countries used as examples of merely work-place based vocational training, provided by individual companies and based on local firm-specific skills. Secondly, a *state-regulated bureaucratic model*, exemplified by the Swedish and French model, where vocational education is primary governed by the state and the social partner's involvement is limited. Lastly, a *corporate dual model*, where the social partners are highly involved in the vocational education and training, like in the Danish and German model where apprenticeship often is combined with school-based training (Nyen & Tønder, 2015).

The Norwegian VET today stands out as a *hybrid model*, on the one hand influenced by European standards for quality assurance system and on the other hand with elements from different skill regimes (Deichman-Sørensen, 2015). Like other dual-models, the Norwegian model builds upon tripartite cooperation principle. A system of cooperation mandated by the Education Act launches (both at national and regional level) employers' and workers union. From the national level to the company level, there is a close cooperation between the workers, employers and government, - characterized by mutual trust. Since the 1950s, political and governmental goals have been to level out social inequality and to create a society built on inclusion

and equality for all (White Paper no. 16 (2006-2007)). As a part of this process, the Education Reform in 1994 stated a *right* to three years upper secondary education, which enrol nearly all Norwegian youths between 16 and 19 go directly from lower secondary - to upper secondary school. Numbers of applicants for upper secondary 2018/19 show that about half of the Norwegian youths choose a vocational education based on two year in school followed by two-year apprenticeship period in a training establishment (The Norwegian Directorate for Education and Training, 2018).

Table 1   Numbers of applicants to Upper Secondary Education, Vg1- in Norway, school year of 2018/2019. Source: The Norwegian Directorate for Education and Training, 2018.

	Applicants Vg1	Allocation, first wish	Directed to different school	Directed to different program	Waiting list	Rejected
Healthcare, childhood and youth developement	10 441	8 040	901	13	1 081	224
Electrical Engeneering	6 624	4 404	1 584	4	511	69
Techical and Industrial Production	5 958	4 771	363	8	605	125
Media and Communication (vet)	4 496	4 253	50	0	109	70
Building and Construction	4 293	3 453	291	17	407	68
Service and Transport	3 732	2 769	398	8	434	79
Design and Craft	2 383	1 908	232	3	178	33
Restaurant and Food Processing	2 115	1 776	83	5	179	40
Agriculture, fishing and Forestry	1 932	1 604	141	6	132	34
Total numbers in VET	**41 974**	**32 978**				
Music, Dance and Drama	2 665	2 027	506	1	87	36
Mediea and Communication (gs)	3 050	2 275	542	0	194	34
Art, Design and Architecture	1 259	1 022	176	0	46	9
Sports	5 527	4 047	1 269	1	167	31
Specialization in General Studies	27 724	25 041	1 636	2	587	378
Total numbers in General Studies	**40 225**	**34 412**				

Although nearly half of all youths apply for VET, the weak point in the dual model is between the second and third year. Lack of training agencies is an ongoing challenge and intervene the transition between school and work (Bufetat, 2018). Each year 6000 to 8000 youths, do not receive the apprenticeship they have sought. This lack of apprenticeships prevents young people from completing their education and create a shortage of qualified workers in the labour market (Norwegian Government, 2018). The government and the tripartite stakeholders have signed a Social Contract for VET, to strengthen the dual model by encouraging all industries and institutions to implement in VET (The Norwegian Directorate for Education and Training, 2018). Despite the large number of applications to VET-programs in school, many youths never intend to complete VET, but change their direction after Vg2 and switch to general studies. This concerns especially the "new" Vocational programs, like Healthcare, Childhood and Youth Development were many students plans to study higher education, like nurse education or preschool teacher education.

The numbers of apprenticeship contracts in Building and Construction (B&C) also show a gap between applicants to school and the numbers of apprentice. This numbers cause a more serious concern because the students in B&C seem to be more attracted to complete their vocational education. Traditionally, an apprenticeship contract in B&C is a secure entrance both into the craftsmanship, the working life, to higher education and further career. On the one hand, the transition between school and work life must strengthen to match the expected growth and upcoming need for expertise in the construction industry (Dapi et al., 2016). On the other hand, the number of drop out students are a loss of vulnerable recourses for the society and for the individual youth a dropout means a risk to permanent exclusion.

Table 2   The numbers of Apprenticeship Contracts between the years of 2012 and 2016. Source: The Norwegian Directorate for Education and Training, 2018.

Apprenticeship Contracts 2012 - 2016						
VET Program	2012	2013	2014	2015	2016	Change 2015-2016
Healtcare, Childhood and Youth	2 054	2 030	2 122	2 217	2 489	272
Technical and Industrioal Produc	2 377	2 314	2 505	2 438	2 434	-4
Building and Construction	2 026	1 946	2 008	2 029	2 045	16
Electrical Engeneering	1 870	1 822	1 901	1 957	1 807	-150
Service and Transport	1 067	1 196	1 198	1 410	1 488	78
Restaurand and Food Processin	676	674	647	702	716	14
Design and Crafts	449	455	487	462	395	-67
Agriculture, Fishing and Forestry	208	241	284	306	343	37
Media and Communication, vet	30	16	18	17	14	-3
Total numbers	10 757	10 694	11 170	11 538	11 731	193

3   Positions and competence in the Norwegian plumbing industry

The Norwegian building sector is large, complex and affects all parts of the population and the society. Buildings with water and sewage systems covers a primary need in any human society. Heating, cooling and fire sprinkler systems also regards as fundamental parts of contemporary societies. The "real" Norwegian plumbing history started in the mid-1880s when three German plumbers got authorization and established as plumbers after finishing building the gas works piping in the former capital of Oslo, Christiania. Back then, industrialization and population growth called desperately for sufficient drinking water and well-functioning sewerage systems. The gas works gave easy access to cheap by-products coke and cinders and started a new era for central heating systems. Despite Norwegian adaptions to climate, architecture and methods, - the plumbing core elements is still bonded to German standards and technology. The vocation has grown out of apprenticeship learning but ties thoroughly to research environments like the Norwegian University of Science and Technology (NTNU) and SINTEF. The Norwegian plumbing industry has developed and changed in line with national and global changes, but also due to tripartite cooperation whereas the plumbing industry is obliged to take labour rights, principals for equality and democracy into account. A large amount of the plumbing companies is qualified to be training establishments, meaning they must interpret and implement the Education Act and the plumbing-Curricula in their daily work (The Education Act, 1998).

The plumbing industry is part of the construction industry. According to the National Statistics (2012-2013), construction and property industry is Norway's largest industry counted in number of companies. Measured in value creation and in employment rate, construction and property industry is the second largest with a turnover of 13% of gross national product (White Paper no. 28 (2012-2013)). Norwegian construction industry is traditionally recognized by a significant degree of workers ability to influence on their work conditions as well as in their everyday work. Through active participation in work, the novices little by little socialize into the craft. Being both a college and apprentice, strengthen their position and between the experts in the community of practice the apprentices mature and develop fast (Lensjø, 2017). Norwegian B&C is known for professional independent and autonomous craftsmen, able to plan and do more or less any job based on a blue print and a depiction. Companies in the Norwegian construction industry often prefer to train their own craftsmen and pick upcoming leaders out of their own staff. The reason is that their own workers know all substances of the craft as well as the complex logistics and interaction at the building site far better than an educated engineer without practice does. Crafts like carpentry, masonry and plumbing has long traditions for

apprentice learning. Through networks and training offices the construction sector cooperate closely with VET-schools and contributes to the education of thousands of craftsmen. On annual bases, approximately 8000 apprenticeship contracts run every year within the construction industry. Among these, about 1200 are ongoing contracts in the plumbing industry (Norwegian Directorate for Education and Training, 2018).

4   Migrant workers in the Norwegian construction industry

In 2004 and 2007, ten central- and Eastern-European countries were included in the European Union (EU). Since then, millions of workers from the new member states have crossed borders to seek for a better life with higher prosperities (Friberg, 2016). In 2004, less than seven thousand East-European citizens were registered in Norway, - ten years later the numbers were about one hundred and sixty thousand. In this same period, the immigration from other EU-countries doubled their numbers (Eldring, 2015). In addition, Statistics Norway registered eighty thousand short time workers (Statistics Norway, 2016). Eighty percent of these are Eastern men, working in the building and construction sector. Most of these workers hire through short time contracts by professional temporary work agencies (Statistics Norway, 2016). According to Friberg (2016), most of the Eastern European work immigrants in the Norwegian construction industry chose to work for an agency who arrange both jobs and lodging, so they can work and live together with compatriots. This seems to be easier than using their own resources to learn Norwegian, search for jobs and accommodation (Friberg 2016). Because of long working hours - often six days a week, Eastern constructors in Norway earn more compared with their wages back home. However, compared to Norwegian wages and production costs, their incomes are low (Friberg, 2012). Also, their rights as short-term workers are few, i.e. to be able to renew their contracts, some are forced to accept miserable work and housing conditions, low income, heavy manual work, fragmented or sometimes also dangerous work tasks. The number of work accidents reflect these facts; 40 percent of those who died during work accidents in the Norwegian construction sector were immigrants (Byggmesteren, 2017). After a decade with extensive labor immigration, Haakestad & Friberg (2017) argue that the inexhaustible flow of work immigrants has supported employers with leverage to impose changes in the production regime, which otherwise would be difficult to implement. We are here talking about a method for organization of work, initiated by Fredrick W. Taylor during the late 1800s (Bravermann, 1977). Taylor's prospect was to transfer scientific methods into human work and by his methods, he managed to break every job, action and work task into small and simple segments in order to increase efficiency and income. As Taylor's so-called scientific hypothesis exclusively was motivated by a capitalistic view of production and work conditions, he took little account in how the method called for dehumanizing and changed workers into labor (Bravermann, 1977). In Haakestad and Fribergs (2017) comprehensive study of Eastern work migrants in the Norwegian construction industry, they reveal a large scale of scientific management and argue, "the observed shift from "craft-centered" to "neo-Taylorist" management principles conform to the classical de-skilling process in several respects". By three major points they argue that, first; "the increased use of formally unskilled foreign workers hired from temporary staffing agencies has given managers incentives to intensify supervision over the work process, has led to a separation of conception from execution of task". Secondly, "the moving away from permanent employment and *akkord* work has led to a more fragmented building process, involving more management-led coordination between different actors and interfaces". Thirdly, "the shift from "manufactured to machinofacture" that follows from increased use of robot-built prefabricated elements may also reduce the demand for skilled workers" (Haakestad & Friberg, 2017, p. 19.).

Confronted with such rapid and comprehensive changes, the skilled, autonomous craftsman is clearly under attack by capitalistic dynamisms. Whether this ongoing situation in the

end of the day will oust Norwegian craftsmanship and apprenticeship training agencies out of the domestic market, leads to the call for resilience and pivotal action by the politicians, the government and Norwegian tripartite cooperation.

5 Methods

This study has an ethnographic approach, based on a combination of fieldwork and interviews with apprentices and plumbers at three different building sites. My background as a plumber gave me access to the construction sites, and an opportunity to be a part of the communities of practice. During every day work and communication with the apprentices and plumbers, I was able to blend in to normal situations and to observe the relationship between the Norwegian and their Polish and Danish colleges. To be a part of the Norwegian community of plumbers at the site, - gave me chances to study the workers behavior, work tasks and every day conflicts between plumbers with different language, work hours and cultures.

The data collection bases upon nine interviews with Norwegian plumbers and apprentices and on rich field notes from participating observations. My informants, which upon I wrote my field notes, are four apprentices and fifteen plumbers. Among the plumbers, there were three Danish and two Polish plumbers. Two of my main informants were Norwegian apprentices and 16 years old at the time. All four apprentices had apprenticeship contract and were employed by their companies. The Norwegian plumbers were permanent employees while the same company hired the foreign plumbers, on short time contracts.

During my research at the site, I carried out a few unformal conversations with one of the Polish plumbers. However, data can hardly be trusted, collected as they were from a "mixture" of broken English and gestures. It must be emphasized that this study presents the Norwegian workers' perspectives and my domestic understanding after being a "work-along" plumber and fieldworker in three communities of plumbers.

My background as apprentice, plumber and vocational teacher was my "golden ticket" into the more or less inaccessible vocational cultural environment between plumbers during every day work. Through participation in work, I was able to get a unique position inside the communities of practice at the site. My focus was primarily on the apprentices' learning process, on specific situations, routines and patterns between my informants. To search for patterns and to densify the wealth of the texts, I used open coding described by Glaser & Strauss (1968), later developed by Charmaz (2014). To ensure coherence during this analytic process, I primarily used Alvesson and Skjöldbergs (2011) reflexive methodology from parts to a whole and vice versa. Along this analyzing process, I consciously used my preunderstanding as a professional plumber, VET-teacher and participator as inside researcher, moving back and forward between pre- and new understanding during the meta-perspective analyze. Together with the transcribed interviews, the field notes presented a rich and nuanced material.

6 Training agencies under the new regime (Tentative)

During my PhD-work, I investigated how apprentices and plumbers interacted in learning and training and how work-related discussions establish bonds and common understanding between skilled and unexperienced workers at the building site. Even though my mission was to study learning and training in Norwegian training establishments, the overwhelming number of work immigrants, cultural and language differences at the construction sites were impossible to ignore. Language barriers and the trouble of misunderstandings involved all the workers. More than once it hit me how the confusion at the construction site could be associated with the tower of Babel as the craftsmen obviously had a hard time to understand each other, to involve and collaborate in the building process. When I started to observe the language matters more systematically, it soon came clear that language barriers deeply affected the worker in all ways. In this paper, I will concentrate on the professional practice and the work environment.

6.1 Work environment - between strangers (draft - tentative)

During fieldwork, I was aware that the Polish plumbers never participated in the community of Danish and Norwegian plumbers. When I tried to talk to the Polish plumbers, it was clear that they did not speak any Norwegian and very little English. I write:

"To avoid the rush hour, the Norwegian plumbers start at 6 a.m. In this early hour, they plan and arrange the day's work tasks and drink their morning coffee. In addition to lunch, the Norwegian plumbers normally have one or two short brakes where they keep each other informed about the progress and socialize. Except from the early mornings, the Danish plumbers occasionally join the Norwegian plumber's during the brakes, but the Polish never do".

During lunch, the Norwegian and Danish plumbers gathered around the table in one of the barracks. Every lunch started with an update, especially focused on the most difficult tasks. One day it could be the progress, the other day conflicts with other workers or the management at the site. The lunch-talk always involved the use and orders of materials, tools and specific problems due to the heating and sanitary pipe systems. The lunchtime gave also room for unformal talk like in politics, news and family matters. The Polish plumbers gathered with at large group of other Eastern European workers at the table next to their Norwegian colleges. Unlike the Norwegian group, they made warm lunch in the barrack kitchen. Even though I did not understand their language, it became clear how the cooking and the smell settled an unformal and nice atmosphere. The talk flowed with laughter and discussions like in the Norwegian group. When I asked one of the Norwegian plumbers how they communicated with their Polish colleges, he answers: "They don't want to spent time and money to learn Norwegian. It's a pity, because– we don't understand each other and we can't talk with them .. and after a while, we find it easier to avoid talking at all. Our communication is some kind of body language, and some few words in English. It is easier to let it be. And because of the language, so many things go wrong. Every day and during the day, there are misunderstandings because we're not able to plan and discuss our work".

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Situational and Individual Resources Predict Learning Opportunities and Career Outcomes in VET

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Abstract

Situational and individual resources play a crucial role in learning in vocational education and training (VET). Drawing from the Job Demands-Resources (JD-R) model, we explore work-related and school-related resources of apprentices' learning environments among 715 learners in Switzerland, and we analyse how resource profiles are related to learning opportunities and career outcomes. Applying latent profile analysis (LPA), we found four groups that are characterised by different patterns and levels of situational resources, including autonomy, instruction quality, and demands. Structure equation modelling (SEM) showed that resource profiles and individual resources (core self-evaluations, CSE) are associated with apprentices' learning opportunities at both learning locations and, particularly, that having low resources hampers learning. As expected, learning opportunities at work and school positively affect satisfaction with VET and occupational commitment and reduce risks of resignation about VET. The results highlight the importance of providing apprentices with challenging, empowering and supportive work and school environments to ensure learning and positive career development.

Keywords

learning environments, job resources, core self-evaluations, career development

1   Introduction

Learning at school and at the workplace is a central characteristic of dual vocational education and training (VET) programmes. Active participation at both learning locations is frequently seen as crucial for apprentices' competence development, job satisfaction and identity formation (Akkerman & Bakker, 2012; Klotz, Billett, & Winther, 2014). Engaging in learning activities at work and at school should enable apprentices to meet increasing demands of work tasks, of companies and the labour market (Mulder, Messmann, & König, 2015) and to keep up with the rapidly growing and changing society and economy (Kyndt & Baert, 2013). It is thus essential to provide learners with work and school environments conducive to learning and to

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encourage them to profit from learning resources offered at both learning locations (Messmann & Mulder, 2015).

According to the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007), resources fulfil basic human needs (Ryan & Deci, 2000) and have a motivational potential, which may lead to increased learning effort, engagement and successful goal achievement (Bakker, Demerouti, & Ten Brummelhuis, 2012). High demands may exhaust employees when meeting those demands is too difficult, but can also be positive, if individuals values them as challenging (Elfering, Semmer, Tschan, Kälin, & Bucher, 2007). Learning seems most effective when both job resources and demands are high, and when an individual is actively and autonomously involved in a work task (De Witte, Verhofstadt, & Omey, 2007; Taris & Feij, 2004). Active participation in learning at work and school thus not only depend on resources provided by employers and schools (i.e., situational resources), but also on individual resources, such as learners educational background or their capability and confidence to productively use their environment for learning (Billett, 2001).

Research has found that resources related to work and learning, as well as task-related demands vary from one vocational field to another, and between workplaces and schools (Filliettaz, 2012; Fuller & Unwin, 2003; Stalder, 2003). Most of the previous research is, however, limited, insofar that studies often focus on either workplace environments or on school environments, which might be due to various VET systems in Europe. This runs counter to the assumption that learning and boundary crossing between workplaces and schools is essential for learners' vocational development (Schaap, Baartman, & de Bruijn, 2011; Stalder & Lüthi, in press), and that individuals are co-responsible for positive learning processes and outcomes (Billett, 2001).

This paper aims to contribute to filling this lack of research. Drawing from the JD-R model (Bakker & Demerouti, 2007), we examine work- and school-related learning environments of apprentices, learners' perception of learning opportunities at the workplace and at school, and their satisfaction and commitment regarding VET. First, we explore patterns (profiles) of situational resources in learning environments by using latent profile analyses (LPA). Second, we test the relation between resource profiles, individual resources and learning opportunities, and third, we examine the effect of learning opportunities on occupational commitment, VET-related satisfaction and resignation one year later. Overall, our study advances a more integrated view about variations in learning environments offered to apprentices, and how they contribute to apprentices' positive career development.

1.1 Situational resources and demands

Situational resources are aspects at the level of the task, the supervisor, trainer or teacher, the group, and the organisation which are functional in achieving work goals, help to deal with challenges and demands, and allow for continuous professional development (Bakker & Demerouti, 2007; De Witte et al., 2007; Elfering et al., 2016). Work and school environments that offer many resources foster individuals' willingness to dedicate themselves to the task (Demerouti & Bakker, 2011) and to engage in non-formal and formal learning (Kyndt & Baert, 2013). For example, supervisors, teachers or experienced co-workers provide resources by sharing information and giving feedback, by direct instruction, guidance and support, and by stimulating learners' reflection on tasks, processes and learning outcomes (Coetzer, 2007; Collins, 2006; Nikolova, Van Ruysseveldt, De Witte, & Syroit, 2014). Or, adequate decision-making possibilities in terms of tasks, times, or means (i.e., autonomy) can be used as resource for learning, as they encourage learners to engage in exploration and experimentation and enable them to regulate their own learning in accordance with their interests and capabilities (Hackman, 1980; Zimmerman & Kitsantas, 2005).

Situational demands refer to potentially stressful aspects of work or school (e.g., workload, time pressure, task complexity) that can cause problems, especially if individuals have low autonomy over the job (De Witte et al., 2007; Taris & Kompier, 2014). While many studies on job demands have focused on negative outcomes, such as burnout (Bakker & Demerouti, 2007), others have found that higher demands are positively related to well-being (Taris & Feij, 2004), and that a certain amount of demands is necessary to motivate young workers in their learning process (Bakker et al., 2012; Raemdonck, Gijbels, & van Groen, 2014). In that sense, having enough but not over-challenging demands may be interpreted as a resource for learning, as they challenge learners and motivate them to learn new skills and engage in problem-solving (Taris & Feij, 2004).

Studies with apprentices have consistently shown that the provision of high situational resources positively affect learners' evaluation of their workplace as a place, where they can learn a lot (Nägele, 2013). Having access to high instruction quality, guidance and support, and being able to work on challenging and varied tasks in a self-determined manner is linked to plentiful opportunities for learning, increased well-being, and positive achievement (Filliettaz, 2012; Nore, 2015; Stalder & Schmid, 2016). Also, research has found that learning-relevant resources are interrelated (e.g., that a high instruction quality of a trainer is coupled with a positive feedback culture of that trainer), which leads to different overall patterns of learning resources. Such resource patterns vary considerably within and between learning places and provide different levels of learning possibilities (Fuller & Unwin, 2003). For example, Stalder and Schmid (2016) analysed patterns of resources and demands at the workplace and school with a sample of apprentices. They found four distinct resource profiles: Overall high respectively low resources characterised two of them, high resources at one of the learning locations, but few resources at the other location characterised the other two. The use of person-oriented rather than a variable-oriented approach seems thus fruitful to analyse the impact of different learning environments on learning opportunities (Eye & Bogat, 2006). We therefore assume that apprentices' learning environment can be described by distinct profiles and that these profiles relate differently to learning opportunities. We propose:

Hypothesis 1: Apprentices in profiles characterised by high situational resources will have higher levels of learning opportunities at work and school compared to apprentices in environments with lower resources.

1.2 Individual resources: Core self-evaluations

Individual resources refer to characteristics of the worker or learner, which support him or her in coping effectively with demanding situations and using their environments for learning and individual and professional development (Judge, Locke, Durham, & Kluger, 1998). Apart from cognitive abilities, which strongly influence learning and performance (Schmidt & Hunter, 1998), some of the most critical individual resources are core self-evaluations (CSE). CSE are fundamental premises that individuals hold about themselves and their self-worth (Judge, Erez, Bono, & Thoresen, 2003). They include four dispositional traits: Self-esteem, generalised self-efficacy, internal locus of control, and emotional stability, which together build a higher-order construct (Judge et al., 2003).

A vast amount of research has demonstrated that CSE is quite stable over time (Dormann, Fay, Zapf, & Frese, 2006) and that it is associated with overall positive evaluations of the workplace (Judge & Bono, 2001; Wu & Griffin, 2012). Individuals high in CSE are expected to be more confident to cope successfully with work tasks. They may be less likely to withdraw from complex jobs if they experience failure because they believe in their abilities (Judge, Bono, & Locke, 2000). In contrast, individuals with low CSE might perceive jobs with high demands as stressful and may hesitate to engage in new tasks (Judge et al., 2000). Hence, high CSE may be linked to behaviour at the workplace and at school that makes it also more likely to gain in job-

related or school-related resources (Elfering et al., 2016). Similarly, because individuals with high CSE trust in their capacity to shape their environment, it can be assumed that high CSE is linked to higher learning opportunities. For example, if an apprentice dares to ask for information and advice – and given that an adequate response of teachers, trainers or colleagues follows this request – it is likely that the same apprentice would have higher opportunities for learning at the workplace or school. We thus assume:

Hypothesis 2: CSE and resource profiles are correlated, such that apprentices with high CSE will be found more often in profiles characterised by high resources than apprentices with lower levels of CSE.

Hypothesis 3: The higher apprentices' core self-evaluations, the higher are their learning opportunities at work and school.

1.3 Career outcomes

The development of vocational competencies and the establishment of a vocational identity are essential goals of apprenticeships and correspond to a basic need of individuals (Klotz et al., 2014; Ryan & Deci, 2000). Research has shown that needs' fulfilment related to learning and professional development increase positive attitudes towards the job (e.g., job satisfaction, job engagement), the occupation (e.g., occupational commitment), and the organisation (e.g., organisational commitment) (Warr & Inceoglu, 2012). Employees experiencing high levels of job resources and ample opportunities for learning report higher levels of job satisfaction (Keller & Semmer, 2013; Shimazu, Shimazu, & Odahara, 2004), and higher levels of commitment (Lee, Carswell, & Allen, 2000).

Similarly, studies with learners in VET found evidence that situational resources provided at the workplace and school affect apprentices satisfaction with the apprenticeship (Messmann & Mulder, 2015; Stalder & Schmid, 2016; Taris & Kompier, 2014) and engagement (Billett, 2001; Fuller & Unwin, 2003), and that the provision of learning opportunities plays a significant role. Stalder and Carigiet (2014) found for example that higher learning opportunities at the workplace fosters the satisfaction with the apprenticeship at a general level and reduces apprentices' resignation regarding VET. Learners with high learning opportunities did less often report that they are satisfied, because "It could be worse" or because they think that "as an apprentice, you can't expect much". We assume:

Hypothesis 4: Higher levels of learning opportunities at work and VET-school lead to higher occupational commitment and satisfaction and reduces feelings of resignation about VET.

2 Methods

2.1 Participants

To test our hypotheses, we rely on longitudinal data from the Swiss youth panel study TREE (Transition from Education to Employment) (Stalder, Meyer, & Hupka-Brunner, 2011). The panel focuses on the post-compulsory educational and labour market pathways of a school leavers' cohort in Switzerland including more than 5'500 learners. We took a subsample of those 715 learners (55% female) that were enrolled in an apprenticeship programme in 2002 and were in their second (t1) year in 2002 or 2003 and their third year (t2) in 2003 or 2004. Mean age at t1 was 17.53 years (SD = .65).

2.2 Measures

Situational resources at work and school were assessed with three indicators each, including autonomy, instruction quality and demands. *Autonomy* at work and school was measured with

three items each (e.g., I take part in decision-making about which tasks I have to do; I can decide what I have to learn) (Prümper, Hartmannsgruber, & Frese, 1995). *Instruction quality* of trainers and teachers was assessed with six items each (e.g., If I ask a question, my instructor has time to explain; Usually my teacher tells me whether I solved a task well) (4-point scale). *Demands* were assessed with five items each, distinguishing between qualitative demands related to the difficulty and complexity of tasks (e.g., I must do tasks, which are too complicated for me) and quantitative demands (e.g., I have too much to do) (Prümper et al., 1995).

Learning opportunities at the workplace were measured by four items, *learning opportunities at school* by three items (e.g., At work/at school I can learn a lot; lessons at school are varied) (Prümper et al., 1995; Stalder et al., 2011).

Core self-evaluations (CSE) were built by three indicators: General self-efficacy (e.g., I can always manage to solve difficult problems if I try hard enough), self-esteem (e.g., I feel that I am a person of worth) and negative affectivity (e.g., Over the last month, did you feel annoyed? Values inverted from negative to positive). Negative affectivity is typically assumed to be a proxy for neuroticism (Judge, Heller, & Klinger, 2008).

General *satisfaction* with *VET* (e.g., In general, how satisfied are you with your apprenticeship?) and *VET-related resignation* (e.g., As an apprentice one cannot expect much) were both measured with three items on a 7-point scale (Bruggemann, Groskurth, & Ulich, 1975). *Occupational commitment* included three items (e.g., I am proud of the occupation, I'm trained in), measured on a 4-point scale. All items were rated on a scale from 1 (very rare/never) to 5 (very often/always), exceptions are indicated. Table 1 summarises the means, standard deviations, and correlations of all measures.

Table 1   Means, standard deviations and intercorrelations of assessed constructs (N=715)

			M	*SD*	N	1	2	3	4	5	6	7	8	9	10	11
1	Autonomy at work	t1	3.36	.80	700											
2	Autonomy at school	t1	2.46	.82	651	.15										
3	Demands at work	t1	2.51	.56	701	.00	.02									
4	Demands at school	t1	2.27	.75	652	-.07	-.04	.20								
5	Instruction quality at work	t1	4.00	.82	448	.31	.02	-.06	-.06							
6	Instruction quality at school	t1	3.70	.78	598	.06	.19	.07	-.16	.07						
7	Core self-evaluations	t1	3.58	.46	715	.22	.04	-.14	-.39	.19	.15					
8	Learning opportunities at work	t1	4.01	.72	698	.38	.12	.10	-.12	.33	.15	.37				
9	Learning opportunities at school	t1	3.62	.65	651	.02	.20	-.01	-.06	.08	.37	.20	.33			
10	General satisfaction with VET	t2	4.60	1.13	715	.21	.15	-.08	-.13	.31	.14	.18	.37	.27		
11	Resignation about VET	t2	2.77	1.17	715	-.25	-.03	.17	.21	-.22	-.14	-.37	-.28	-.18	-.40	
12	Occupational commitment	t2	3.22	.63	648	.14	.07	-.08	-.15	.30	.08	.16	.31	.20	.56	-.36

Note. Instruction quality was recoded from a 4-point to a 5-point scale to fit the other indicators of the resource profiles. Correlations below -.10 respectively above .10 are significant with $p < .05$.

3   Results and discussion

3.1 Latent profile analysis

Before hypotheses testing, we performed latent profile analysis (LPA) in MPlus 7.4 (Muthén & Muthén, 1998-2017) following Nylund, Asparouhov, and Muthén (2007) to examine the existence of latent subgroups with homogenous profiles of situational resources and demands. We integrated autonomy, instruction quality and demands at work and school as latent indicators of situational resources in the LPA. To choose the best fitting model (Figure 1), we

considered the sample-sized adjusted Bayesian information criterion (SABIC) (Schwartz, 1978), the parametric bootstrapped likelihood ratio test (BLRT), and the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMRT) (Lo, Mendell, & Ruben, 2001). A good fitting model is usually indicated by lower AIC, BIC, and SABIC values compared to other model solutions. Besides, LMR and BLRT statistics should be significant at p < .05 (Geiser, 2011). Based on these fit indices, the data suggested a two- or four-profile solution. Considering theoretical aspects, the interpretability of the profiles and the class sizes, we decided on a four-profile solution.

Figure 1 shows the means of the four profiles of situational resources. Note that means were centre-mirrored, such that "high" corresponds to the original value 5, "medium" to the original value 3, and "low" to the original value 1. The four profiles vary most strongly concerning instruction quality and autonomy at the workplace and are only slightly different concerning work and school demands. Demands are generally low to moderate at both learning locations.
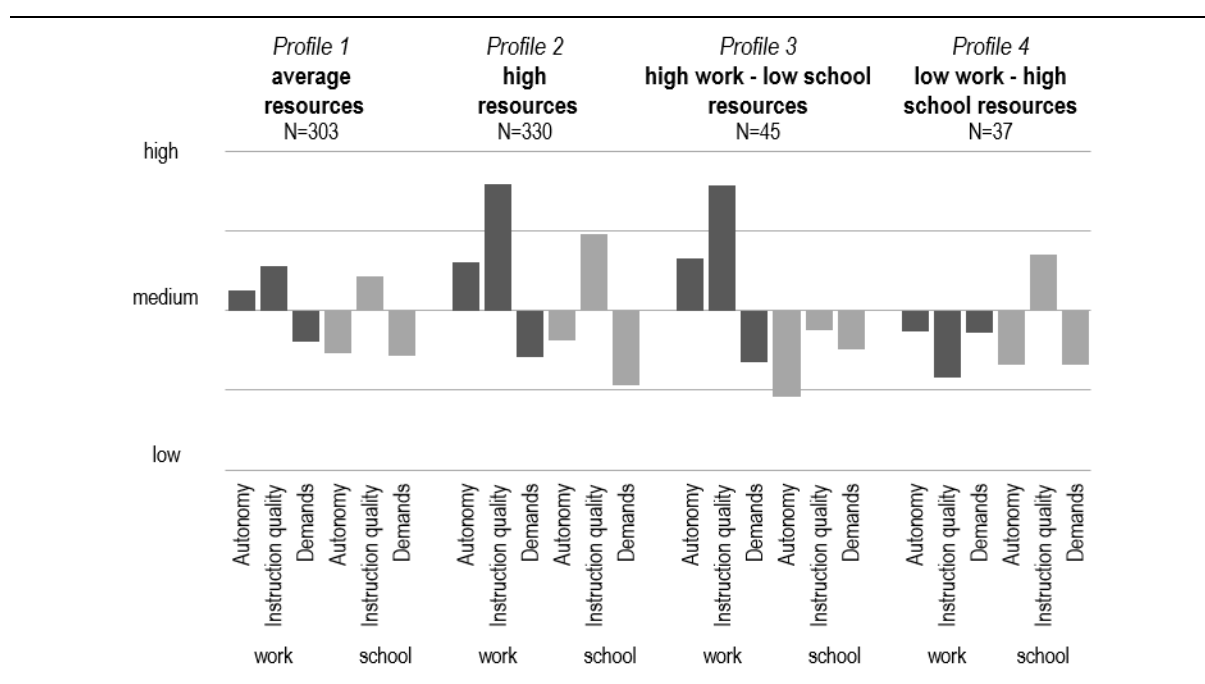
Figure 1   Latent profiles of learning resources at work and at school at time 1

The first profile called "average resources" includes 303 apprentices (42.4%). It is characterised by an instruction quality a little above the mid-level at both learning locations and moderate autonomy at the workplace. This means, e.g., that trainers and teachers don't often have time to instruct learners, or that learners can only occasionally co-decide on what they should work or learn. The second profile with 330 apprentices (38.2%), in contrast, is characterised by learning environments, where trainers and teachers instruct and support apprentices highly and where learners have ample possibilities to decide autonomously on tasks at work and school. We label this profile "high resources".

The third and fourth profile cover smaller groups of apprentices with 45 (6.3%) and 37 (5.2%) learners. While in profile 3 – like profile 2 – high resources are available at the workplace, resources at school seem to be limited: The instruction quality at school is mediocre and autonomy very low. Apprentices with profile 4 judge their resources at the workplace, and especially the quality of their trainers' instruction very low compared to all other profiles. But they evaluate the quality of school teachers' instruction nearly as high as apprentices in

profile 2. We call profile 3 "high work – low school resources" and profile 4 "low work – high school resources".

3.2 Structure equation model

To test our hypotheses, we applied structural equation modelling, including resource profiles and CSE (t1) as predictors of learning opportunities at school and at work (t1), and regressing general satisfaction and resignation regarding VET and occupational commitment (t2) on learning opportunities. Resource profiles were dummy coded, whereby profile 1 "average resources" was used as reference group. This first model did not show an acceptable fit ($\chi^2 = 91.60$; $df = 12$; RMSEA = .09; SRMR = .05; CFI = .88; TLI = .71). After examination of modification indices, we introduced an additional path from CSE to resignation. The fit of the adapted model was acceptable ($\chi^2 = 34.48$; $df = 11$; RMSEA = .05; SRMR = .04; CFI = .96; TLI = .91). Values near and above .95 for CFI and TLI and below .08 for RMSEA and SRMR indicate a good fit (Hu & Bentler, 1999). The final model is presented in Figure 2.
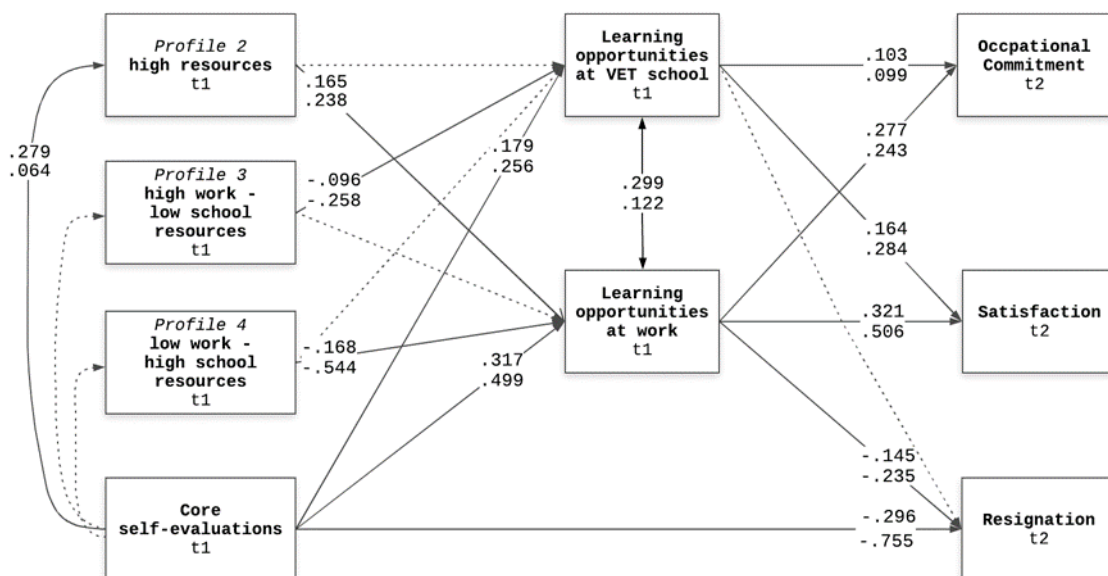
Figure 2   Standardized (above) and unstandardized (below) path coefficients and correlations for the tested model. Solid lines represent significant ($p < .05$), dashed lines non-significant effects ($p > .05$).

In hypothesis 1 we assumed that apprentices with profiles high in situational resources have higher levels of learning opportunities at work and at school. Having found four distinct resource profiles, we can specify our assumption. We presume that high resources are related to high learning opportunities at the corresponding learning location, such that higher work-related resources (profiles 2 and 3) would be associated with higher learning opportunities at the workplace, and higher school-related resources (profiles 2 and 4) would be associated with higher learning opportunities at school, if compared with apprentices with overall average resources (profile 1). Figure 2 shows that this assumption is only partly supported. In line with what we expected, apprentices with profile°2 (i.e., high resources at both locations) have higher learning opportunities at the workplace than apprentices in average resourced environments (profile 1) (B = .238, $p < .001$). This is, however, not the case for apprentices in profile 3, whose work-related resources are high too: Their learning opportunities at the workplace do not differ

significantly from those of the apprentices with profile 1 (B = .168, $p > .05$). Furthermore, the assumption that higher school resources would be associated with higher learning opportunities at school is not supported; neither for profile 2 nor for profile 4. The structural conditions of Swiss apprenticeships might explain this. In dual VET programmes, most learners spend only one day per week at the VET school. The pre-set vocation-based curricula strongly influence learning opportunities, and possibilities for individualisation are limited (Stalder & Nägele, 2011). In general, teaching practice might thus affect learning opportunities at school to a lesser extent compared to trainer's instruction and guidance at the workplace. Besides, profile 2 is not only the profile with the highest resources but also with the lowest demands at school. It is possible that these apprentices are under-challenged, and in turn, can but little profit from lessons at school. Interestingly, it is less the "surplus" of resources, but the relative lack of resources that seem to affect learning opportunities. Apprentices with low levels of school resources (profile 4) have fewer learning opportunities at school (B = -.258, $p < .001$); and apprentices with low levels of work resources (profile 4) have fewer learning opportunities at work (B = -.544, $p < .001$) compared to apprentices with average resources. In general, the results suggest supporting other findings, which show that workplace learning is more effective when school-based learning is transferred and integrated into learning at the workplace (Schaap et al., 2011; Stalder & Lüthi, in press).

Hypothesis 2 states that CSE and resources profiles are correlated, such that apprentices with high CSE will be found more often in profiles characterised by high resources than apprentices with lower levels of CSE. This hypothesis was partly supported. The correlation was significant between CSE and profile 2 ($r = .279$, $p < .001$). This could mean that apprentices high in CSE evaluate their workplace and school resources more positively (Judge & Bono, 2001; Wu & Griffin, 2012), and might be more confident and able to ask for feedback and more autonomy. Or vice-versa, it is possible that high resources boost individuals' CSE. CSE and profiles 3 and 4 were not correlated.

Results supported hypothesis 3, which proposed that CSE and learning opportunities are related. CSE was linked to higher levels of learning opportunities at work ($\beta = .317$, $p < .001$) and at school ($\beta = .179$, $p < .001$), which suggests that apprentices with high CSE might engage more in new or more challenging tasks with higher learning potentials (Judge & Hurst, 2007).

According to hypothesis 4, we expected that higher levels of learning opportunities at work and school predict occupational commitment, satisfaction, and resignation one year later. Apart from the effect of school-related learning opportunities on occupational commitment, which was not significant, hypothesis 4 was fully supported. Higher learning opportunities positively influenced satisfaction with VET in the following year ($\beta_{work} = .321$, p < .001; $\beta_{school} = .164$, $p < .001$)), and occupational commitment ($\beta_{work} = .277$, $p < .001$; $\beta_{school} = .103$, $p < .001$). Additionally, the higher apprentices' levels of work-related learning opportunities were, the less they felt resigned about VET one year later ($\beta = -.145$, $p < .001$). This indicates that learning at the workplace and at VET-school is essential for learners' vocational development (Bakker et al., 2012; Schaap et al., 2011) in terms of satisfaction, reduced risk for resignation, and commitment (Stalder & Carigiet Reinhard, 2014; Stalder & Lüthi, in press.; Stalder & Schmid, 2016).

4 Conclusion

The goal of this study was to find distinct profiles of situational resources and demands at the workplace and at school, to explore how these resources profiles and CSE are related to learning opportunities, and how learning opportunities, in turn, affect career-outcomes of learners in the following year. We found four homogenous latent resource profiles, which are characterised by different patterns and levels of work- and school-related resources. The unique feature of these resources profiles is that workplaces and school, which are both seen as valid learning places

(Messmann & Mulder, 2015), were considered. The profiles of work- and school-resources are closely linked to apprentices' learning opportunities within the specific learning environments, with the interesting result, that lacking resources might be more critical regarding (missing) learning opportunities than having good resources. On a general level, our results enhance our understanding of how situational and individual resources at work and at school are related to learning opportunities and work-related career outcomes. They provide insights about the necessity of high learning opportunities for positive career development (Deci & Ryan, 2000; Kyndt & Baert, 2013).

Our study has some limitations that should be considered in future research. First, we relied on a sample of apprentices from Switzerland and generalizability to other countries might be limited. Future research can fill this gap by replicating our findings with samples from different VET-systems. I would be helpful to provide knowledge about resource profiles in school-based VET-systems, which include shorter internships. Second, we relied on self-report measures, and shared method bias might have affected the observed relationships between the applied measures (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). A third limitation is that affectivity, an indicator used to build CSE, was only assessed in the second TREE-wave. We could therefore not examine resources in the first year of the apprenticeship, which may have lead to yet other different resource profiles. Further analysis could explore situational and individual resources at the beginning of VET and analyse their association with the development of learning opportunities during the whole apprenticeship after the transition to qualified employment. Research has shown that early career experiences profoundly affect career development, and we assume that having high resources at the workplace and school will be associated with successful careers.

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Accompaniment and Qualification On-the-Job: Case Study of a Work Integration Social Enterprise

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1   Abstract

Work Integration Social Enterprises (WISE) have explicit educational and training aims, as important as productivity and competitiveness. In our research, we have studied the features of the people in charge of qualification and accompanying processes as well as on the relations they establish and the strategies they use. In this paper we give an account of the process and results of the work conducted by one trainer in a WISE, in order to describe and analyse teaching and learning processes happening there. We describe a case study entailing a company that we have visited along two and a half years. Our research is qualitative and longitudinal, and the sources we have used are observation, interviewing and also documents analysis. We analyse the features of the accompanying staff (PTA is its acronym in Spanish), her leadership and possibilities of coordination, her style, role as well as the training strategies she uses. We also identify the principles and difficulties of the accompanying process. We conclude that it is key to the accompanying processes work upon personal development as well as teamwork. Furthermore, the PTA must be clear that the accompanying role is more important than her implication in the productive processes, which should be undertaken by someone else.

2   Keywords

social economy, workplace learning, social inclusion

3   Introduction

This paper presents part of a Spanish national research Project on Educational, accompanying, qualification and developmental processes in work integration companies: innovating social inclusion through employment (EDU2013-45919-R) as well as of an Erasmus+ project entitled Jobcoach+ (2015-1-BE01-KA202-013226). In both projects, we have worked with trainers in Work Integration Social Enterprises (WISEs), who have the role of professional preparation as well as social accompaniment of workers in order to facilitate their entry into the ordinary labour market.

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Our aim is to describe the accompanying practices that take place on-the-job as well as their effects upon processes of personal and occupational development as well as vocational qualification that they have upon their employees in their transition into jobs in the ordinary labour market. Hence, our research focuses on three axes: companies as organizations, trainers and trainees. These companies promote social inclusion for people who have suffered marginalization in their lives, and to equip them with an occupational training and experience that will help them improve their employability. They provide an opportunity for certain groups of people and they facilitate training in a working context, therefore trying to improve their transition into the ordinary labour market, facilitating working and social inclusion (Ros-Garrido & Brabo, 2013).

We approach WISEs as a research context due to their explicit educational and training aim, as important as productivity and competitiveness. In our research, we have studied the features of the people in charge of qualification and accompanying processes as well as on the relations they establish and the strategies they use.

Our research approach is based upon Eraut's notion of learning trajectories (Eraut, 2009; Eraut & Hirsh, 2007; Eraut et al., 2004, Eraut et al., 2005). We have elsewhere argued why this choice (Chisvert-Tarazona, Marhuenda-Fluixá, Ros-Garrido, Abiétar-López, Palomares-Montero, & Belver, 2017) and how we want to elicit the tacit knowledge of the professionals (Marhuenda, 2018). We have adapted this approach for our purposes (Marhuenda, 2017), and we are now able to give an account on three dimensions: working processes with learning as a collateral effect, intentional learning processes and, thirdly, learning activities embedded in other processes.

We give an account of the process and results of the work conducted by one trainer in a WISE, in order to describe and analyse teaching and learning processes happening there. After describing the WISE (jobs, timetables, profile of integration workers) we analyse the features of accompaniment as performed by the PTA. Hence, we pay attention to the general features of this PTA, which we will name Mariola in order to guarantee her anonymity. We analyse her leadership and coordination within the WISE as well as her style and the roles she performs. We also pay attention to the training strategies and the principles and difficulties of her social accompaniment. Through all of these, we attempt to answer our research question about how are training and learning processes designed and implemented in a company changing its organizational culture into that of a WISE along its first two years.

4   Methods

Our research consists of a case study entailing a company that we have visited along two and a half years (March 2016, September and October 2016, June and July 2017 and June 2018), conducting observation of full working days of all integration workers along time, interviewing (in a semi-structured way) them after observation and interviewing also their trainer every time we attended the company. Our research is therefore not only qualitative but also longitudinal, and the sources we have used are not only observation and interviewing but also documents analysis.

For this purpose, we produced a grid to give an account of every visit, including all sources of information and facilitating a coding system of learning contents as well as learning processes. We completed one such grid for each worker after every visit, and we reported on the company's trainer in the period between visits, to validate our reports and to get her feedback. The grid was not only useful to handle data and to reduce and analyse data gathered, but also to provide a first account of interpretation.

The choice of the company was done according to the following criteria: It had just been approved by the Official Registry of WISEs in February 2016; all their trainees were novice workers; all of them were middle-aged women with previous non-formal work experience and

with low educational level and no qualification; the company works in the recycling domain as many other WISEs in Spain (and as other five companies in our research project, which could allow for contrast of our findings).

We have been able to follow the progress of learning of these women as well as the obstacles and limits in their processes of social inclusion. We have seen the trainer behaving before different situations and how she has supported the learning and inclusion processes of these women along time.

The data we have obtained in our research show the complexities of the transition from the informal culture of an organization with experienced workers into the formal requirements of a WISE that demand an adaptation of training processes (AERESS & FAEDEI, 2014). We have analysed the implementation of standard procedures and we are assessing the impact of these upon the expected results in terms of personal and professional development of integration workers.

5 Results

With the aim to describe and analyse the training and learning processes in this WISE, we will first describe it and afterwards we will analyse the particularities of the accompaniment processes her PTA displays.

5.1 Description of the WISE

This WISE has four different locations: three shops and one warehouse. The three shops are located in Valencia, one of them very close to the city center (a small one, selling mainly clothes and typical dresses and whose customers are mainly tourists visiting town); very close to this one there is another very large shop and warehouse with furniture; the third shop located in a long avenue (a large shop, with furniture displayed in the window, and which is a neighbourhood shop). The warehouse is in an industrial park very close to town, a location shared with the Association promoting this WISE, where they perform reception, selection and classification of clothing).

The working day starts at 8am and finishes at 3pm, with afternoons distributed among all workers in the Association and the WISE in order to serve the needs of all three shops and to accomplish a working week comprising 40 working hours. From 8 to 10, shops are closed, and the PTA makes use of this time to explain issues to the integration workers. Shops close to customers at 2pm in order to close the cashier. Around 9.30am the workers have a coffee break and they also gather at noon for a five-minute break if there is no one in the shop. The breaks are similar in the warehouse.

The usual profile of integration workers is that of adult women (30-45 years) without a qualification, and with disregard of health, ethnic origin, work experience, family life or social support they may have. All three integration workers were sent to the WISE by the local Social Worker, they all have relatives dependent upon them and none of them has the GCSE.

The working climate is warm and kind, there is much trust among the workers, particularly between PTA and the integration workers. This is not the case with the manager, as there is a continuous struggle between the manager and the PTA that all integration workers notice and sometimes suffer. Relations between the members of the Association and the company are fine, they have been working together for quite a few years now, they hold a friendly relation and they are able to solve the problems they face: in their own words, they are *like a large family.* It is worth noticing the respect all integration workers show for the president of the Association.

5.2 Featuring the PTA

Two people are in charge of the accompaniment processes in the WISE: Mariola and Ana. The first one plays the role of the formal PTA, while the second one is the person in charge of production processes (PTP is its Spanish acronym). Regarding the latter, the official PTP does not perform her role and that is the reason why Ana takes it over, teaching the trade, her expertise and sharing everyday details of work with the PTA. She is not aware, however, about the existence of a planned pathway neither the aims the PTA has planned for them.

In this paper we focus upon the accompaniment and qualification of the work performed by the PTA. Mariola started working in the Association a year and a half before this promoted the WISE. She has a bachelor in environmental sciences and a master as a secondary school teacher. She is very active and engaged in many different issues in her leisure time, where she also uses to teach students, to study her doctorate as well as to take part in national and international projects. She agrees fully with the aims of the Association and she is engaged in environmental issues as well as in social movements.

Two months after erecting the WISE, she became conscious of the need to be *close* to the integration workers and she rearranged the physical distribution in the warehouse moving her office to the working area of the integration workers, where she could also lend them a hand whenever possible. Along the interviews we held with her, she has shown great awareness and even loyalty to the Handbook on Accompaniment in WISEs by AERESS & FAEDEI (2014). She has confirmed our descriptions and analysis in the first two visits to the company, she is aware of the need for improvement and she has introduced some innovations in the course of the research. In our third visit she is burned out due to the forced firing of one of the integration workers (who fell again under addictive consumption of alcohol) and she had to prioritize production tasks upon accompaniment ones.

5.3 Leadership and coordination

The leadership exercised by the PTA is the result of her character and her own circumstances, as well as the role she wants to take over. However, her leadership is in relation to the integration workers, not towards the WISE nor the Association, where she would introduce changes she cannot implement due to her weak position. Mariola therefore focuses upon her accompaniment with the women coping with the demands and suggestions made by the manager. Most of their discrepancies have to do with prevalence of productivity or the social and solidarity aims of the WISE: the manager defends and believes in the latter, but he is very worried about the ability to survive in the market of the WISE. Other discrepancies have to do with the organization of work and the arrangement of the shops (like the arrangement of shifts, the location of the hangers or other minor issues that are subject to confrontation). We can summarize that the manager understands and respects the process of accompaniment (*it is easy to talk to him, everything can be discussed and agreed*), though sometimes his ways and decisions help hindering accompaniment processes; which is the reason why the PTA has reached agreements around certain processes in order to achieve the aims).

The relation with the staff in the Association is very close and in the third visit we discovered problems, mainly around the planning and distribution of shifts. There was a general assembly of the Association and problems were solved, as well as the agreement reached on meetings every fortnight in order to avoid all decision taking upon the manager.

Along the first months in the WISE, Mariola had a close contact with Social Services. She went with integration workers to the follow-up meetings, little by little distancing between each other as a consequence of the process of autonomy and empowerment of integration workers. However, time has shown that the accompaniment process must go on…

5.4 Accompaniment style and roles

The PTA performs roles of accompaniment, production and management. She takes part in the organization of work and the arrangement of working teams as she is part of the Management Team which rules the Association. It is a collaborative work. Even if the Assembly is formed by all workers and the members of the Management Team, it also takes certain decisions. Integration workers are not entitled to participate in decision taking processes, as they are not members of the Assembly but employees. However, in daily work Mariola tries to take her opinions into account.

There is a planned pathway, but surprisingly no integration worker is aware of it, nor do they remember the aims agreed every time it is reviewed. This may be the result of an intentional choice by PTA in order to avoid blocking them or perhaps to avoid integration workers trying to convince her they have advanced to an extent they have not. There is no specific training plan in the company or the association for all integration workers. It is the PTA who looks for herself how to solve the problems and she does not delegate accompaniment tasks in other colleagues in the WISE nor the Association, except when the integration worker is in the shop with Ana.

Meetings are not planned nor there is a set day for them, they happen *whenever they are needed*. Every day, before the shop opens, as well as in breaks along the morning, not only labour issues but also personal ones are shared. We could not gather data about follow-up meetings in which Ana or the manager took part. The PTA is conscious about the lack of a registry of learning and meetings with integration workers as they are often rather informal.

Regarding phases, along the first months, accompaniment practice was much closer, daily, focusing upon the personal rather than the labour dimensions, with productivity in a hidden role. There were group meetings in order to promote personal and social relations, to foster mutual support among integration workers and, whenever necessary, there were individual meetings.

Along the follow-up phase, integration workers are completely autonomous in tasks and the meetings become scattered. In our third visit, as there was one integration worker less, all of them were tired and exhausted and they had not gathered for a month after the dismissal of the other woman. In our fourth visit, all integration workers felt abandoned, which we understand as the effect of the overwhelming assumption of roles performed by the PTA in the previous months.

As a whole, the accompaniment style of PTA is oriented towards integration workers, to the development of their personal competencies, without losing sight of training them in technical, occupational and social and professional competencies, neither of the orientation of the WISE towards social and solidarity aims.

5.5 Training strategies

The strategy that summarizes the process of accompaniment of PTP and PTP is as follows: they have moved from working with the self (initial phase) to working with the family and the self in the closer environment (follow-up phase), companionship and empathy; after which there is a move towards working with the self and the world (work, bills, environment) and to foster resilience in order to avoid falling down again (advanced follow-up). They work upon the assumption that assessment must be positive and upon the consciousness that there are moves forward and backward along their process, which is normal, as integration processes are not linear.

For more than a year, Mariola put emphasis in training all integration workers favouring their learning processes within the working time, and she supported one of them in registering for adult education classes. However, due to different circumstances (change in residence, lack of initiative, workload of the integration worker, even an excess of optimism regarding her

autonomy and engagement, among others), they must have abandoned that aim. There might have been perhaps greater emphasis in the relevance of achieving the GCSE in order to increase employability and the possibility of future hiring in the ordinary labour market.

In a similar way, training in health and safety issues might be introduced in the training provided, as well as foreign languages in order to better perform their role in the shops, even through the achievement of formal accreditation. The training provided to integration workers is under review so that the WISE can promote the accreditation of a professional qualification or, at least, some acknowledged competency.

5.6 Principles and difficulties

We can hold that the accompaniment performed by Mariola fits 6 out of seven of the methodological principles specified by AERESS & FAEDEI (2014): Accompaniment is not a linear process, sequential or paced; it entails moves forward and backwards; participation and autonomy; respect and equality; personalization and socialization; development of strengths and adoption of a critical vision; as well as integral development and working in networks. More emphasis should be done, however, in the continuing training of the accompaniment and production staff.

It is worth noticing that along our study (approximately two and a half years), we have seen a whole array of difficulties in the phase of follow up and the improvement of employability specified by Gallastegi and Martínez (2011): We have found traces of lack of organization, of space and time to coordinate work between the PTA and the PTP; lack of communication among the staff; the planned pathway developing at a much slower pace than expected; workers falling down in consumption and addictions (an integration worker was even fired for this); problems derived from lack of understanding; personal situations having a much greater impact upon work than should be reasonable. Along the first year, after having shown good results, we have perceived an accommodation and *slow down process*, adapting to the current job and showing resistance to change and to the improvement of performance. These are some of the complex situations that the integration workers do want to address in their accompaniment processes.

6   Conclusions

The trainer's background as graduate in environmental engineering and master in local development and professional experience in teaching young adults, as well as good knowledge of management techniques, is relevant. She gets trainees involved in in-company activities. She coordinates with the manager not without confrontation.

We can then confirm, following Marhuenda and Bonavía (2011) that the key to these processes does not rely upon work performance but rather upon personal development as well as working in groups. We have also seen that the focus has displaced from personal development in the initial phases into working in teams at later stages, fostering the learning of social and labour relations and contributing to staff development within the company.

In the paper, we identify several training strategies that she uses in different moments along the trainee's process.

We have been able to identify several strategies out of the principles and guidance provided by the handbook on accompaniment (AERESS & FADEI, 2014). These strategies shape a non-linear process, even if sequenced and planned, while embedding moves forward and backwards of the employed women. Participation and autonomy are encouraged by the jobcoach and respect and equality is relevant in labour relations. Each woman has her own individualized learning plan and that is a tool also contributing to the improvement of jobcoaching practices.

It would be necessary to reconsider to what extent integration workers should be aware of their own integration process, participating in their shaping, reviewing and readjusting. Should

the PTA take them into account in order to write and determine the aims to be achieved in the short and long term? Should they become involved in the definition of strategies and plans in order to accomplish them? Should they have to aim to such goals, in their current situation of need and uncertainties? The question whether to bring integration workers to a situation of stress and pressure in order to advance in their integration process is in question here.

In this WISE, the impact of combining PTA and PTP roles was considered a strength. The fact that the PTA knows close and well the production processes and is able to spend more time working with integration workers was considered an asset of the company. As a matter of fact, a review of the roles defined by AERESS and FAEDEI (2014) allows us to confirm that Mariola performs more than half of the processes allocated to PTP. The PTA took over the role of PTP due to the current PTP not performing as such. Nevertheless, in our final visit to the site we discovered that such a strength had been brought to the extreme and it had turned into a mistake. The pressure set by the management to increase productivity caused the abandonment of accompaniment processes. The autonomy attributed to the integration workers proved not such and they felt abandoned in their personal processes. The lack of understanding of members of the Association of such an aim which is crucial in a WISE has been also a hindering factor. Therefore, we dare to conclude that the PTA has developed both roles which has hindered the accompaniment function in favour of the production processes, that were not taken over by other staff in the WISE.

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Comparison of VET and CTE Teacher Pathways: Finland and the U.S.

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Abstract

Vocational education and training (VET) is one way to bridge the achievement and inclusivity gap for students who want optional learning environments such as VET and maybe for low socioeconomic groups. However, vocational education has not been valued as a pathway to gainful employment. Improving the status of vocational programs through highly effective teachers may change societal views on VET value for equity and access. In Finland, teachers are highly valued, and teacher education degree programs are competitive. In the U.S., teachers are not as valued as Finland's teachers. U.S. career and technical education (CTE) teacher preparation program offerings have been reduced due to low enrollment. The purpose of this paper is to compare and contrast VET and CTE teacher preparation pathways and teacher value in Finland and the United States. Martino's (2017) qualitative, grounded theory study on CTE teacher preparation program sustainability is discussed. The framework presented in the study with internal and external domains includes CTE program value and its importance in program sustainability. Based on the study results, some implications for best practice are presented.

Keywords

vocational teacher education, CTE teacher preparation, Finland, U.S.

1 Introduction

European vocational education and training (VET) and U.S. career and technical education (CTE) play an important role to offer inclusive opportunities for diverse students. These opportunities can have life-changing benefits of offering optional learning environments and even of lifting people up and out of poverty into skilled jobs. Successful vocational education programs have been seen as a catalyst for reducing achievement gaps and increasing educational justice for diverse student populations (Kantrov, 2017). However, VET and CTE programs may have been considered unequal compared to academic programs.

Teacher quality may have impact on societal value in the workforce. In Finland, vocational teachers are highly respected and require a Bachelor's or Master's degree or higher degree. In the U.S., career and technical education (CTE) teacher certification requirements vary greatly

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from work experience to a Bachelor's degree. Furthermore, qualified Bachelor degree CTE teacher preparation programs have significantly decreased in the U.S. for decades. This has caused alternative teacher certifications for non-degreed CTE teachers. Without a professional education degree, CTE teachers may not be as effective and, therefore, not as highly valued as they are in Finland.

To bring about a change, improving the societal views on the value of VET programs has been an educational policy goal in the European Union as well as the United States for some time. In the U.S., the term vocational education was changed to career and technical education (CTE) to represent a more concise, academically rigorous, pathway from school to career (U.S. Department of Education, 2017). In Finland, applying the parity of esteem between vocational and academic education as well as other initiatives that promote and improve VET has also been endeavoured in vocational teacher education (Lasonen, 2010a, 2010b).

1.1 Finland VET and Florida CTE

To compare the VET and CTE teacher pathway certifications in Finland and the U.S., it is necessary to review a selected U.S. state, such as Florida. In the U.S., the federal government operates the U.S. Department of Education, which establishes policy and administers federal assistance to education as well as collects data. Each of the 50 U.S. states has its own department of education (DOE). The state departments of education govern public education, funding, and teacher certification according to their respective state laws (Florida Department of Education, 2017). Therefore, comparing Finland's teacher pathway to the Florida teacher pathway is reasonable due to the differing teacher certification policies in each U.S. state.

Finland subscribes to a Nordic welfare state whereas there is equal opportunity for educational attainment. Finland's Constitution includes the basic right to education and culture with quality, efficiency, equity, and internationalisation that guide their education system (Finnish National Agency for Education, n.d.). The higher education system in Finland has two pathways: universities and universities of applied sciences. Admission into universities requires matriculation and entrance examinations, and admission to universities of applied sciences requires a diploma in an occupation from vocational high school and entrance examinations in Finland. However, many academic high school students with just a general education certification apply to universities of applied sciences. To adhere to a free education system for all, student selection criteria in some programs have been "lowered", and students from low socioeconomic backgrounds may receive study grants and housing supplements (Finnish National Agency for Education, n.d.).

In Finland's education system, there are eight common vocational units or clusters: culture; humanities and education; national resources and the environment; natural sciences; social sciences, business and administration; social services, health, and sport; technology, communication and transport; and tourism, catering and domestic services. Vocational education teachers have experience in their industry in addition to a degree or post-graduate certificate or license, as applicable to their field. All teachers must have training in pedagogy with research-based methods and practices (Finnish National Agency for Education, n.d.).

In the United States Constitution, there is no mention of education. However, it does state "…promote the general Welfare, and secure the Blessings of Liberty to ourselves and our Posterity…" (Baltzell, 2014). In the U.S. Declaration of Independence, it states, "all men are created equal, that they are endowed by their Creator with certain unalienable Rights, that among these are Life, Liberty and the pursuit of Happiness" (Independence Hall Association, 2018). In the U.S., public school is free from Kindergarten to Grade 12. Grades 5/6 through 9 are called middle school. Grades 9 through 12 are called high school. Introductory career courses may be available in middle school. Upper level CTE programs and courses are offered at the high school level. After high school, there are opportunities for tuition assistance and funding in

technical schools, community colleges, state colleges, and universities for low socioeconomic students. Technical schools, community colleges, and state colleges have open access to all students. General entry tests are given to place students in the appropriate level courses. If students fail the entry examinations, the students are required to complete remedial courses prior to college level courses.

In Florida, there are 17 career clusters: agriculture, food and natural resources; architecture and construction; arts, audio/visual technology and communication; business management and administration; education and training; energy; engineering and technology education; finance; government and public administration; health science; hospitality and tourism; human services; information technology; law, public safety and security; manufacturing; marketing, sales and service; and transportation, distribution and logistics (Advance CTE, 2018). Full time CTE teachers in Florida's public schools are designated as either degreed or non-degreed. CTE teachers with a Bachelor's degree may apply for a professional teaching certificate in one of the five CTE coverages: agriculture; business education; engineering and technology education; family and consumer sciences; and marketing (Florida Department of Education, 2018). Non-degreed CTE teachers are certified through each of the 67 school districts with at least six years of occupational experience and completion of professional education courses according to the 2018 Florida Statutes.

According to Florida's K-20 Education Code,

Employment of non-degreed teachers of career education

d.   For full-time teachers, completion of professional education training in teaching methods, course construction, lesson planning and evaluation, and teaching special needs students. This training may be completed through coursework from an accredited or approved institution or an approved district teacher education program. (The Florida Legislature, 2018)

VET/CTE systems have seen positive changes in student enrollments in recent years. In Finland, 42% of students attend upper secondary vocational programs (NCEE, 2018). Finland is currently implementing reform to increase societal views on the value of VET. Finland's vocational education teacher preparation programs, as all professional education programs, are in high demand as teachers are well respected. In the U.S., there is a renewed interest in CTE after decades of focus on academic subjects and college admission. Currently, CTE programs have increased student enrollments at the secondary level in public schools. More specifically, in Florida, there has been a 20% increase in student enrollments in career-themed courses and CTE programs (Florida Department of Education, 2017). However, CTE teacher preparation programs are not aligned with the demand considering the lack of students' needs. The bachelor's degree CTE teacher preparation program availability has steadily declined. In 1990, Florida CTE teacher preparation programs totalled 27 (Lynch, 1990). In 2017, there were only four active undergraduate CTE teacher preparation programs (Martino, 2017). As of Fall 2018, there are three remaining.

What has caused the decline in available programs, especially in light of the increased CTE student enrollment? In order to understand this phenomenon on a deeper level, reviewing the remaining programs and their reasons for sustainability was necessary. Martino's (2017) study sought to discover sustainability factors from past and present CTE teacher preparation program faculty and administrators. Findings included the development of a CTE Teacher Preparation Sustainability Framework that is theoretically grounded in the data.

2   Methods

Martino's (2017) study used a qualitative constructivist Grounded Theory methodology with a constant comparative approach (Charmaz, 2006). A purposeful sampling method was used. Twenty-four past and present CTE teacher preparation program faculty and administrators were identified through Florida university websites. Of the 24 potential participants, 10 individuals

responded and signed informed consents, a participation rate of 42%. There were two females and eight males. Table 1 reveals the participants with some demographic details using fictitious names.

Table 1   Participant Selection Demographic Data with Fictitious Names

Fictitious Name	Job Title	Degree Attainment	Length of CTE Work Experience in Years
D. Parker	Dean of College	Doctorate	3
D. Miller	Associate Professor	Doctorate	8
D. Harris	Professor	Doctorate	13
D. Martin	Adjunct Instructor	Doctorate	11
D. Clark	Retired Professor	Doctorate	43
D. Lewis	Program Coordinator	Doctorate	14
D. Young	Adjunct Instructor	Doctorate	8
M. King	Adjunct Instructor	Masters	1.5
D. Smith	Program Chair	Doctorate	16
D. Jones	Program Coordinator	Doctorate	7

Note. The participants' first initial is designated with an 'M' which represents a master's degree, or a 'D' which represents a doctorate degree. (Martino, 2017, p. 50)

The participants were interviewed with an open-ended semi-structured question protocol that were modified from Mancini and Marek's (2004) quantitative Program Sustainability Index (PSI) instrument. The interviews were transcribed in a Word document and organized into tables. The data was reduced three times. Additional data collection included member checking, peer debriefing, and memo-taking notes. After the data was analysed upon saturation, themes emerged that answered the two research questions: Question 1. How do past and present undergraduate CTE teacher preparation educators and administrators describe their program experience and program sustainability? And Question 2. What perceived conditions do past and present undergraduate CTE /VET teacher preparation educators and administrators believe are essential for program sustainability?

2.1 Results

The findings of Martino's (2017) study revealed categories that answered each of the questions and were organized into internal and external domains. Question 1 was answered by the internal categories, and Question 2 was answered by the external categories. Figure 1 reveals the framework with both domains as equal and necessary components to sustainability.
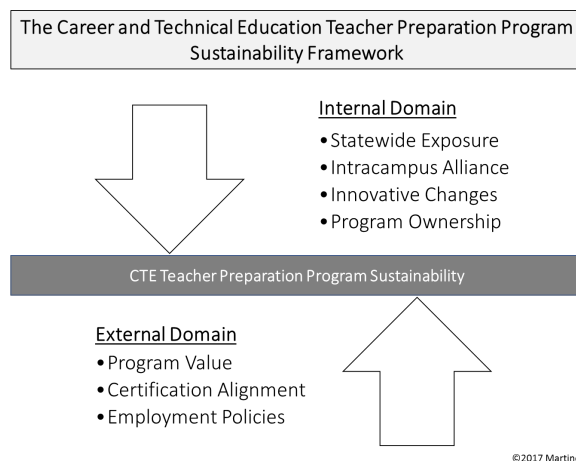
Figure 3   CTE Teacher Preparation Program Sustainability Framework (Martino, 2017, p. 111)

Question 1 internal themes, or categories, were influenced by the participants' perceived experiences. The internal domain includes the following categories: statewide exposure; intra-campus alliance; innovative changes; and program ownership. Program ownership, in this study, represented value, pride, respect, success, and caring. A participant stated "So, I think a lot of the success or failure of the programs, it really lays with or rests with the individuals who are in the program" (as cited in Martino, 2017, p. 86).

Question 2 external themes, or categories, were influenced by the participants' perception of essential sustainability components controlled by others. The external domain includes the following categories: program value; certification alignment, and employment policies. Pro-gram value, as an external category, represents the necessity of having administrators and other stakeholders value CTE. When external sources do not value CTE, little support may be given, according to participants.

One participant stated,

"By the way, when are you going to teach?" I realized he didn't know what teaching was, teaching lab. My answer to him was "What do you think I've been doing this whole period since you've been here?" He said, "No, I mean when are you going to lecture?" because to him that was teaching (as cited in Martino, 2017, p. 93).

The CTE program sustainability framework show that value is an important component in both internal and external domains. In order to maintain or promote CTE teacher preparation programs, value in CTE should be present.

3   Conclusion

Value is a necessary component to sustainability and success in any society, both internally and externally. Vocational education, historically, has been viewed as less important than academic studies. Recently, VET and CTE programs have seen an increase in student enrollments. This may be due to changes in the workplace that require more skilled labour or job scarcity in a downward economy. In either case, vocational education and training are on an upward trend. How does that affect VET/CTE teacher education? Finland's teachers are valued as a whole due to their views on education and the high requirements of the profession. However, voca-tional education is still viewed as less important or less desirable than academic subjects and programs at the university level.

In the U.S., teachers are not valued as highly as Finnish teachers overall. This may be due a combination of lower educational attainment requirements for certification and societal views. CTE in the U.S. has also been historically valued as less than academic subjects and upper level university degrees. In the past, schools have guided students to vocational programs who were not able to succeed in academic programs. This practice is also changing. More students are choosing CTE programs in high school and go on to college or other postsecondary education than in the past (Advance CTE, 2018). However, CTE teacher value has not aligned with this trend. It may be due to politicians' awareness, CTE teacher degree requirements, and professional education expertise. There are less CTE teacher preparation Bachelor degree programs offered now than there were in 1990 (Lynch, 1990; Martino, 2017). As such, CTE teachers are seeking alternative certifications through school districts and employers.

In Finland, vocational education is currently being reformed with a goal towards a higher value in society and real workforce experience (Ministry of Education and Culture, n.d.). In the U.S., efforts are ongoing to improve CTE and strengthen workforce readiness programs through legislative acts, which may indirectly improve societal views (Committee on Education and the Workforce, 2017). However, is this enough to help students who choose VET/CTE programs for inclusivity that will ultimately improve the achievement gap? Will these efforts change societal views on the value of workforce education versus academia?

Governments and institutions can implement reform policy and legislation to identify and improve vocational programs for a better society, but it is societal views that may need reform for change to occur. To begin, language is important. It may be helpful to change the term "lowered standards" associated with entrance examinations for vocational programs to "authentic assessments" that apply competency-based knowledge. People who choose vocational education are not lowered or remedial. Their knowledge, skills, and experience should be equally valued. Lastly, improving the value of teachers is a strategy that may indirectly improve the value of those programs. A society that places a high value on education also places a high value on teachers. To do this, it may be necessary to increase the educational attainment levels of VET/CTE teachers to become effective in their practice.

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Productive Capabilities: A Framework for Vocational Education

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Abstract

This paper develops the capabilities approach for application to vocational education by introducing the notion of productive capabilities, which we define as what individuals can be and do in work which they have reason to value. The paper outlines productive capabilities and derives seven implications for vocational education: promote agency, develop reason, contribute to common capacity, become institutionalised, have strong organisations, and prepare graduates for occupational and educational advancement. The paper tests two implications of productive capabilities for vocational education in three countries: Côte d'Ivoire, England, and Taiwan. The paper concludes by examining the limitations of the work so far and how these may be addressed in future work.

Keywords

vocational education, capabilities, productive capabilities

1 Introduction

The United Nations' (2015) sustainable development goal for vocational education, UNESCO's (2016, p. 6) strategy for technical and vocational education and training, and UNESCO's (2017, p. 149) indicators for vocational education all seek universal application, equally to vocational education in wealthy industrialised countries with highly elaborate vocational education systems, and in developing countries with more agricultural economies where vocational education is less well established and funded. However, there are considerable difficulties in these international applications, particularly between industrialised and developing countries. For example, UNESCO's (2016, p. 6) emphasis on fostering youth employment may be deemed appropriate in economies with stable employment of adults but relatively higher unemployment of youth, but it can instead be misplaced in countries where vocational education needs to retrain substantial numbers of workers displaced by structural changes.

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UNESCO's (2016, p. 6) strategy for technical and vocational education and training of fostering youth entrepreneurship has markedly different implications for students in a country with a diverse and well-resourced economy and adequate social security, than in a country dominated by subsistence farming with few resources and little social security. Accordingly, the soundness of developing students' entrepreneurship by shifting responsibility for employment from governments and employers to students cannot be assessed universally.

Some of the difficulties in applying these policies and measures globally may be overcome by interpreting key terms such as 'entrepreneurship', 'sustainability', and 'employability' differently in different contexts, but other targets need to be ignored or replaced by ones more suitable to their context. An alternative is to discard the standard specification of goals and targets as inputs and outcomes (Stufflebeam, 1971) or resources and functionings, as they are termed in the capabilities literature (Sen, 1985, 2000; Nussbaum, 2000) and replace them with an evaluation of peoples' capability to be and do what they have reason to value (Sen, 2000, pp. 18, 285; Nussbaum, 2000, pp. 71, 78–80). Nussbaum (2000, p. 35) and Sen (2009, p. 256) argue that the capabilities approach is well suited to international application and comparisons.

Nussbaum (2000, pp. 78–80) proposed ten central human functional capabilities:

1. Life.
2. Bodily health.
3. Bodily integrity.
4. Senses, imagination, and thought. Being able to use the senses, to imagine, think, and reason. . .
5. Emotions. Being able to have attachments to things and people outside ourselves. . .
6. Practical reason. Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience.)
7. Affiliation. Being able to live with and toward others. . .
8. Other species. Being able to live with concern for and in relation to animals, plants, and the world of nature.
9. Play. Being able to laugh, to play, to enjoy recreational activities.
10. Control over one's environment.

While Sen 'has never made a list of the central capabilities' (Nussbaum, 2000, p. 13), Sen (2000, xvi, 318–319 fn 41) provided technical help to the United Nations Development Program to develop its human development index, which is a summary measure of average achievement in three key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The health dimension is assessed by life expectancy at birth, the education dimension is measured by mean of years of schooling for adults aged 25 years and more and expected years of schooling for children of school entering age. The standard of living dimension is measured by gross national income per capita which uses the logarithm of income to reflect the diminishing importance of income with increasing gross national income (Human Development Report Office, no date).

This list, however useful for evaluating and comparing nations, is nonetheless too broad to evaluate progress towards building capabilities, and in particular capabilities for work, vocational education, and their interplay. To bridge this gap, this paper applies the capabilities approach to vocational education and work by developing the concept of productive capabilities (Moodie, 2012, pp. 29–30; Moodie et al., 2015, p. 22). This is tested briefly by applying just two implications of productive capabilities for vocational education to three countries: Côte d'Ivoire, England, and Taiwan. The paper concludes by examining the limitations of the work so far and how these may be addressed in future work.

2   Productive capabilities

Following Sen's (2000, p. 18) and Nussbaum's (2000, p. 71) understanding of capabilities as peoples' ability to be and do what they have reason to value, we define a person's productive capabilities as what they can be and can do in work which they have reason to value. We understand work to be an activity which seeks to sustain an individual or society. This includes paid employment, voluntary work, and 'women's work', or 'self provisioning within the household' as Pahl (1984) calls it, and excludes recreation and leisure (Voss, 1967).

Productive capabilities are distinguished from human capital, which is humans' augmentation of production for exchange (Sen, 2000, p. 293). Productive capabilities are broader than '*productive* abilities' counted as human capital, because they recognise and include the freedom of the person doing the work (Sen, 2000, p. 295). For the same reason, they are also more than Standing's (2014, p. 966) 'capability power', which is a person's potential to engage in paid employment. Still less are productive capabilities just the employability skills or competencies said to be developed by universities that are sometimes called 'capabilities', as these are too narrowly defined and taught, and do not necessarily provide workers with options to flourish beyond the level of the credential.

Nussbaum's (2000, pp. 78-80) ten central human functional capabilities are necessary for productive capabilities, but productive capabilities are more focussed than human capabilities, being restricted to working life rather than being about life as a whole. There are four dimensions of provide productive capabilities: agency, reason, resources, capacity. These are in turn supported and fostered by strong institutions.

Productive capabilities depend on peoples' agency in work, their freedom to choose what work they do and how they do it. Paid employment limits workers' scope for action, but nevertheless productive capabilities in employment include the capability to develop one's career, choose one's job, and the way one does one's tasks. Agency, therefore, includes personal development in work. Workers need the capability to respond to change and to change themselves for the better, including developing their knowledge, skills, and abilities to undertake different work.

The exercise of agency generally and productive capabilities in particular depend on informed reason. People need the knowledge and skill to choose the work they have reason to value, and to choose between options they consider. This includes the ability to think about new ideas, or the ability to 'think the unthinkable', as Wheelahan (2007, p. 637) expressed it, following Bernstein (2000, p. 30). The capacity of informed reason is usually developed in formal education. Informed reason is analysed into knowledge, skill and ability in productive capabilities for employment, understood as a career and not merely as a job or, worse, a set of tasks.

Most work depends on society having numerous resources to support and foster the development of capabilities such as public health, formal education, near universal literacy and numeracy, means for transport and communication, means of collective decision making, means of collective action, and means of exchange of goods and services, sharing facilities and resources. In particular, social capacity includes a society's capacity to support and foster the capabilities of people who are disadvantaged in comparison with most others by, for example, having fewer resources, having less knowledge, skills or abilities, having less access to capacities, or suffering discrimination.

Productive capabilities depend crucially on the knowledge, skills and abilities of fellow workers; how they are organised; and fellow workers' agency. People need command over resources for most work. The nature and extent of the resources a worker needs depend very much on the work they choose. The form of a worker's command over the resources they need for their work has historically been associated with the form of their work – as an employee; as an independent practitioner or contractor; having an informal, contingent or precarious attachment to the formal economy; or working in the informal economy.

Most work depends on institutions such as the family, schooling, trade, money, employment, banking, social security, and retirement. Most workers further rely on organisations to work, such as schools, telecommunication companies, and banks. This capability includes the freedom to organise to serve collective interests. Employment depends on employers, employers' associations, trade unions, unions' associations, and other organisations of collective action.

Much discussion of vocational education and the shallowest discussion of workers' productivity assume that graduates' success in work and workers' productivity depend mainly on individual workers' knowledge, skill and abilities. This ignores the foregoing argument that work is largely constructed by the society, institutions and organisations within which it is done. In particular, productive capabilities result from the interaction of three aspects of work:

- the goods and/or services that the workplace reasonably seeks to produce;
- the resources of the workplace, which includes all workers' knowledge, skills and abilities; and
- the way the workplace's resources are organised.

Each factor affects the others. For example, it might be reasonable for a workplace to seek to produce a high volume of moderate quality goods and/or services or a low volume of high quality goods and/or services. A workplace may be highly automated and employ relatively few highly skilled workers or it may produce the same outputs with less automation and more lower skilled workers. Further, a workplace may be organised into functional units of output A, output B, output C and a head office or it may be organised into head office and major client group I, major client group II, and major client group III.

A worker's productive capabilities in employment therefore depends on the outputs their workplace seeks to produce; the workplace's resources including its capital, plant and other resources including the knowledge, skills and abilities of any other workers; and on how the workplace is organised. Changes in those factors of production do not change a worker's own knowledge, skills, or abilities, but they change how fully they may be leveraged. A worker's productive capabilities are therefore to be understood not only in relation to the social system that supports and fosters them, but also with in relation to workplace resources and arrangements.

3   Implications for vocational education

Vocational education has a role in the community and society beyond developing students' productive capabilities. Vocational education also has a role in contributing to the community to strengthen its capacity to enable peoples' central human functional capabilities. Depending on the circumstances, this may involve being a source of expertise to community groups, employers and society generally; collaborating with other sectors in the community which seek to advance peoples' central human capabilities; being a medium for exchanging ideas and expertise with other communities including those abroad; and contributing to the community's understanding of itself and of its future and contributing to its capacity to explore new futures. Additionally, all vocational education should contribute to the special common capacity of ensuring the capabilities of people who are disadvantaged in comparison with most others by, for example, having fewer resources; having less knowledge, skills or abilities than others; or who have suffered discrimination.

We suggest that productive capabilities have seven implications for vocational education, which correspond to the productive capabilities we outlined. This is a normative framework; a statement of ideals against which vocational education systems may be evaluated. We do not expect all systems to have all characteristics fully. We propose these elements as suitable for

evaluating vocational education in different contexts, with different resources, and supporting different economies and societies, with the goal of one day defining productive capability thresholds (see Nussbaum, 2000) for these categories.

1   *Promote agency*. Vocational education should enable students to exercise freedom in choosing the work they do and how they do it. This includes developing students' capability to respond to change, to change themselves for the better, and to build their career over their life.

2   *Develop reason*. Vocational education should promote Nussbaum's 'practical reason' and what we call 'informed reason', the ability to do the work they have reason to value, and to choose between options they consider. This includes developing the knowledge, skill, and ability for a career developed over a lifetime. It includes the ability to think new ideas, or the ability to 'think the unthinkable'.

3   *Be supported by appropriate resources*. Students' capability depends on access to resources to support their vocational education, which must in turn be resourced appropriately. This includes teachers who are adequately educated and who have adequate time to develop, present and evaluate their education; and adequate equipment, space and other resources for their vocational education. Some forms of vocational education depend on appropriate work experience, which offers students structured learning in a variety of tasks supervised by a person of appropriate expertise and experience.

4   *Common capacity*. Vocational education should develop at least some of the common capacities upon which productive capabilities depend. In some contexts, this extends to developing peoples' literacy and numeracy. In all contexts, productive capabilities include developing students' capacity to organise their work, to contribute to the organisation of their workplace, and to work with their colleagues.

5   *Become institutionalised*. Vocational education should become as institutionalised as schools and universities, in the sense of being generally understood by the public with established norms and organisational forms which are reinforced by the expectations and behaviour of other institutions, organisations and actors (Streeck & Thelen, 2005, pp. 9, 12).

6   *Have strong organisations*. Strong vocational education cannot be fostered without strong vocational education organisations, typically colleges and apprenticeship bodies, which have stable, secure and long-term form and funding.

7   *Prepare graduates for occupational and educational advancement*. Vocational education should prepare graduates for advancement within their occupation and in their education over their whole career. This includes the capacity for graduates to develop in different contexts, including for work outside paid employment.

4   Application to different countries

Both Sen and Nussbaum (2000) operationalise capabilities by developing criteria against which they evaluate social arrangements, and some of Sen's criteria are quantitative, such as rates of fertility, literacy, and life expectancy. Similarly, criteria are needed for productive capabilities and we believe that some of these may be quantitative. Here we evaluate vocational education against just two elements for which we use qualitative (and subjective) criteria: promoting agency and having strong organisations. For the purpose of this paper, we limit our evaluation of vocational education to just three countries, and we have chosen Côte d'Ivoire, England, and Taiwan.

1. Côte d'Ivoire is a francophone country of 22.7 million people in West Africa. The United Nations (2017, p. 144) categorises Côte d'Ivoire as having lower middle income. However,

it was devastated by civil wars from 2002 to 2007 and from 2010 to 2011, whose 'disastrous' legacies persist as one of our interviewees said. Some 17% of Côte d'Ivoire's gross domestic product is in agriculture and 70% of non-agricultural employment is informal (International Labour Organization, 2013, p. 10).

2. Public vocational institutions in Côte d'Ivoire lack adequate equipment and many of their teachers lack high quality initial teacher education, continuing professional education and field experience. Most public institutions are located in conflict zones. Private institutions operate in the safer regions of the country, with fees making them inaccessible to many students (Wheelahan et. al., 2018, p. 19). This suggests that public vocational education institutions in Côte d'Ivoire need strengthening and that their development of students' agency is restricted by limited access.

3. England has a population of 55.6 million engaged in a mixed market economy. Academic and vocational education are divided from year 11 and vocational education is offered by colleges, 90% of whose students are enrolled in a diploma of two-years' duration or a lower level qualification. Vocational students who want to complete a higher qualification need to transfer to an academic institution. England therefore has a vertical arrangement of vocational and higher education, in contrast with the parallel systems common in continental Europe (Skolnik, 2016). The recent erosion of funding for further education (Foster, 2018, p. 4) has resulted in cuts of programs and enrolments, and the amalgamation of some colleges. All vocational qualifications are awarded by private for profit bodies and in our interviews for this study we heard concerns that their competition for coverage is threatening standards. Nonetheless, overall, vocational colleges and their education remain strong. They increase students' agency, but this is limited by the level of vocational education's qualifications, which does not go beyond the two-year diploma.

4. Taiwan has a population of 23.5 million. Some 36% of its gross domestic product is in industry and Taiwan's exports of goods and services is a very high 64.8% of its gross domestic product by end use (World Factbook, 2018). Taiwan has had a dual vocational and academic education system from upper secondary since the 1980s. Both vocational and academic education systems have 4 levels; the vocational system includes vocational schools (senior high school level), junior colleges of technology (2-year and 5-year programs), colleges of technology (bachelor degree of 2-year program with service extension program and 4-year program, and master and doctoral degrees), and universities of technology (bachelor, master, and doctoral degrees) (Wheelahan et al., 2018, p. 11). This suggests that Taiwan's vocational education organisations are strong, with an increased capacity to support students' agency, as they provide qualifications up to the doctorate.

5. Taiwanese vocational colleges attach much importance to skills development, onsite operation, practice, and internship. In addition, vocational institutions implement Confucian principles of educating the whole person in humanistic principles and in virtue and moral action as well as technical skills. Almost every post-secondary vocational institution in Taiwan includes in the curriculum courses in humanities, arts, language, and education. The physical and cultural environment of the campus is used to foster virtue education. Virtue and moral action assessment is a key element in the evaluation of vocational graduates (Wheelahan et al., 2018, p. 15). This suggests that Taiwan's vocational education further develops graduates' agency as it includes a broad set of knowledge, skill, and abilities reaching beyond the immediate and focused demands of workplaces.

5   Discussion

We applied Sen and Nussbaum's capabilities approach to vocational education by developing the notion of productive capabilities. From productive capabilities we derived seven implications for vocational education. The notion of productive capabilities is heavily normative, as is

Sen and Nussbaum's capabilities approach. However, Sen and Nussbaum (2000, p. 76) argue for democratic discussion to elaborate and validate the capabilities approach, and to build social support for the approach. Likewise, productive capabilities and their implications for vocational education need wider discussion and critique.

We tested the notion of productive capabilities by briefly evaluating two implications for vocational education in three countries. We found that in Côte d'Ivoire both vocational education institutions' strength as organisations and their development of students' agency is limited not only by resources, but also by the broader disastrous legacies of Côte d'Ivoire's civil wars and conflict. England and Taiwan are high income countries, and while English colleges report limitations due to funding, the differences in the contributions of vocational education to students' agency in England and Taiwan are due not to differences in resources, but to the structure of the sectors and the depth and breadth of the curriculum they offer. Thus, the notion of productive capabilities is useful in evaluating vocational education beyond the resource input and volume measures commonly used.

We therefore think that the notion of productive capabilities warrants further consideration. But it needs further development and grounding in the nature of work and its educational needs. Its implications for vocational education need to be based on evidence of educational and occupational progression lest they read like an education union's wish list. There are no doubt many other limitations to the notion of productive capabilities, and we look forward to critiques and further discussion in this first public elaboration of productive capabilities.

6 Acknowledgements

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Reality-Based Learning and The Oliver Twist School: Towards a New Approach in VET

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Abstract

Recent debate on VET, at both institutional and academic levels, points out the need for new approaches able to face the current and future challenges: (technical and social) innovation, attitude to lifelong learning, internationalization, literacy, among the others (Dato, 2017). A stronger partnership between the industrial and the educational systems is increasingly suggested (WEF, 2016). However, it is clear that rather than rooted only on work-based learning, the needed competences for the "unknown future" (Mulder, 2017) depend on new approaches able to stimulate in the students/apprentices a lifelong learning attitude (Pouliakas, 2017). This research, based on a case study analysis, aims at outlining the main elements of originality of a new approach called "reality-based learning" developed by Cometa Formazione-Oliver Twist School and measuring a set of KPIs to evaluate outcomes and social impacts of the approach. In this approach, both the professional training and the general education are integrated in a learning process based on involving students in the design and production of real products for real customers in school's workshops. The analysis outlines mainly positive results in terms of human and relational growth; cultural and professional growth; school dropout reduction and public system savings; employment increase.

Keywords

reality-based learning, work-based learning, social impact

1   Introduction

Recent debate on Vocational Education and Training (VET), at both institutional and academic levels, points out the need for new approaches able to face the current and future challenges: (technical and social) innovation, attitude to lifelong learning, internationalization, literacy,

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among the others (Dato, 2017). A stronger partnership between the industrial and the educational systems is increasingly suggested (WEF, 2016).

To this extent, the great drive towards work-based systems (EC, 2016), including dual systems and job-school rotation, is based on acknowledging that workplaces can serve as an opportunity to perform work actions and typically educational measures. The workplace can be conceived as a cultural heritage that the school may make instrumental use of in favour of its educational goals, thus adequately combining training delivered in its premises with training measures completed at work. Research and study into these models, however, identify increasingly less interest in school subject-matters, with a growing risk of a gap in literacy and numeracy, in addition to a perception of mere juxtaposition between so-called theoretical and professionalizing subject-matters, at the expense of the former in terms of commitment.

Such risks first of all take the shape of a mismatch between contents developed in school and those arising from the labour market (Aakernes, 2016), which is often the result of a missing dialogue between school and companies and lack of a serious and consistent analysis of market needs (Hiim, 2015). Therefore, students feel that learning through curriculum subject-matters is boring (Hagen & Streitlien, 2015) and useless (Rintala et al., 2016); sometimes, also due to lack of time for an individualized study process, curriculum subject-matters are considered less relevant with respect to pursuing work targets set by companies and as such they are neglected.

Furthermore, cultural difference, both in context and experience, leads school and company stakeholders to different views, which is not instrumental to a successful training (Aakernes, 2016; Andersson et al., 2015; Billett, 2011; Young, 2004). In this respect, it may be useful to promote more regular convergence efforts by school entities (tutors and teachers) and company entities so as to agree on goals but also on criteria to evaluate training and competences.

Henceforth, it is clear that rather than rooted only on work-based learning, the needed competences for the "unknown future" (Mulder, 2017) depend on new approaches able to stimulate in the students/apprentices a lifelong learning attitude (Pouliakas, 2017). A system where developing students' capabilities (Nussbaum, 2011) becomes the main goal of teaching and training activities: future workers need not only professional skills for a (less and less) permanent job, rather they have to develop personal capabilities to keep themselves employable and smart citizens, the only way to safeguard social cohesion in the next decades (Nussbaum, 2010). In a nutshell, school should not be required anymore to give only information: education implies to be able to inquiry reality, to catch the meaning and the beauty of it, but, above all, to make the right questions; henceforth, to support students to a deep self-knowledge, pointing out their capabilities and their potential "excellence" as human being (Nussbaum, 2011).

This research, based on a case study analysis, aims at (1) outlining the educational and training practices which denote the main elements of originality of a new approach called "reality-based learning"; (2) identifying the key players and their roles in the educational process; and (3) implementing and measuring a set of KPIs to evaluate outcomes and social impacts of the approach.

2 Methods

2.1 The research is based on Cometa Formazione-Oliver Twist School case study and its reality-based learning approach.

Cometa Formazione-Oliver Twist School is an educational organization specialized in vocational training and job orientation that has been operating in the province of Como (Italy) and its surroundings for a decade. Cometa started as a training center focused on NEETs. This educational challenge required the introduction of innovative learning approaches which are now at the core of the VET school "Oliver Twist". Its offer includes:

- TVET programs for 14-19 y.o. kids in 3 different tracks: catering, carpentry and fashion.
- Special programs for dropouts (Liceo del Lavoro): 1 or 2-years programs based on a dual system approach.
- Special programs for NEETs (MiniMaster Alberghiero): 1-year program or training modules for NEETs focused on a strong work-based experience in the hospitality sector.
- Training program for migrants, mainly unaccompanied minors, including basic literacy, numeracy, digital and an internship.

Overall, Cometa Formazione hosts more almost 450 students; the teaching staff consists of 41 teachers (including 9 master craftsmen), 7 co-teachers and the principal for a total of 49 professionals, with an average age of 40 years and a balanced gender division; tutoring is carried out by 14 professionals (including deputy principal and 4 area coordinators), with an average age of 35 and a prevailing presence of women (82%). Taking into account membership and distribution of staff (teachers, special needs educational assistants and tutors), the ratio between kids and adults is approximately equal to 6 to 1.

2.2 Results

2.3 Originality of Cometa Formazione-Oliver Twist School approach

In line with well-known approaches - learning by doing (Dewey, 1916), experiential learning (Kolb, 1984), and action learning (Marquardt & Yeo, 2012) - Cometa Formazione-Oliver Twist School, has implemented the reality-based learning approach. Both the professional training and the general education are integrated in a learning process based on involving students in the design and production of real products for real customers in school's workshops. Thus, the whole learning process, including all the mandatory professional, basic, cultural and human skills in the educational curricula, has been designed accordingly to a production process. Henceforth, the emerging result consists of a hybrid of school and workplaces (Cremers et al., 2017), a laboratorium where "theoretical thinking" has to be in connection with "technical making" and practice, with the same dignity (Gardner, 1983).

This approach, to some extent, rethinks the Italian tradition of medieval workshops or the Renaissance studios, as well as the countless small artisanal micro- or small enterprises promoting the Made in Italy and the Italian way of life worldwide. It aims at giving an example of a context where education and training are both present, but not merely focused on professional skills. In the Middle Age, the craftsman assumed a parental role to trainees in the workshop, making them adults not just workers. Sennett, in his work "The Craftsman", underlines the relationship between «hand and head, technique and science, art and craft»; the workshop (then a "workshop-home") becomes a centre of culture; craftsmanship, according to Sennett, can be intended as "an enduring, basic human impulse, the desire to do a job well for its own sake" (2008). It is one of the best examples of experiential learning represented by the concept of homo faber: an experience shared by Ancient Greece, China, Medieval and Renaissance Europe. In the laboratorium "theoretical thinking" has to be in connection with "technical making" and practice; they mix together in the action, with the same dignity (Gardner, 1983).

There are 3 workshops-enterprises (called "bottega") in Cometa, namely: Bottega del gusto (Taste), including a bar, a restaurant and a pastry shop open to the public; Bottega del legno (Wood), including a planning and design dept. plus a carpenter's workshop; Bottega del tessile (Textiles), including a design dept. and a textile shop (mainly fabric).

The reality-based learning approach is based on project works and on educational units. Starting from the abilities that need to be obtained by every single pupil, teachers design educational paths, which accompany students during their project realization. Students unroll typical work activities in order to acquire basic, transversal and technical-professional

competences. The educational tasks of the working environment are planned not in a practiced manner but following a holistic approach: students are introduced to the entire production chain to gain a complete vision, but also to discover their talents and preferences.

Furthermore, during the entire learning process skills are transmitted to the students. These abilities are divided into two big sections: (a) professional/ technical competences and (b) basic skills, such as abilities referring to the administration of the product and the process (languages, history, public speaking, etc.), and promotional skills (mathematics, science, economy, etc.). Soft skills are needed in every single moment during the learning process.

The educational model of Cometa Formazione divides the learning process in four different phases: 1. Ideation, 2. Project, 3. Production and 4. Rate, as in the Figure 1 below.
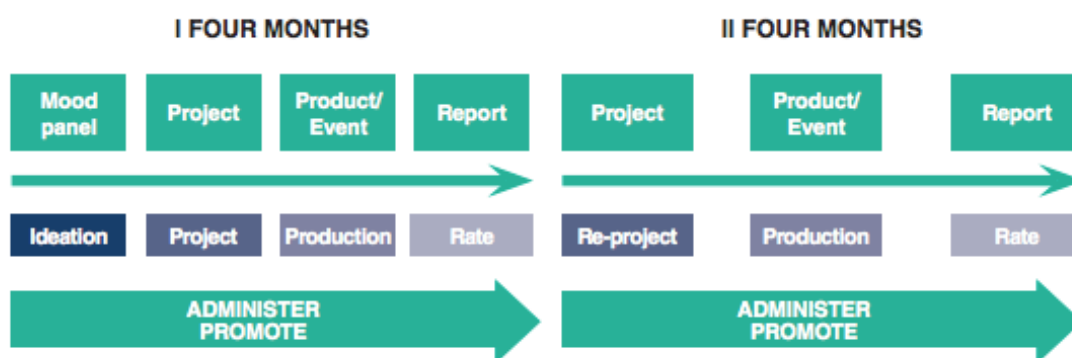
Figure 1   Educational model of Cometa Formazione

At the end of every section a product is being created: (a) a mood panel, (b) a project or prototype, (c) a product or event and (d) a report. The whole process is repeated twice a year. It is not a rigid model, but it depends on various factors, such as the class and the projects. Moreover, this learning process can be adapted to different sectors.

The scholastic year starts with the process of ideation, during which different activities are planned to understand the object's context as much as possible. Therefore, these activities are planned also to help students being aware of where they are and of what Cometa means. Every product created in the Oliver Twist school has the Cometa brand.

Ideation plays a very important role of Cometa Formazione's entrepreneurship education. Giving students the possibility to work on the ideation of a product and on their creativity represents an extraordinary opportunity. During this phase it is very useful to work on the student and on its subjectivity and protagonism. It is important to let students know that their opinions count and contribute in an original manner to the common construction. It is about active citizenship. Most of the time pupils do not believe in themselves and do not consider themselves as important. Therefore, it is necessary to show them that they give value to the group.

The second phase regards the process of project, which first of all corrects what was ideated during the first phase. The educator interferes thanks to his experience and helps the students in evaluating if their ideas are realizable in terms of costs, materials, market etc. Moreover, this phase is not only based on technical terms but also on the way of being. Therefore, the companies transmit technical knowledge and abilities, whereas, the school has the task to teach men and women the right way of knowing how to get by in this world. Again, it is necessary to understand the best way to respond to the client's needs on behalf of Cometa.

The third phase is about production, that foresees manufacturing of the prototype chosen by the client. In this way, it is possible to present a realistic scale model during the following meeting. In case the client is satisfied with the prototype, students start realizing the products. Its duration depends on the specific work field. Shortly, it is the examination of the previous phase: if everything went as it was planned, the realization can be unrolled without problems; if not, the realization must be modified until the predicted results can be really produced.

The last phase regards the rating, during which the whole educational process is evaluated. This phase is fundamental for having a judgment and measure of the educational path and its outputs. The complex of systematic and continuous observation carried out by teachers guarantees a tool for evaluating the formative programs.

Evaluation allows teachers and students to reflect on the model and the process in order to develop possible critical issues. Furthermore, the evaluation of competences acquired in the working context takes place through constant monitoring and by analyzing the company's feedback.

During the whole process the relationship student-tutor is crucial. The tutor is the one that makes the communication between student and teacher smoother, in particular outlining students' learning needs and personal situations. The tutor is present during the whole learning process and helps the students organizing their educational program, adding for example more study hours in order to guarantee a better assimilation if needed. They are also in charge of planning and monitoring students' internship: ever since their second year, students make also an important internship experience in local companies for an overall period of 2 months a year.

Throughout the entire internship, the pupil is supported by the school tutor who will periodically visit the host company. The focus of such visits is to establish a direct contact with the pupil and the company tutor, but also to conduct separate meetings with one of the two individuals for monitoring purposes and also to identify any issues that may arise during the internship period. The internship experience may be divided into three phases: planning, work experience, evaluation.

1. Planning: a company is selected for each pupil based on a set of criteria shared with all the players: school management, tutor, company manager and teachers.

2. Work experience: from the start date and throughout the internship provision phase, the tutor is in charge of monitoring the job-school rotation program to confirm the educational value of the internship and of the educational support care. This educational support care implies a multitude of activities aimed at leading the student to make an experience that is truly educational and delivering both professional and human growth. The most relevant is the choice to have pupils back in classroom once a week for a day to allow them to incorporate the experience in the company; the tutor is responsible for arranging such day.

3. Evaluation: the school tutor will draw up the internship satisfaction questionnaire for the company and the pupil, check and store the attendance logbook of each student and arrange for individual interviews with pupils and business tutors. The interview with the business tutor shall specifically try to explore any possibility for a potential future job of the pupil in the company, whereas the interview with the student allows to formulate a summary report about the experience and to prompt continuous commitment at school.

Beside the relevance of the organizational elements of any job experience during IVET, at the very core of this activity, both the quality and the commitment of actors play a crucial role: excellent trainees require the support of excellent trainers to make their job experience successful. Timing and location have only a secondary importance. Furthermore, the relevance of their educational support can only be rooted on a business-education partnership aiming at realizing a "tailor-made" project for each student. Unprepared internships, for instance, can be highly unsuccessful, while an effective learning agreement usually implies a deep and regular

partnership between the company (tutor) and the school (tutor). A real educational pact, among company, school and each student, is the key issue (Ropelato, 2017).

2.4 Outcomes and social impacts of the approach

The success of the reality-based learning approach has been evaluated through a quali-quantitative analysis of outcomes respect the primary beneficiaries (students) and the impact on the local community.

The analysis outlines mainly positive results in terms of human and relational growth; cultural and professional growth; school dropout reduction and public system savings; employment increase. In particular:

- human and relational growth: 95% of students recognize their soft skills increased, more than 75% of students believes that they have been helped to accept the others and the diversities and more than 80% of students admit their relations are improved.
- Some of them declared: "Working in group with peers, adults and people with disabilities helped me to accept all people"; "I had the opportunity to meet and work with people external to school"; "I was helped to face difficulties"; "I had the possibility to discuss and share opinions";
- cultural and professional growth: 93% of students believe they have been grown professionally.
- Some of them declared: "The work activities at school allowed me to acquire the useful professional knowledge because I was obliged to do my best, understanding my strengths and weaknesses"; "The "learning by doing" approach is very effective because while you are doing something and you do not understand it, you can immediately ask and better understand it. So, while you learn the practice, you can also learn the theory"; "In my opinion, the most interesting activity is the orders management, where you have to collaborate with peers and improve your skills"; "I worked in front of real customers and I learnt from mistakes".
- school dropout reduction and public system savings: every year Cometa trains about 50 students who had left school. 90% of them had completed their new career at Cometa. These students generate about 650.000€ public savings per year.
- employment increases: so far, since 2012, more than 60% of former students got a stable employment and are no longer completely dependent on their families (the average salary is 900€/month); 70% of employed students work in the same field of the educational path carried out; the employment rate of graduates is 8% higher than other VET schools in Italy.

3   Conclusion

The research led to the outline of the reality-based learning approach, pointing out the process, its phases, activities, key players. Innovations in the training process have been described and explained in connection to the pursued educational goals: basic, professional and soft skills.

Beside the professional identity of the students, future-oriented competencies (Mulder, 2017), relevant for learning motivation, effective performance, social inclusion, and citizenship, are taken into great consideration; tutors (acting more as coaches) play a crucial role not only at the more personal level of the students, but also in the general coordination of the learning/production process for every class and their teachers.

There is an evident effort to overcome the division into subject-matters and disciplines in the same course of studies as well as the historical dichotomy between doing and knowing, theory and practice, vocational-technical subject matters and "basic" ones. Started since 2011, this new teaching methodology has been developed to make experience as the pivot for learning

and developing different skills, including non-technical ones that activated in the making or rendering of a product/service. In addition to soft skills, also competency in mathematics and languages are required to deliver a final product of excellence.

Such teaching structure is underpinning the reality-based learning, whereby an order received by the students represents the point of engagement and the source of endless learning opportunities for new skills and not just new knowledge. In this way, the entire teaching methodology is not only an interdisciplinary one but actually pervades multiple disciplines: a student in action is demanded to put in practice skills of different nature, which ultimately leads the students to overcome division of knowledge in the making of their masterpiece and to favor a holistic approach. To such end, it is necessary to establish a more solid relationship between places and moments for learning and places and moments for application of the learnings. Working actions and typically educational measures can be taken also in workplaces. In fact, the workplace is to be intended as a cultural resource field that the school can utilize as an educational means, thus adequately combining training actions performed at school and in the selected workplaces. To this purpose, criteria and operational methods are needed to analyse working processes and to locate knowledge and skills required by national regulations for secondary school programs and vocational training programs.

In line with recent EU documents claiming for "making VET a first choice", this reality-based learning approach and its implementation show positive results in terms of effectiveness, quality of outcomes and relevance of the generated social impact. Positive results emerge also for special categories of young people including dropouts, potentially dropouts, youngsters of underprivileged groups.

Further developments of the research can already be mentioned as potential improvements, namely the following: (1) comparing the results of similar approaches in other contexts to strengthen the effects of reality-based approach (2) introducing counterfactual analysis for a stronger significance of the impact analysis.

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Career Competence Development of Students in German Secondary Schools: A Latent Transition Analysis

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Abstract

The development of career-related competences plays an important role in the context of adolescent identity formation as they represent existential tools in the process of a life-long career development. Drawing from the career competence model of Driesel-Lange et al. (2010), we aimed to analyze the development of career competence in German secondary school. Students were in ninth grade (Wave 1), 56% female with a mean age of 14.82 ($SD = .50$) years. Studying a three-wave longitudinal data set (N_{t1}=309, N_{t2}=337, N_{t3}=302), we first examined the existence of latent career competence profiles using latent profile analysis (LPA). The results suggested four profile groups, three of which mainly differed in terms of level (low – medium – high). The fourth group also diverged by its career competence pattern. Using latent transition analysis (LTA) we then analyzed developmental trajectories. The study indicated that 43% of the students remained in their initial profile groups, hence did not show any development in terms of career competence. 57% of the sample moved between profile groups. The results also suggested that 16% of students did not progress to a medium or higher level regarding their career competence, therefore forming an at-risk group.

Keywords

career competence, development, latent transition

1   Introduction

Students in German secondary schools preparing for the German leaving certificate do not feel ready to develop or decide on a plan for their professional future. More than a quarter of them report not having enough information for a transition they feel comfortable with (Schneider, Franke, Woisch, & Spangenberg, 2017). With 24% (BMBF, 2016) and 29% (Heublein et al., 2017), respectively, dropout rates for apprenticeships and higher educational studies are still high in Germany. One of the reasons former apprentices and students name for not finishing a vocational training or studies are false expectations regarding the actual day-to-day routines and requirements of a job (cf. BMBF, 2016). Those can be explained by a lack of knowledge

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about the world of work. Occupational information and awareness of vocational prerequisites are both part of career-related competences (Crites & Savickas, 1996; Driesel-Lange et al., 2010). The development of career-related competences plays an important role in the context of adolescent identity development as they represent existential tools in the process of a life-long career development (Dreher & Dreher, 1985; Erikson, 1968; Savickas et al., 2009).

In Germany, career education is mainly offered within the context of schools. As career education interventions are delivered to build up career competence, school-based career education could be considered as one of the influencing variables on successful transitions from general education to vocational or tertiary education. With the mentioned dropout rates in mind, the question arises whether existing career education currently supports all students equally well in preparing for those post-school transitions.

To investigate this problem, two questions need to be answered first: 1) Do groups with homogenous developmental stages of career competence exist? 2) What does the developmental process of career competence look like in the short- and in the mid-term? 3) Do career education interventions affect various homogenous subgroups differently? 4) If there is any evidence of specific needs of students belonging to different groups, how can this new knowledge be applied to school-based career education programs?

2   Current research on career competence and profiles in career development

Several previous studies have covered point 1) by identifying distinct profiles of career development. Hirschi and Valero (2015) revealed five distinct career adaptability profiles, all differing in their adaptability levels, but not in their adaptability patterns. Perera and McIlveen (2017) found profiles of career adaptivity that also varied in their level of adaptability. Several recent studies (Kaak et al., 2015; Driesel-Lange & Kracke, 2017; Ohlemann & Driesel-Lange, 2017) have also discovered homogenous subgroups of career competence among students. Again, profiles mainly varied in their levels, not in their developmental patterns.

These cross-sectional studies opened up many questions how students' career competence develops over time. We therefore focus on point 2) and aim to explore the trajectories of and between profiles over time.

Linking back to the theoretical model of Driesel-Lange et al. (2010) that stipulates a phase-like development of career competence, we divided our question about time-related development of career competence into three hypotheses: students starting their career orientation process follow different trajectories in terms of timing and level of competence (H1). In this process they change between profile groups (H2). All students experience a positive development of their competence over time (H3).

3   Methods

3.1 Sample

The analyses are based on data from a longitudinal study in North Rhine-Westphalia in Germany (cf. Driesel-Lange & Kracke, 2017). At the beginning of the study, students were in grade nine and either in a grammar school (Gymnasium, 52%) or a comprehensive school (Gesamtschule, 48%). The sample was 56% female with a mean age of 14.82 ($SD = .50$) years. In this analysis we only included the first three of four waves due to the relatively small sample sizes ($N_{t1}=309$, $N_{t2}=337$, $N_{t3}=303$, $N_{t1-3}=220$) and the complexity of the analysis method which is described below.

3.2 Instruments

Students self-evaluated their career competence using the diagnostic questionnaire of career competence of Kaak and colleagues (2013). They answered 93 items on a four-point Likert scale (1 = strongly disagree, 4 = strongly agree). Their answers reflected their self-evaluation on a total of twelve facets of career competence: self-knowledge, occupational knowledge, knowledge on prerequisites, knowledge on planning and deciding, career concern, career control, career curiosity, career confidence, exploration, self-regulation, problem-solving and stress management (see also Ohlemann and Driesel-Lange, in preparation).

3.3 Procedure

To examine the existence of latent subgroups with homogenous career competence profiles we chose latent profile analysis as a measurement model (LPA, cf. Muthén & Muthén, 1998-2017). LPA is a person-centered clustering method that proves to be more consistent compared to variable-centred cluster-analysis and replicable due to its probabilistic approach (Vermunt & Magidson, 2002).

The subsequent application of latent transition analysis (LTA) allowed us to investigate students' movement between those profile groups over time. LTA is a longitudinal method first described by Graham and collegues (1991) enabling an understanding of developmental changes of career competence in a heterogeneous group over a given period. Due to theoretical considerations we expected changes over time, so we did not test for measurement invariance across time (cf. also Kia-Keating et al., 2018).

Building up the model, we followed the step-by-step recommendations for correct application of the LTA (Nylund et al., 2008). We also applied the more recent three-step method to prevent the models from influencing each other (Nylund-Gibson et al., 2014). Latent analyses were computed in Mplus version 8 using full information maximum likelihood estimation (Graham, 2012). For all other calculations we used the software IBM SPSS Statistics 25.

Finally, we split the transitional patterns that had emerged into *movers* and *stayers* and described these movement patterns. Figure 1 depicts the path diagram representing the applied LTA.
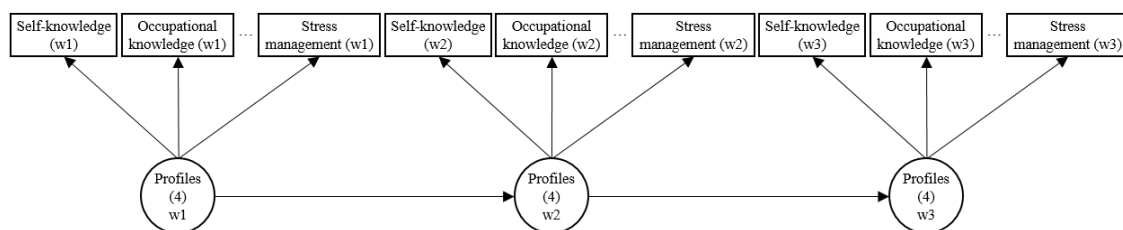
Figure 4   Measurement model of latent transition analysis

4   Results and discussion

The results are presented starting with the outcomes of the cross-sectional measurement models. The fit indices of the LPA that, along with theoretical considerations, led to the decision for the respective number of profiles for each of the three waves will be reported. We then shortly describe the identified profiles. Next the profile group sizes that resulted from the LTA are presented for all waves, leading to the description and discussion of the transitional patterns in the final LTA model.

The means, standard deviations and Cronbach's Alpha of the twelve career competence scales that served as indicators for the latent profile groups are displayed in Table 1.

Table 1:   Descriptive statistics of the career competence facets for Waves 1-3 used in the LPA

Facets of career competence (N items)	Wave 1			Wave 2			Wave 3		
	M	SD	α	M	SD	α	M	SD	α
Self-knowledge (9)	3.11	.49	.80	3.11	.52	.84	3.18	.49	.83
Occupational knowledge (6)	2.40	.64	.79	2.58	.67	.82	2.52	.65	.80
Knowledge on prerequisites (7)	2.74	.73	.85	2.78	.71	.86	2.79	.73	.88
Knowledge on planning and deciding (4)	2.60	.70	.68	2.64	.73	.71	2.57	.75	.67
Career concern (8)	3.51	.41	.77	3.35	.59	.87	3.43	.48	.78
Career control (6)	3.02	.57	.79	3.01	.61	.82	2.95	.62	.80
Career curiosity (7)	2.54	.53	.69	2.52	.60	.78	2.41	.58	.75
Career confidence (12)	3.15	.41	.76	3.07	.48	.84	3.10	.43	.82
Exploration (9)	2.00	.60	.85	2.04	.66	.89	1.89	.67	.89
Self-regulation (7)	2.98	.51	.71	2.94	.58	.80	2.90	.59	.79
Problem-solving (10)	3.08	.44	.75	3.06	.48	.80	3.06	.50	.81
Stress management (5)	2.78	.71	.80	2.65	.77	.86	2.68	.79	.86

4.1 Latent profile analysis: measurement models and career competence profiles

To study the heterogeneity of students' developmental state of career competence within each wave, we first performed a series of LPA for each of the three waves separately. We started with a latent model of only one profile class, successively adding one additional class up to a total of six profile groups. The number of profiles was determined independently for each wave. As there is no stand-alone decision factor for the best fitting model, we considered several indicators, namely the Bayesian information criterion (BIC), the sample-sized adjusted Bayesian information criterion (SaBIC), the parametric bootstrapped likelihood ratio test (BLRT), the Vuong-Lo-Mendell-Rubin likelihood ratio test (VLMRT), log likelihood and entropy values.

For reasons of interpretability theoretical aspects as well as class sizes and average latent class probabilities were also considered in the decision-making process. A good fitting model usually has a small value for BIC and SaBIC, significant values for BLRT and VLRT (Geiser, 2010), an entropy value approaching 1 (Celeux & Soromenho, 1996) and replicable log likelihood that approaches 0 (Rost, 2004).

Table 2 provides an overview of the fit indices for all three waves. Based on the fit indices, there does not exist one obviously best-fitting model. For all waves BIC, SaBIC and log likelihood values support models with a higher number of profiles (four profiles or higher), while VLRMT significance suggests a two-profile solution in Wave 1, two or three profiles in Wave 2 and a two- or four- profile model in Wave 3. As BLRT is significant for all models, no additional conclusions can be drawn from it. Entropy did also not point toward a specific number

of profiles. After considering theoretical factors and class sizes we decided for a four-profile solution for all three waves.

Table 2   Fit indices for cross-sectional LPA models for Wave 1-3

Number of profiles	Log likeli-hood	Entropy	BIC	SaBIC	BLRT *p*-value	VLRMT *p*-value
LPA Wave 1						
1	-2870.11	1.00	5877.10	5800.99	n/a[1]	n/a[1]
2	-2505.77	0.85	5222.58	5105.24	0.0001	0.00
3	-2403.56	0.83	5092.31	4933.74	0.0001	0.21
4	-2342.23	0.83	5043.81	4844.01	0.0001	0.11
5	-2286.62	0.85	5006.73	4765.70	0.0001	0.39
6	-2243.96	0.86	4995.56	4713.31	0.0001	0.71
LPA Wave 2						
1	-3613.74	1.00	7366.79	7290.66	n/a[1]	n/a[1]
2	-3171.40	0.88	6557.58	6440.21	0.0001	0.00
3	-3008.25	0.87	6306.57	6148.16	0.0001	0.00
4	-2956.28	0.85	6278.28	6078.44	0.0001	0.67
5	-2897.76	0.84	6236.70	5995.63	0.0001	0.24
6	-2852.20	0.86	6221.06	5938.75	0.0001	0.50
LPA Wave 3						
1	-3232.44	1.00	6601.86	6525.74	n/a[1]	n/a[1]
2	-2830.51	0.88	5872.19	5754.85	0.0001	0.00
3	-2722.88	0.87	5731.12	5572.55	0.0001	0.17
4	-2635.99	0.89	5631.52	5431.72	0.0001	0.01
5	-2587.97	0.89	5609.69	5368.66	0.0001	0.09
6	-2553.91	0.88	5615.76	5333.50	0.0001	0.14

Note. BIC = Bayesian Information Criteria, SaBIC = Adjusted BIC, BLRT = Bootstrapped Likelihood Ratio Test, VLRMT = Vuong-Lo-Mendell-Rubin likelihood ratio test. * $p < .05$, ** $p < .01$, *** $p < .001$. [1] BLRT and VLRMT not available for one-class model.

Figure 2 depicts the development state across all twelve career competence facets of the four profile groups in Wave 1. As can be seen, three profiles follow a similar pattern, they mainly vary in terms of the overall developmental level, but otherwise show similar patterns. The fourth profile, however, stands out with a strongly deviating pattern of career competence. These findings match with those of previous cross-sectional studies that were conducted with the same sample (Wave 3). In this study, the first three profiles were named *low developed, mainstreamers* and *advanced* due to their level differences (Ohlemann & Driesel-Lange, in preparation).

Students of the fourth profile seem somehow "carefree". They show high values on problem-solving and stress management even though they know little about the world of work and its prerequisites, plan little and display little career curiosity and exploration. They seem to think that options and plans will eventually present themselves. The fourth profile group was named *head in the clouds* (Ohlemann & Driesel-Lange, in preparation). We will use this terminology accordingly.
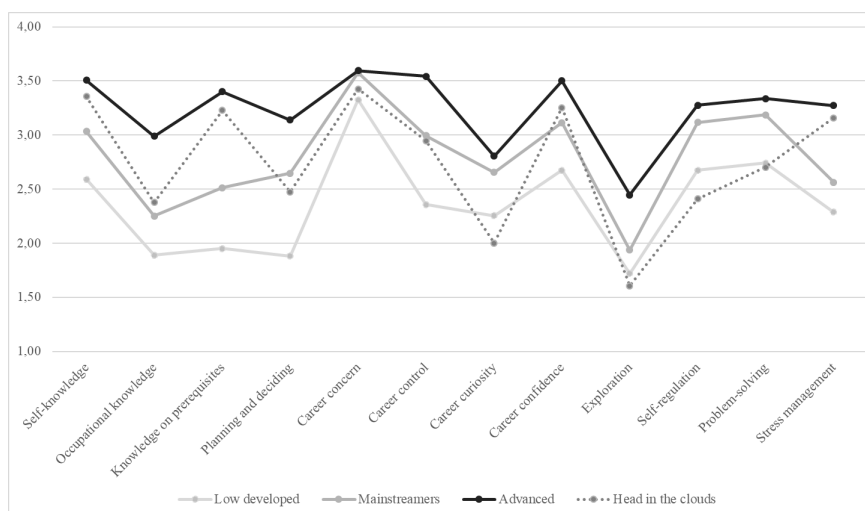
Figure 5   Four-profile model in Wave 1: facets of career competence (means)

Table 3 contains the percentages of students belonging to the four profile groups in the three Waves. The *mainstreamers* represent with up to 47% (Wave 2) the largest proportion of students in all three surveys, followed by the *advanced* (21-35%). Only 13% and 22% of students exhibit low developed career competence, depending on the wave. The group *head in the clouds* accounts for 10-13% of respondents, also a small but not a negligible group.

Table 3   Percent of students in career competence profile groups in Wave 1-3 based on LPA results

Profile groups	Wave 1	Wave 2	Wave 3
Low developed (LD)	22%	20%	13%
Mainstreamers (MS)	36%	47%	41%
Advanced (AD)	30%	21%	35%
Head in the clouds (HC)	13%	13%	10%

4.2 Latent transition analysis: Transitional patterns

After choosing the number of profiles for each wave, we were interested in how students might change between profile groups over time. Therefore, we integrated the profiles of each wave allocated to each student as single indicators into a LTA. The resulting students' distribution on the four profile groups in each wave are shown in Table 4. *Mainstreamers* remain the largest group. The percentage of students belonging to the group *head in the clouds* decreased to 4%-9% depending on the wave. Apart from the third wave where they increased to 31% of the sample, the percentage of *low developed* remained relatively stable.

Table 4   Percent of students in career competence profile groups in Wave 1-3 based on LTA results

Profile groups	Wave 1	Wave 2	Wave 3
Low developed (LD)	22%	31%	16%
Mainstreamers (MS)	41%	43%	49%
Advanced (AD)	27%	22%	28%
Head in the clouds (HC)	9%	4%	6%

Analyzing the individual trajectories over the three waves, we found 27 developmental patterns supporting our first hypothesis of different trajectories (see Table 5).

Table 5   Percent of students in each pattern of career competence development, ordered by direction of movement

	Wave 1	Wave 2	Wave 3	Frequency
Movers (57%)				
Upward Mover	MS	AD	AD	1%
	MS	HC	AD	1%
	MS	MS	AD	8%
	LD	LD	AD	1%
	LD	AD	MS	1%
	LD	MS	MS	3%
	LD	LD	MS	6%
	HC	AD	AD	1%
Returning Movers	HC	LD	HC	3%
	MS	AD	MS	2%
	MS	LD	MS	3%
	MS	HC	MS	2%
	AD	MS	AD	5%
Diffuse Movers	AD	AD	HC	1%
	MS	LD	HC	1%
	HC	AD	MS	1%
	HC	LD	MS	1%
	LD	LD	HC	2%
Downward Movers	AD	AD	MS	4%
	AD	HC	MS	1%
	AD	MS	MS	5%
At-risk group	HC	LD	LD	3%
At-risk group	MS	LD	LD	2%
At-risk group	MS	MS	LD	1%
Stayer (43%)	AD	AD	AD	11%
	MS	MS	MS	21%
At-risk group	LD	LD	LD	10%

Note. LD = *low developed*, MS = *mainstreamers*, AD = *advanced*, HC = *Head in the clouds*; Frequency of pattern is stated in percent of the overall sample

The first type of patterns that we identified are the *stayers*, students who continuously remain in the same profile group. They constitute 43% of the overall sample. Remarkably, not one student remains persistently with the *head in the clouds*. 10% of the students keep a profile of low developed career competence. They clearly constitute an at-risk group as they do not show any development in terms of career competence. Due to the existence of *stayers*, our second hypothesis (H2) of profile changes must at least partly be rejected.

The second type of patterns are the *movers* containing 57% of all students. Within this mover-group, four subgroups can be distinguished: the first subgroup (22%) shows a general upward-movement to a profile group with a higher level of overall career competence. Thus, it can be expected that those students experience a positive development of career competence. 1% of all students, 3% of the *low developed* of the first wave respectively, improve from a *low developed* to an *advanced* career competence level.

The second mover subgroup (15%) shifts between profiles but ultimately moves back to their initial competence profile. Here included are those students who end up with their *head in the clouds* (3%) again. Surprisingly, there are no students who leave the *low developed* group and return to it. We can therefore hypothesize that students with an initially low developed career competence profile who have once started their development do not fall back again. Regarding practical implications, it will now be important to investigate more closely if early successful career-related interventions for students with a low developed career competence might have especially long-lasting effects.

The third group comprising 13% of the sample eventually moves to a profile group with an inferior career competence level. 6% of all students even end up in the *low developed* group, also constituting an at-risk group. Due to this group we rejected our third hypothesis (H3) that all students would demonstrate a positive development of career competence over time. However, in this sample students starting with an advanced career competence profile never dropped to a low developed competence.

The fourth group comprising 4% of the sample consists of students with diffuse movements. They either start or end with their *head in the clouds*, some finishing as mainstreamers. As this diffuse profile *head in the clouds* is yet to be analyzed in detail, it is hard to tell if a movement to or from it to the *mainstreamers* is a positive or negative development in terms of career competence.

5   Limitations and Conclusions

In summary, the present research is a first attempt to observe students' latent trajectory patterns in their career competence development. This person-centered and model-based approach is well suited to investigating the construct of career competence as it allows to consider homogenous subgroups that follow different trajectories.

The findings of this study show that in terms of career competence students can be sorted into four profile groups: the *low developed*, the *mainstreamers*, the *advanced* and those with their *head in the clouds*. The first three profiles differ mainly in their level differences, while the fourth profile also diverges in the competence pattern.

Furthermore, we discovered that 43% of the students constantly keep their competence level while the other 57% change between profiles over time. It also became clear that an at-risk group of 16% students exists. They still demonstrated a low level of career competence at the last measuring point.

Due to a large proportion of *stayers,* i.e. students who never change profile groups, the question arises to what extent career competence and its facets are flexible over time or to what extent facets such as career curiosity, exploration, stress management might be rather stable

traits. Previous studies have found little or no effects of interventions on career competence (Ratschinski & Struck, 2016). However, they did not look into effects on existing subgroups.

Further research must explore if the development of career competence can be fostered by adapting career-related interventions to the specific needs of different profile groups. We also need to investigate differences between the mentioned at-risk group and those who showed a strong maturation process. Those differences may be due to the effects of career-related interventions they participated in, sociodemographic characteristics (Ohlemann & Ittel, 2017) and their perceived support (Garcia, Restubog, Bordia, Bordia, & Roxas, 2015).

Limitations of the study are given due to the relatively small sample and the lack of covariates. We aim to examine possible school and class effects in a new longitudinal project with a larger and more diverse sample. In this project further covariates, such as age and mother tongue, school performance, influences of the social environment and career-related activities at school, will also be integrated into the measurement models.

In the joint debate of researchers, schools and providers of career-related interventions, the awareness of different developmental trajectory paths could raise awareness of the importance of individualized career education as a measure of effective inclusion.

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Professionalization of Teachers at Vocational Schools in the Field of Vocational Orientation. Inclusion of Disadvantaged Young People as a Requirement for Professional Teaching

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Abstract

The dissertations research topic is the inclusion of disadvantaged young people in vocational education system. The "Übergangssystem" is located in the German education system in vocational schools, where young people are taught, who haven't found a company for a vocational training, who don´t attend a secondary school for further qualification, who are not yet vocationally oriented but are still required to attend school. Often, these young people are characterized by inadequate educational background and personal problems. It is up to teachers at vocational schools to teach these young people the skills they need for an integration into the labour market.

Keywords

professionalisation of teachers at vocational schools, disadvantaged young people, vocational orientation

1   Introduction

The labor market and job descriptions are characterized by a manifold change and goes along with the changes of social as well as economic requirements (Georg, 2001; Beck, 2010). Coping with the increasing individualization and flexibility of one's own education biography is the task of pupils, so the importance of vocational orientation grows (Hurrelmann, 2014; Sennett 2006). In this process, young people have access on personal and institutional guidance, which will help them, among other things, in terms of their knowledge of the labor market, as well as in the ability to reflect their own abilities. At the first passage, in the transition from general to vocational education, a decision by the young people is required by the education system for or against learning a profession, a further school attendance or the taking up of studies (Bührmann & Wiethoff, 2013; Benner & John, 2011).

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1.1 Research subject

If this passage is not mastered by the pupils, many find themselves in the pre-vocational programs of the system named "Übergangssystem – transitional system" (Euler & Reemstma-Theis, 2010). Regardless of the reasons that have hampered the beginning of vocational training, occupational orientation has a thematic focus in these programs. Within the vocational orientation, not only occupational contents such as the specific requirements of a professional field are relevant, also the social and personal competencies of the young people are decisive for the positive transition into the labor market. Furthermore, the activity of the transitional system will be further enhanced by studies and research, described how challenging e.g. the heterogeneous target group or the objectives of the educational measures for the teaching teachers are (Bylinski, 2009; Hecker, 2015; Dreer, 2013). Within the VET teacher training for vocational schools at universities there is a discussion of this area, in addition to the fact that the frameworks for programs provide only a rough idea and, in the rarest, lesson plans. This raises questions about the way in which the teachers deal with the demands placed on them and the structure of the programs, as the objectives of the programs focus on the inclusion of disadvantaged young people in the labor market.

1.2 Research questions

- How do teachers at vocational schools meet the requirements within the pre-vocational programs of the transition system?

- What specific requirements are placed on teachers in the pre-vocational programs of the transitional system?

- What influence do these demands have on the work of the teachers?

2 Methods

In order to be able to answer the question comprehensively, a mixed methods procedure within the qualitative research is accelerated, which is carried out as a specialization design (Hug, 2001). Using both qualitative and quantitative methods, existing theoretical assumptions can be examined, and theories generated (Brüsemeister, 2000; Kelle, 2014). In the present research project, the qualitative research paradigm is dominant, the quantitative questionnaire survey is only used as a preliminary study for the interview procedure and thus is complementary to the actual research question (Mummenday & Grau, 2014). The results of the first survey are included in the second and can be supplemented in the evaluation, analysis and interpretation.

The fundamental decision for a mixed methods research design is based on the interest in understanding, this lies in the action strategies of the interviewed teachers in dealing with the target group of disadvantaged young people and their integration into the employment system, thus an inclusion of these young people in the context of the labor market. In order to relate the challenges/requirements in the professional literature to the reality of the teachers mentioned in the scientific literature, these should be collected and compared by the first survey. As a basis for the thematic structure of the questionnaire, the Berlin model according to Heimann, Otto and Schulz is used. This is due to the fact that the condition and decision fields, which are considered in didactic processes, can be transferred to contents as well as framework conditions of the research field and are also familiar to the target group of the teachers. Thus, in the evaluation, aspects on which teachers have no influence (condition fields) and those on which they have much influence (decision fields) can be considered in a differentiated manner (Euler & Hahn, 2007; Nickolaus, 2009).

In the second step, the method of semi-structured expert interviews is used. The preparation of the guideline is based on the one hand on the theoretical basics, on the other hand, the results of the questionnaire survey are included in order to inquire more details. Another added value of the upstream questionnaire survey and the mixed method research design applied is the possible limitation of the guide to the challenges and content within the career orientation. Thus, results that are of particular importance can be included in the interviews. Furthermore, it is possible to classify the results of the interviews or the statements obtained in parts into the overall context with regard to the general statements from the questionnaire survey. The expert interview can be used as a method both individually and in combination with other methods, whereby the focus is primarily on the collection of comprehensive knowledge stocks (Kruse, 2014; Friebertshäuser et al., 2013). Here, the experiential knowledge of respondents, their routines of action can be ascertained in everyday life, and one speaks of "practical expert knowledge" (Meuser & Nagel, 2013). The interview form in combination with the use of a guide offers sufficient time in advance to clearly formulate questions and to check and, if necessary, modify questionnaires through pretests.

As an evaluation method, the qualitative content analysis according to Mayring is used, since this is a primarily communication science technique (Hussy et al., 2010), and a content-analytical approach is recommended for the evaluation of guideline interviews, to which the expert interview can be counted. Thus, the data material is arranged and summarized by topic aspects (Schmidt, 2013; Bogner et al., 2014). The method is used in scientific research not only for the evaluation of interviews, but also for open questionnaires (Mayring & Fenzl, 2014), so the part of the open questions within the present survey is also analyzed with the qualitative content analysis.
In order to be able to do this, the material has to be prepared in the preceding step, this is done on the one hand by collecting the open answers from the questionnaires, on the other hand by the transcription, the writing of the interviews.

The procedure both in the evaluation of the open parts of the questionnaire, and in the interviews is inductive, the categories are formed along the material, which is justified by the question of the survey. The deductive upper categories of the questionnaire survey are developed along the instrument and are composed of biography, challenges, content of vocational orientation within the vocational orientation and competences of the students, the upper categories of the interview evaluation are developed along the guide and included biography, challenges within the career orientation, content of the Career orientation and professionalization. These deductive upper categories are filled by inductive categories.

2.1 Results

Both surveys have already been carried out. The evaluation of the written questionnaire has already been completed and the results were included in the interview survey. This is currently being evaluated. Some results can already be named, but currently no explanation of the final results is possible, therefore only sections are named here.

Respondents (N = 64) of the written survey are divided into 65.6% female and 34.4% male participants, 55.0% of whom are over 55 years old, 28.0% aged 46 to 55, 12.0% between 36 and 45 years old and 5.0% are younger than 35 years old. Thus, the majority of teachers working in the transitional system are in the upper age average (Table 1).

Table 1   Data of the respondents to the written survey

category	possible answers / number of answers			
gender	female	42	male	22
age	35 and younger	3	36 – 45	8
	46 - 55	18	55 an older	35
vocational training	yes	31	no	33
studies	yes	62	no	2
teacher at a vocational school since ...	1975 – 1985	6	1986 – 1995	18
	1996 - 2005	28	after 2005	9
	not specified	2		
active in the "Über-gangssystem" since ...	1980 - 1990	7	1991 - 2000	23
	2001 - 2010	18	after 2010	13
	not evaluable / not specified	3		

The results of the first survey have made it possible to compare the theoretically relevant requirements with the actual requirements. Teachers were asked to rate the requirements in the scientific literature for influence on their work. The results can be divided into 5 groups, which are ranked by relevance. The first group contains the following aspects and details (Table 2).

Table 2   Group 1 of the influencing factors

topics aspect	no influence	little influence	neutral influence	great influence	huge influence
individual (de) motivation	1.6%	9.8%	11.5%	39.3%	37.7%
Special behavioral support needs	1.6%	6.5%	14.5%	43.5%	33.9%

It can be seen that there are very different assessments of the teachers involved, but the three aspects mentioned are the ones that, according to the respondents, have the greatest influence on work in vocational orientation. This can be deduced from the majority of the data in the areas of very large influence and great influence. It should be emphasized that all named aspects are directly related to the target group of the pupils. The personal motivation and the behavioral problems concern the concrete individual student. Both aspects can be related to each other, as the behavioral problems and the motivation have a direct influence on the whole constitution of the class. The second group consists of the following aspects (Table 3).

Table 3   Group 2 of the influencing factors

topics aspect	no influence	little influence	neutral influence	great influence	huge influence
heterogeneity of the class	8.2%	4.9%	19.7%	32.8%	34.4%
inclinations / interests	4.8%	6.3%	30.2%	44.4%	14.3%
individual personal obstacles (e.g. family situation)	4.8%	11.3%	11.3%	43.5%	29.0%
age	4.9%	6.6%	24.6%	32.8%	31.1%
missing / incomplete educational maturity	3.3%	13.1%	23.0%	31.1%	29.5%
educational background	8.2%	9.8%	27.9%	34.4%	19.7%

The averages of the mentions of the aspects all have a great influence on the work within the vocational orientation. The aspects of the second group are less influential than those of the first group, but if they are aligned, all mentions are related to the target group of learners within the programs. In contrast to the first group, except for one exception, there are topics that refer to the individual pupil and not to the totality or composition of the class. Furthermore, personal interests and the developmental phase are related, as well as the educational background and the current state of educational readiness, as this is associated with the presence or lack of basic education. In the scientific literature, different topics were named, which were summarized for the questionnaire under the heading "Individual Personal Obstacles". Since this has a great influence on the work in the vocational orientation, it is of interest to ask in the interviews for the concrete embodiment of this topic aspect. The third group consists of the following aspects (Table 4).

Table 4   Group 3 of the influencing factors

topics aspect	no influence	little influence	neutral influence	great influence	huge influence
immigrant background	14.3%	14.3%	22.2%	28.6%	20.6%
fluctuation of pupils	8.1%	16.1%	35.5%	27.4%	12.9%
unrealistic professional and worldviews	8.2%	9.8%	27.9%	34.4%	19.7%
influence of the media on pupils	6.5%	17.7%	35.5%	30.6%	9.7%
conducting internships	8.2%	14.8%	31.1%	31.1%	14.8%
curriculum	14.5%	4.8%	33.9%	37.1%	9.7%
orientation to dual training courses	4.8%	21.0%	32.3%	30.6%	11.3%

In contrast to the first two groups, this group includes information on the target group as well as general influencing factors on work in vocational orientation, such as work placements, curricula and orientation towards dual training courses. The mean of the mentions is between large and neutral influence, with a tendency to neutral mean influence, which is why these aspects have been separated from the second group and have less overall influence over them. The fourth group consists of the following aspects (Table 5).

Table 5   Group 4 of the influencing factors

topics aspect	no influence	little influence	neutral influence	great influence	huge influence
parents / family	6.5%	24.2%	33.9%	24.2%	11.3%
friends / social environment	4.8%	21.0%	37.1%	32.3%	4.8%
regional characteristics: location of the school / place of residence	8.1%	16.1%	38.7%	32.3%	4.8%
changes in the labor market	8.1%	21.0%	37.1%	29.0%	4.8%

In this group, there are no aspects that are exclusively concerned with the personal development of the students. Rather, it is about the external influencing factors of family, friends, region and the job market. The mean value of the entries is classified as neutral, which sets it apart from Group 3 and has less influence overall. Especially the changes in the labor market were attributed with a neutral to little influence on the daily work in the educational programs. The fifth group consists of only one aspect (Table 6).

Table 6   Group 5 of the influencing factors

topics aspect	no influence	little influence	neutral influence	great influence	huge influence
specifications of the federal employment agency	13.3%	21.7%	36.7%	23.3%	5.0%

The Federal Employment Agency is the funding agency for the programs and has drafted the appropriate action papers. Although there are no curricular requirements with regard to the structure of the programs, it is surprising that this aspect has the least influence on all aspects that are in demand. The mean of the mentions can be classified between neutral and little influence, which is why the aspect forms its own group and could not be assigned to group 4.

In order to be able to record further aspects, a free field was set up in the questionnaire, in which missing influencing factors could be named by the teachers. The grades were classified into nine categories which differed in target group (TG) - behavioral problems (13 mentions), cooperation internally (8 mentions), class size (5 mentions), target group (TG) - general (6 mentions), class internal (4 mentions), room (3 mentions), external cooperation (3 mentions), target group (TG) - knowledge (2 mentions) as well as mobile phone (2 mentions).

These categories can in turn be thematically grouped together. The first group (target group - mental problems / behavioral problems, target group - general, class internal, target group - knowledge) deals with the target group of adolescents in the class group. Three respondents named psychiatric problems or behavioral problems as "drugs" or their influence on the students, and three respondents also referred to mental illnesses of the adolescents. One interviewee points out that from his perspective, mental illnesses increase. In addition, behavioral problems such as ADHD are named, pre-existing and current health problems of the students, chronic diseases, and the occurrence of disabilities of individual students. These responses corroborate the large impact of student heterogeneity on the work of teachers in pre-vocational education programs. The general information on the target group includes the grades of irregular attendance, the registration and deregistration of students, different levels of achievement, the composition of the class, the ignorance of which phases of vocational orientation the students have already completed and the existence of reservations on the part of the student Pupils

to the school or the teachers. At the last nomination, a direct consequence for the personal work with the target group is deduced, namely that of meeting this critical attitude openly in order to build up new confidence in the accompanying teachers. The category class internal summarizes the mentions of the relationship between the students, rivalries and the fact that the few demotivated students influence the entire class. Entries of the category Target Group - Knowledge consist of the mentions of knowledge gaps and the basic knowledge from the general education school. The named categories and mentions of the respondents underline the relevance of the target group when considering the subject area. Although students' heterogeneity, knowledge or even development phases were already named and assessed in the closed section of the questionnaire, it was important for the interviewees to re-write this in the free answer section and in some cases clarify it with examples or consequences.
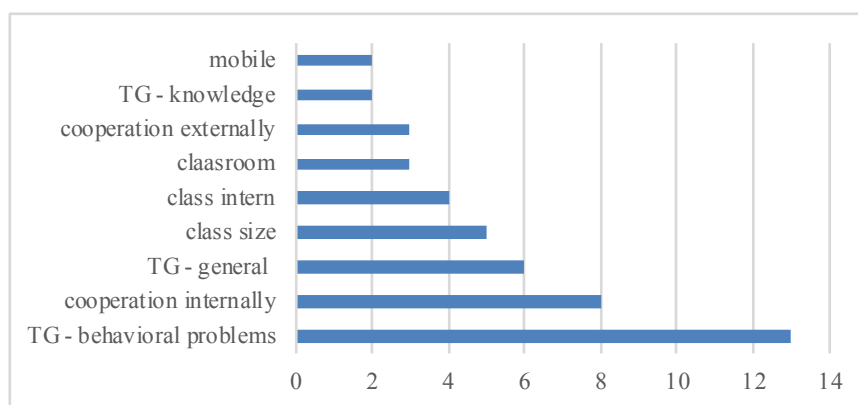

Figure 1   Additionally named requirements

The second group (class size, space, mobile phone) which can be summarized names the external circumstances in which the work takes place within the pre-employment measures. Above all, the class size is named as problematic, since this is provided not only as an individual, but, for example, with the request to reduce this. Since class regulations are set within the ordinances of the country MV, it is of interest in the interviews to ask the exact number of students and to consider them against the background of the country's figures. With regard to the criticism of the spatial and material features, no detailed statements can be made, because only the individual words were named, the category mobile behaves accordingly.

The two remaining categories (cooperation intern, external cooperation) can also be combined into one group. Among the first named is the positive statement on the support of a social worker, as well as critical remarks that do not take place but required supervision, lack of planning security, changing teaching teams, the general scheduling, no professional exchange about the students, missing tailor-made training opportunities and the circumstance in that the students of the preparatory measures in mathematics are to be taught together with the pupils of the specialized grammar school. The cooperation extern designates the cooperation with educational institutions, living communities /, living and social conditions of the pupils, as well as exchange between schools. Whether these mentions are positive or critical utterances can not be understood, as no statements were made. All in all, the point of cooperation in scientific terms is named, but above all the internally named critical points have not been documented yet, which is why this will also be included in the interviews.

This aspect was also questioned in the interviews, currently only initial impressions can be given.

From the totality of the respondents to the written survey, a theoretical sample was derived for the interview survey (Table 7).

Table 7   Sampling of the two surveys

	questionnaire	interview
N	64 (11 schools)	25 (7 schools)
female	42	17
male	22	8
age majority	46 – 55	46 – 55
vocational training	31	16
studies	62	24

The first impression of the evaluation of the interviews regarding the real requirements in the field of research is that the target group itself, the heterogeneity of the group and the individual problems of the individual students represent the greatest challenge for the teachers. The educational background is very different, so that a differentiated instruction must always take place. All respondents agreed that, above all, the students' social and personal skills are problematic, and the main task is to train them. Because without these competencies it is not possible to impart technical competences.

Currently, teachers' strategies are systematically evaluated. After a first review, it can be shown that, above all, personal strength, consistency and above all experience in dealing with these students is necessary to be able to cope with the named requirements.

3   Conclusion

Against the background of the current data, it can be stated that teachers in the transition system's educational programs are exposed to various requirements that only play a minor role in teacher training. Experience in vocational school, personal flexibility and, above all, empathy make successful teachers in these programs. Overall, it should be questioned what the meaning of these programs, as the rate of transition of students into a vocational training after visiting the transition system is close to zero. Teachers do a tremendous job, but the focus is more on integrating young people into society rather than the labor market. It should be emphasized that these statements can only be made in the context of the first consideration of the results and a detailed evaluation is still pending.

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One Step Forward: Advancing Knowledge on Italian VET-Laboratory Instructional Practices

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Abstract

The instructional practices implemented by the teacher in the Italian initial Vocational Education and Training (VET) system has rarely been the subject of empirical studies. Indeed, an exploratory literature review showed no results. Often, this kind of instructional practices risks being confined in the VET-laboratory framework, leaving unexploited their potential that could be able to cross boundaries between the classroom and the workplace. In order to provide transferable and reusable information on instructional practices of both VET teachers and the teachers of general school, ethnography and the Grounded Theory approaches were combined. Despite the data analysis is not yet finished and the model still to be elaborate, the principal findings of the present contribution represent a set of suggestions for VET teachers (both those who teach practical subjects and those who teach cultural subjects) and the teachers of the general school. Further analysis will aim to design a model which represent a middle-range theory of VET-lab teachers' instructional practices and a set of instruments that could be useful for VET teachers' (and for school teachers too) training and teaching practices.

Keywords

vocational education and training, instructional practices, work-based learning

1   Introduction

The core of the Italian initial Vocational Education and Training (VET) system, named *Istruzione e Formazione Professionale* (IeFP), resides in the 3 and 4 years programs. These paths aim to develop basic, transversal, and technical-occupational skills in order to obtain the Professional operator certificate (3 years program – Level 3 EQF) or the Professional technician diploma (4 years program – Level 4 EQF). The 3 and 4 years programs are provided by VET centers (private training centers accredited by the Region according to nationally established criteria) or by public vocational schools in subsidiarity form (CEDEFOP, 2014).

Despite the recent apprenticeship reform (Accordo in Conferenza Stato Regioni, 24 September 2015), the new Italian dual system is not yet neither stable nor widespread. So,

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actually, the most part of the students' work practice activities do not take place in the work-place, but in the IeFP laboratories (students only can work in a company during the 3rd year for a 2/3 month internship). The IeFP laboratory (VET-Lab) is a specific instructional setting, inside the VET centres, where workplaces are simulated through the presence of professional instruments and equipment.

Inside the VET-Labs, students' learning takes place as result of real practice activities, in real situations. These activities seem to be motivated by the students' interest, and often for the pleasure of solving concrete and challenging professional problems. Although these activities take place in formal context (VET centres and VET schools), the just outlined learning process seems to have many things in common with the non-formal learning. In this practice-oriented setting, which is often characterised by high technological density, students also seem to improve their knowledge about cultural subjects, e.g. mathematics, literature, foreign languages, etc. (Tacconi, 2011, 2014; Tacconi & Gomez, 2010). Technologies could have a relevant role in this learning context because they "can serve many roles to support Work-Based Learning (WBL)" (Margaryan, 2008, p. 17).

The instructional practices implemented by the teacher in this particular learning context has rarely been the subject of empirical studies. Indeed, an exploratory literature review showed no results. This kind of instructional practices risks being confined in the VET-laboratory framework, leaving unexploited their potential that could be able to crossing boundaries between the classroom and the workplace. Therefore, on that basis, an analysis of instructional practices of VET-Labs' teachers could be useful for providing transferable and reusable infor-mation by both all the teachers of VET (also those of cultural subjects) and the teachers of general school. This contribution represents the first report of a wide research project so, the outcomes below shall to be considered as a provisional draft.

2   Research questions

As mentioned before, the aim of this study is to highlight the VET-Lab' teacher instructional practices in order to develop a model through which summarize the good practices maintaining results grounded in data. As result, the research questions that guided the present study are as follow:

- Which are the teaching strategies implemented in the VET-labs? Which are their features? Which are the features of the VET-Lab context?
- How are technologies used for fostering VET-Lab instructional practices and in the work-place? Which is their role?

In order to answer to the proposed research questions, ethnography (Van Manen, 1990) and the Grounded Theory (GT) approaches were combined (Charmaz, 2006; Glaser, Strauss, & Strutzel, 1968). The indicated methodological choice was made because of the lack of em-pirical research on VET-laboratory' instructional practices. As consequence a deep comprehen-sion of the novel research topic environment was necessary.

3   Methods

The just outlined qualitative methodology mix has been recognised as a good solution for exploring new research topics because (Bamkin, Maynard, & Goulding, 2016; Charmaz & Mitchell, 2001): 1) the ethnographic elements allow the researcher to deeply enter in the studied environment and permit participants to be active in the research process; 2) the GT approach provides a structural framework for the data analysis, maintaining the emergent theory grounded in data. In this way, the "voices" and the experiences of the involved actors can be

enhanced (Mortari, 2007; Tacconi, 2011). Given the difficulty to implement a long-stay ethnography and given the need to include different instructional situations, a multi-site ethnography methodology was used (Marcus, 1995).

3.1 Data collection

Data collection was carried out in two steps. In the first step, four VET centres were selected for the participant observation through a convenience sampling strategy (Pole & Morrison, 2003); all the selected centres belong to the same VET federation (CNOS-FAP). The observations took place over the course of the 2nd semester (4 months – about two days a week) in 17 classes of the 3rd year during the VET-Lab activities. In total, 18 teachers and about 300 students were involved in the observer activities. The selected classes belonged to 6 professional sectors: mechanic, automotive, hydraulics, electronics, marble, and graphics. The observer main focuses were the teacher instructional practices and the role of technology as the subject of learning. The gathered data consists of field notes, pictures, teaching materials, and documentation about curricula. The first step activities also allowed the researcher to improve his technical vocabulary concerning the professional sector of the observed instructional practices. In the second step, a semi-structured track questionnaire has been developed both on the basis of the research questions and the data gathered during the first phase (Mortari, 2007; Tacconi, 2014). Through a snowball-sampling strategy, 11 VET-lab teachers of other two VET federations (ENAIP and Scaligeraformazione) were involved in the research. These teachers and 10 of those involved in the first step were interviewed (21 in total). Following the principles suggested by GT, the questions were revised and corrected after each interview with the aim to improve the quality of the investigation (Charmaz, 2006). During and after the second phase, the interviews were recursively analysed following the GT procedure.

3.2 Interviews' analysis

Before being analyzed, each interview and each answer were labelled with a progressive code (Mortari, 2007; Tacconi, 2011). For instance, the label [INT4/05] was assigned to the fifth question of the fourth interview. The coding phases proposed by the GT approach (open coding, axial coding and selective coding) were conducted with the support of a qualitative data analysis software (Nvivo 11). The open coding (1st phase) required a recursive read of interviews' transcripts. The texts were coded, compared, and merged without distinction between the interviewees. Through this process, VET-lab teachers main actions (subcategories) were conceptualized maintaining them grounded in the interviewees' answers (e.g. Table 1). Many significant units (about 90) were identified on the basis of the research questions (i.e. look at the right column of Table 2).

Table 1   Example of open coding

Main actions (subcategories)	Narratives
Reflecting with students on which could be the mistakes' consequences in the real workplace	Even facing small problems, is important to find and understand a solution in order to create an attitude that could be a students' advantage in the future, because knowing how to solve small problems today means maybe be equipped for the resolution of major problems tomorrow. [INT1/53] Whenever there is a problem, I usually stop the lesson. I show the problem to the students and I ask him to think about a solution, taking the opportunity for testing their problem solving ability. Some issues are simulated, but they are simpler. I say them that the customer demands an answer in a short time. [INT10/15]

	I always explain that most of the calls for those who is an industrial technician are related on breakups and failures. So, if you are no able to go to repair the faults ... it's a big problem. [INT16/31]
	Here, [during VET-lab activities] we forgive the mistakes. But, in the workplace, they will be not forgiven and they ll'have to pay through losing the job contract or in losing customers [INT5 / 30]
	…
…	…

After the open coding, axial coding procedure (2nd phase) was done. All the main actions (subcategories) identified in the first phase were compared with each other and clustered by affinity. Thanks to this recoursive process of analysis, 13 categories emerged, composing a provisional hierarchy of VET-lab teachers' actions (i.e. Table 2). Right after the 13 categories have been identified, they were compared with each other and with the data through the selective coding (3rd phase). Some connections between categories seems to emerge and several potential core categories have been identified, but the pieces of information are so much and complexly related. Since it is not yet possible to draw an exhaustive theoretical model baseing it on the analyzed data (the interviews); also the other collected data which have not yet been analyzed (field notes, document collection, etc) will be analysed with the same procedure in order to integrate the model draft. The results reported and discussed below represent the state of art of the research project before the return on the data.

Table 2   Provisonal hierarchy of categories

Categories	Main Actions (subcategories)
Accustoming students in taking and rearrange notes	• Asking students for transcribing theoretical lectures and practical demonstrations • Guiding students in taking notes • Letting students choose how to take notes • Letting students to film lectures and practical demonstrations using mobile devices • Making students gradually autonomous in taking notes during the three years
Choosing and developing students' learning material	• Asking students for searching technical documentation • Developing handouts based on school handbooks (school-based handouts) • Developing handouts based on the user guide about the machines which students should learn to use (work-based handouts) • Developing handouts with the students • Directly using the user guide about the machines which students should learn to use • Frequently updating the learning materials • Integrating school-based and work-based learning materials • Using educational technologies for searching pieces of information • Using traditional educational learning materials (school based) • Using work tools and technologies
Elaborating a professional handbook with students	• Asking students for a rearrangement of notes to create a professional handbook, integrating it with teachers' handout and practical exercises reports • Asking students for taking care of their school notebook • Assessing the contents and the quality of school notebook • Collecting practical exercises

	• Guiding students in organising notes and teacher' handouts
	• Using students' handbook during the practical exercise
Enhancing connections with cultural subjects	• Collaborating with cultural subjects' teachers in the elaboration of practical exercises, activities planning, and final qualification exam
	• Developing students' technical language, communication, and writing skills
	• Recalling topics of cultural subjects to activate students' attention
	• Reflecting with students on the importance of cultural subjects in whole life
	• Supporting the development of technical skills in connection with mathematics knowledge
	• Using English users' guide - connection with the English language
Giving value to students' internship experience	• Bringing innovation in host companies through the upgraded students' skills
	• Comparing internship experiences and previous training; confirming reciprocal mutual trust between student and teacher
	• Selecting the host company for internship depending on the student talent
	• Visiting students during the internship
Implementing competence-based learning	• Aiming at the development of competencies through the teaching of work' procedures (step by step approach)
	• Asking students for logical storytelling about their work process - exercise execution
	• Enhancing connections between theoretical concepts and practice
	• Reflecting with students on the importance of knowledge - e.g. definitions and concepts
	• Answering to the students' questions with other questions that foster logical reasoning
Involving students in solving unexpected real problems that occur during the lab' activities	• Asking students for finding a solution without continually help them but suggesting useful references
	• Considering mistakes and unexpected technical problems as a learning opportunity
	• Including the problem-solving ability in the students' curriculum
	• Reflecting with students in good practices to prevent problems
	• Reflecting with students on which could be the mistakes' consequences in the real workplace
	• Searching for a solution with students through a technical/professional dialogue
	• Getting the students' attention talking about problems emerged in the past as an example during theoretical lessons
Personalizing learning activities	• Actively supporting the students with special needs
	• Assigning tasks and practical exercises depending on the single students learning abilities
	• Assigning tasks and practical exercises depending on the students' groups learning abilities
	• Establishing the minimum level of skills that students must achieve
	• Using educational Technologies to support special needs students
Planning instructional activities	• Adapting activities plan and regional standard curriculum in the course of training' year on the basis of class students' outcomes and feedbacks
	• Adapting regional standard curriculum to personal work experience and companies' requests
	• Collaborating with colleagues
	• Focusing activities on the final exam

	• Focusing learning activities on products realisation and professional instruments
	• Integrating the training programme with extraordinary activities - e.g. competitions (also announced by technical equipment providers), participation at fairs, VET centres equipment maintenance
	• Integrating training programme with additional projects to cope with an external company order
	• Planning activities for the whole three years program
	• Referring to the standard curriculum indicated by professional associations
	• Sharing learning materials and experiences with colleagues
Promoting students' autonomy	• Actively supporting students during practical exercises
	• Giving confidence to the students, maintaining a light supervision
	• Gradually letting students work with autonomy
	• Gradually raising the difficulty level of the practical exercises
	• Leaving students free to make mistakes
	• Progressively moving from individual activities to teamwork activities
Promoting students' sense of responsibility	• Asking students for taking care of laboratory equipment and VET centre environment (accountability for the use and maintenance)
	• Asking students for keeping the learning environments tidy and clean
	• Asking students for keeping work tools and materials organized during practical exercises
	• Asking students for taking care of practical activities products
	• Assessing students' ability in keeping the work environment organized
	• Assigning roles to students and/or asking them to attribute roles within the teams
	• Implementing work safety courses
	• Introducing students in the real world of work (arranging internships)
	• Reflecting with students about the consequences of their actions in the real work context
Promoting students work adaptability-versatility	• Accustoming students to ask the right questions
	• Finding the right balance between executive rigour and creativity
	• Keeping students' attention on the work tasks instead of used technology or products
	• Providing different versions of the same instruments or technology to do the same task
	• Reflecting with students on internship experiences
Simulating work contexts	• Using both work technologies simulators and real work machines
	• Simulating company roles
	• Simulating interactions with clients
	• Simulating technical failures and mistakes
	• Using simulators used also in the workplace
	• Structuring lessons in work task simulations

4   Results

As the Table 2 shows, the teaching practices implemented by VET-lab teachers to carry out their instructional actions have been identified and indexed. A brief comparison between the findings and the literature (theorerical sampling) shows several similarities between VET-lab teacher actions and the following theorethical concepts: personalized learing and instruction (Spector, 2015; Jonassen & Grabowski, 1993), the reflecting pratictioner (Schön, 1993, 2006), boundary crossing (Suchman, 1994), boundary objects (Star, 1989), simulation-based learning (De Jong, 2015). Through the recursive analysis of the interviews and with the support of several functions of Nvivo 11 software (i.e. matrix coding, relational nodes and sets), the most important actions and their connecctions have been found: promoting students' sense of responsibility and work adaptability, simulating work contexts, involving students in solving unexpected real problems that occur during the lab' activities, enhancing connections with cultural subjects, implementing competence-based learning. Probably one of these will be the core category of the emerging model, but further in-depth analysis of data are necessary. Also some transversal elements seem to emerge crossing the core categories with the identified instructional practices: "connection with labour reality", "curricula personalisation", "workplace care" and, "familiarity with technologies". A complex theoretical model of "VETLab instructional practices" seems to emerge but, as mentioned before, the theoretical saturation has not been reached yet and the theoretical model has not been defined. As an in-progress research, there are future steps to be considered. Therefore, the recursive analysis of data will continue in depth. In the next step, the data gathered during the first research phase (mainly the field notes) will be included in the corpus of data and will be analysed too. The emerging model will also be compared with a wider corpus of literature through the theoretical sampling procedure

5   Conclusion and expected outcomes

Despite the data analysis is not yet finished and the model still to be elaborate, the principal findings of the present contribution (see Table 2) represent a set of suggestions for VET teachers (both those who teach practical subjects and those who teach cultural subjects) and the teachers of the general school. The aim of the further analysis is to design a model which represent a middle-range theory of VET-lab teachers instructional practices and a set of instruments that could be useful for VET teachers' (and for school teachers too) training and teaching practices.

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Preventing School Drop-Outs in Intermediate VET from the Schools' Perspective

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Abstract

This paper looks at the conditions underlying determination and educational success in intermediate vocational training from the perspective of education centres. To achieve this, we undertook a case study in two education centres in the Balearic Islands, based on a qualitative research process that provided the students and teachers involved with a voice of their own. The results show a high level of consensus among students and teachers regarding the key educational practices to prevent students from dropping out of vocational secondary education: proximity and availability of the teaching staff, confidence in the potential of the students, the demand and the evaluation of the students, the link with the world of work and proactive teaching in the classroom. They also agreed on the main elements that enable these practices to prevent drop-outs: a small number of teachers in each group, a small number of students per class and good coordination among teaching staff.

Keywords

school drop-out, VET, educational practices

1   Introduction

High rates of early leaving education and training[1] (ELET) constitute a major problem of education systems that have universalized the access to education. Spain is one of the countries of

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the European Union (EU) with higher rates, despite the obvious improvement that has occurred in recent years.

The latest available data reflect what is already becoming usual: Spain is the EU country with the highest rate (20% of ELET against a European average of 11%) and, in Spain, the Balearic Islands with 26.7%, leads the autonomous communities at its worst.

Despite the difficulties to measure VET dropout, research suggests that it is higher than in general education and stresses the need to prevent it (CEDEFOP, 2016). In Spain, the more recent and approximate data point out a drop-out rate of around 50%[2].

Internationally, VET drop-out research focuses primarily on risk factors and their interactions, as well as on the processes that lead to drop-out and on retention factors (Glaesser, 2006;) Gaillard, 2010; Jaapinen, 2010; Molgat, Deschenaux, & Leblanc, 2011; Tangaard, 2013; CEDEFOP, 2016). NCVER (2005) designates as drop-out causes: a lack of motivation due to the content of the studies, the feeling of the students that are not adapted to the reality of the world of work and the perception that centre staff have little skills and knowledge in their fields. Jaapinen (2010) targets the following factors in order to reduce drop-out: the flexibility and adaptability to changes and needs of the students, the ability to share pedagogical vision with students, the ability to analyse the educational practises in a critical way and the educational orientation of multi-professional nature.

In Spain, research on the contribution of educational practices to prevent ELET in professional secondary education, as well as the conditions that facilitate such practices in schools are limited and very partial, standing out studies such as Tarabini's (2015) or Benito and González's (2007) that demonstrate the importance of the institutional habitus and school bonding in pathways leading to success in VET.

In this context, our study focuses on the educational practices that prevent school drop-outs in VET. It is part of the project "Pathways leading to success in, or dropout from, vocational training in the education system at levels 1 and 2" (EDU2013-42854-R), funded by the Ministry of Economy, Industry and Competitivity, the National Research Agency and the European Regional Development Fund (ERDF) in the national I+D+I framework.

2 Methodology

We present an explanatory and exclusively qualitative study because it is the most appropriate perspective for our object of study.

The objectives of this research are: to identify the most relevant characteristics of the selected centres, especially those with a significant relationship with pathways that lead to the success of students; and to recognize, describe and analyse educational practices that are perceived as successful by their protagonists (students and centre staff).

The nature of the project makes the use of case studies very suitable, since the detailed narration of the characteristics and functioning of the phenomenon researched in different centres will provide a contextual, holistic, multi-dimensional and deep understanding of it.

Sample

The selection of the centres has been made selecting those who obtain satisfactory results of permanence of students, choosing cases that offer better and greater learning opportunities, by means of which we can understand in depth the problematic of the object of study. The two

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[2]   This number is calculated from the percentage of people that finished Intermediate VET in 2014-15 (98.364) in relation to the people that were studying first year of Intermediate VET in 2013-14 (194.764).

selected centres are the Integrated Centre of VET (Centro Integrado de Formación Profesional - CIFP) of Son Llebre and of Es Liceu.

The selection of informant subjects of each Centre, has been made through an intentional sampling of both staff and students, in order to facilitate the participation of the individuals with greater explanatory ability to respond to the issues of research.

Selection criteria for staff was: conducting lectures in different courses and areas and them having explanatory capacity to respond to the issues of research.

Regarding students, we followed the next selection criteria: that they represented various courses and training areas, that they were good informants and had different levels of academic performance.

The sample consists of 39 subjects, of which 17 are students (encoded as A1, A2...) and 13 teachers (encoded as P1, P2...) (9 teachers and 4 members of the management team (encoded as ED1, ED2...) - all of them, people with privileged knowledge of their community).

Data collection instruments

We have chosen two basic instruments: in depth interviews and discussion groups.

We made four depth interviews, two in each of the selected centres, to members of the management team with high bonding to VET, with the aim of obtaining a more institutional vision and more macro of the study. They were conducted on an individual basis and followed a semi-structured outline in order to invite the subject to enhance with the objectives of the study.

As far as the discussion groups are concerned, we conducted a total of six, with 6 people in each one, with students and teachers of the two selected centres.

This research has ensured the protection of the identity of individuals and the anonymity of the information collected at all times.

Analysis of results

The analysis of the collected data has been made without a previous categorization in order to avoid the distortions that can cause previous classifications. Thus, the conceptual structure that occurs is derived from what is known as a naturalist categorization that emerges from the data itself (Flick, 2014).

In order to carry out the analysis of the results, we have used the NVivo software. The established categories and dimensions are listed in the following table (Table 1).

Table 1   Dimensions and categories of the analysis

DIMENSION	CATEGORY
1. Educational practices that prevent drop-out	1.1. Proximity and availability of teachers
	1.2. Confidence in student potential
	1.3. Requirement and assessment of students
	1.4. Active dynamics of classes
	1.5. Proximity with the world of work
2. Organizing aspects that facilitate drop-out prevention	2.1. Few teachers per group
	2.2. Reduced groups
	2.3. Small centres where everybody knows each other
	2.4. Teacher coordination

The categories that have emerged from the analysis are consistent with the results of the literature reviews and provide detailed information regarding the determining aspects of school drop-out here studied.

3   Results

They are organized, in accordance with the dimensions and categories that emerge from the analysis of content, listed in Table 1.

3.1 Educational practices that prevent drop-out

Proximity and availability of teachers

Both students and teachers give a decisive weight to the relationship established between each other. A relationship in which teachers explicitly manifest their concern for the welfare of young people, show proximity and establish a personal communication in which students feel, above all, heard. This reflects in the following words of a student:

I think that the people who work here are very human. They give a very human treatment and show that they are doing what they are doing because it is what they really like and that they want to help with their guidance, and I think this is what, in some sense, makes us continue forward. Everyone is very close, you can go and talk about everything (A5).

This proximity is key when a student weighs the possibility of dropping out from school.

Before going to the school counsellor or to sign my leaving, I wanted to speak with my tutor and asked him what he thought, because I was unmotivated and knew that I wouldn't make it, and he advised me and encouraged me to not leave my studies, he told me that I could give more and that that I could change my attitude, and finally, I'm still here (A9).

The proximity and availability of teachers is extensible to the relationship with the families. According to the teachers, academic pathways marked by failure and disagreement make it essential. A relationship in which looking for covenants to act in a coordinated manner, face the difficulties altogether and integrate families into the commitment made by the teachers. The coordinator expresses this like follows:

The strength we have before them is this alliance with parents, and especially mothers. Parents are very quiet when they feel that their children are in good hands, and they are in good hands if they see your committed as a teacher. We always say that their children's success is our success as teachers, and their failure is our failure. This has great importance when wanting to link young people (ED1).

Confidence in the potential of students

Indeed, confidence in the possibilities of growth of students is closely related to the previous category. They both refer to a positive look on VET students, which implies recognition and future prospects.

Both students and teachers reach this confidence in various aspects: positive expectations, flexible curriculum based on individual needs, specific support and flexible curricular content.

Positive expectations promote educational actions aimed at reinforcing strategies and resources for study, as well as clear explication of confidence and recognition of capabilities not expressed so far. It is thus collected in statements such as the following:

There are many who come with a story of failure and with very little expectations and come back to a teacher that tells you I believe in you, you're able to do it, it makes them grow, knowing that someone trusts in me <u>after</u> being a disaster and having everything failure (P1).

Requirement and assessment of students

Confidence presented in the previous category is reinforced by the exigency and the demand of effort towards students, which makes young people more capable of achieving what they have been proposed, and more willing to deal with the work involved. At the same time, some Intermediate VET students indicate that it is a form of support for the record requiring studies: "I think that there are teachers who are demanding that they get the best of us, that you go home and say... go!" [...] "They can be very demanding and be super people empathic and proximate" (A2).

The demand is closely related to the development of attitudes which will be necessary for the exercise of their future profession. It feels that this is a requirement of teachers since young people are well aware of it. So, as said by a student: "They highly value the attitude of the class. They appreciate it a lot. I think it's good"(A19).

Young people specially value that the assessment is not based exclusively on tests and that they are provided with other instruments to assess their learning: essays, expositions...

Teachers mention the importance of feedback when sharing the obtained results, as well as strategies and decisions to be adopted to overcome the difficulties. The time devoted to individual or collective tutorials favours their compliance with the necessary care, explained as follows by teachers: "It makes no sense to assess them if you don't return. It should be done to improve, we have to work on it and make it better. If not, what is the sense of all of this?" (P1).

Active dynamics of classes

The responses of students and teachers agree in the goodness of the proposals, but not so much in their constant and widespread presence in the classroom. Teachers exhibit that they try to organize dynamic classes, with varied activities and not very long lasting in time to keep the attention of young people awaken. Young people positively highlight situations in which they have experienced it but are very critical when the class is based in oral presentations of the teacher and textbook reading.

If they don't dynamize classes, you get bored and you leave. If they place me a teacher in front who begins to explain, I start to get very bored and I finally fall asleep. If it is not a stimulating class, a little fun, a little that makes you get into the matter and you say I'm learning something, I like it. If not, no... (A13).

Proximity to the work world

This last category includes an aspect which is widely valued by students and teachers. Students are grateful and satisfied with the activities that involve direct contact with future work, since they facilitate learning of skills and professional attitudes. They refer to activities such as visiting work centres and professional visits to the centre. They also value that teachers have work experience and that they share with them their experiences, without hiding the vexations of the profession. They recognize that it affects their motivation and their effort to bring forward their studies: "they put you in the role of work. I like to be treated as a worker during VET"(A2).

3.2 Organizing aspects that facilitate drop-out prevention

Few teachers per group, more teaching hours with the same group

In the organization of the teaching activity, both centres have opted for a small number of teachers per group (three or four), so each of them has more hours of class with the same group of students. Although students generally value this positively, who most appreciates it is the collective of centre workers, since it allows a closer relationship and a better understanding of the individual characteristics of the young, and both consequences lead to less student drop-out

The relationship becomes very close and even continues when the course has finished. The fact that we are 3 or 4 helps us to have a relationship between ourselves, and that benefits us. It also helps that there is less absenteeism and less failure. Drop-out rates are very low for us (P10).

Reduced groups

Clearly all people agree on the benefit that involves a small group of students, since it facilitates a better understanding of young people, a more personalized attention and closer communication. It also promotes a better relationship between young people.

Small centres where everybody knows each other

This category refers only to one of the centres, Son Llebre, with which's dimensions are more reduced than Es Liceu's and designed exclusively to VET studies. The characteristics of the building, together with the small number of teachers, makes easier and more fluid relationships among teachers.

[...] And then our response capacity, given that is a small centre, of agility in response to certain situations. For example, there is something to comment on a student there is no problem in waiting for the next educational team meeting, because its only and in two months. The fact of being a little centre helps a lot (P1).

However, there is an element that adversely affects everything said: the lack of stability of teachers. Most of the teachers are interim and for this reason, the effort involved in receiving new teachers each year makes organizing general activities of the Centre and the educational project more difficult, according to the head of studies. This interpretation is shared by the rest of the teachers: "the fact of not knowing the teachers who will be here, knowing there is no stability of the Centre implies that many projects and many of the things that we wanted to start sometimes slow down" (ED4).

3.3 Teacher coordination

For both students and teachers, the fact that teachers share performance criteria and evaluation guidelines adds value to the work being done. Obviously, having few teachers involved with a small group makes it easy to find spaces to coordinate and reach agreements. It is also benefited by the fact, either being a small Centre, or endeavour finding more informal spaces of exchange. In this regard, they refer to the advantages of the virtual coordination.

This is how young people reflect it: Above all it is very noticeable that they all follow the same pattern of criteria, i.e., I am going to assess that you participate, I'm going to appreciate you answering me, even if you do it wrong, okay? I need attitude, okay?... And when you walk into the staff room they always are working together (A6).

And this is how the teachers reflect it: We have a lot of time to work together, designing together..., there is a point where you get a very good relationship, and this can be seen at the classroom level, students even have told us: "You all have very good vibes between you" (P4).

4   Conclusions

In this text we have identified and analysed the educational practices for the prevention of school drop-out in secondary professional education, as well as facilitated organisational elements of such practices from the perspective of students and Centre workers. Despite the limitations arising from a purely qualitative cutting approach, the way we have carried out the study has allowed us to respond to the initial objectives.

The results have enabled us to identify that the educational practices considered key in the prevention of school drop-out in secondary professional education professional, carried out by

students and teachers in the two training levels under study are: the proximity and availability of teachers, the confidence in the potential of students and the active dynamics of classes.

Regarding the organisational aspects that facilitate the prevention of school drop-out, we find an enormous key consensus: a small number of teachers in each group, a small number of students in each class and a good coordination between the teaching staff.

These results are consistent with the literature on the subject and especially the contributions of NCVER (2005), Dore and Lüscher (2011) or Tarabini (2015) which say that the teachers are a key agent to explain the process of educational attachment. In this regard, it is important to highlight the confidence in students, based not in academic criteria, because it is addressed to ensure that they learn to rely more on themselves and are recognized as valid individuals. We refer, therefore, to a positive, optimistic and confident look that values and that makes young people feel valued, that constitutes a provision and makes the student protagonist of educational actions and of his or her own life (Pérez de Lara, 2000).

It is important to stand out the positive evaluation of the contact with future work, in accordance with the results of other research works (CEDEFOP, 2016, NCVER, 2005 among others).

Ultimately, we underline that the majority of studies focus on the characteristics and traits of the students in relation to the commitment, participation, interest and emotional bonding with the school. In our case, we focus on the factors of the centres that may be promoting this linkage, and, consequently, school success. And between them, as pointed out by Orthner, Cook, Rose, Randolph et al. (2002), we need to power the culture of caring that emphasizes in early identification of students at risk and in paying a special attention to it.

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The Long and Winding Road to the Labour Market: South African Public TVET College Students' Experiences of System Failure

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Abstract

Not only are millions of young people being excluded from formal education systems and labour markets globally, but they are increasingly being excluded even from the conceptualisations of "normal" trajectories. Current orthodox theorisations of "skills for employability" are inadequate for explaining much of young people's learning, lives and livelihoods. In this paper, drawing on data from interviews with South African public TVET college students, we find that their agentic choices to pursue valued lives and livelihoods through VET learning are undermined by a series of systemic failures that make it near to impossible for them to successfully exit the system in the expected time period. Inadequacies of student finance, assessment, certification and internship availability all get in the way of these learners. This is not simply a matter of system inefficiency but is a morally unacceptable failure to meet the needs of young South Africans.

Keywords

VET, student voice, system failure

1   Introduction

Not only are millions of young people being excluded from formal education systems and labour markets globally, but they are increasingly being excluded even from the conceptualisations of "normal" trajectories. We suggest that current orthodox theorisations of "skills for employability" are inadequate for explaining much of young people's learning, lives and livelihoods.

Together with others such as De Jaeghere (2017) and Wheelahan and Moodie (2011), we have sought to develop a new approach to VET and critical capabilities (Powell and McGrath, 2018). Crucially, this starts from young people. It stresses their voice, agency and well-being as the core of any strategy for youth development and privileges this over economic development, which it understands as simply a means to an end. From Sen (1999), it derives an account of both positive and negative freedoms. Positive freedom, the freedom to, is at the heart of Sen's

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notions of capabilities, functionings and agency. This is about what young people have reason to value regarding what they want to be or do, and the extent to which they are able to realise these valued outcomes. Sen also has a notion of negative freedom, the freedom from. The critical capabilities approach takes this forward by considering the multi-dimensional nature of poverty and the structural barriers to achieving human development. The skills and human development writers add to these insights by looking much more into the interplay of structure and agency at the individual, community and societal levels.

The human development stress on human flourishing means it comes to the education-employment nexus with a critically supportive eye. There is acknowledgment that education and work both are valued in themselves and play important roles in building wider human flourishing. However, there is also an awareness that both education and work can undermine human flourishing. The human development account believes in the power of education and work but insists on the need to examine how both actually operate and with what practical consequences.

The approach has influenced UNESCO's VET strapline of "skills for work and life". That is, skills development cannot just be about employability, but must support wider human flourishing. The account also highlights that the transition from education to work is also part of the wider transition from youth to adulthood. By starting from what young people envision as a good life, the approach has had to address questions about how such visions are formed and communicated. This leads to a focus both on how young people can be supported to envision better futures and on the challenges of how to overcome obstacles that could prevent aspirations from being realised.

This contributes to a growing sense of the importance of institutions, and, in particular, the extent to which VET systems and labour markets fail to connect with the lives of young people and serve to exclude them from the dominant discourse and technologies of transitions to adulthood and work. Yet, at the same time, we explore through the voices of young people how they develop new models of a learning-livelihoods relationship that sit outside the supposed mainstream, and how their agentic development of life projects (Archer, 2003) interact with the structures of poverty and marginalisation.

In thinking about youth transitions to work, in this particular paper, we focus particularly on the ways in which the current system in South Africa serves to obstruct these young people's agency and aspirations rather than empower and enable them. Our work hitherto has focused on how public VET can contribute to human development. We remain strongly of that view but want here to confront some of the ways in which the public VET system can contribute to ill-being creation.

2   Methods

We combine a theoretical emphasis on the need to understand the lived experiences, aspirations and life projects of young people with a postcolonial ethic of minimising the extractive nature of much conventional research, particularly on those marginalised by mainstream structures and discourses. These underpin an approach that emphasises the need to engage respectfully and authentically with young people as individual agents. The heart of the approach methodologically are interviews with young people that reflect the overall aims of the research, but which adjust flexibly to the individual life histories, current preoccupations and imagined future trajectories of the respondents.

This article draws empirically from a set of interconnected projects from 2012-2018 in which we have conducted in-depth interviews with 38 respondents. Some of these interviews were undertaken longitudinally resulting in 10 being interviewed at least twice and five others being interviewed at least thrice. Five focus groups with South African youth (aged between 18 and 30) were undertaken with groups of between 8-10 participants. The initial cohort was

undertaken as part of Powell's PhD study and the more recent interviews were undertaken as part of a broader study into unemployed youth funded by the Education, Training, and Development Practices Sector Education and Training Authority (ETDP Seta).

The sample from which we draw for this paper includes both those who were in the education system at the time of interview and those who had left. Here we focus on the insights of these young people, many of whom have now exited public TVET colleges. Some of them have completed their programmes and there are those who did not.

3   Results

Although the South African public TVET college system, like any other such system has a rhetoric of efficiency and of supporting learners, it is well understood by young people (and also by policy, see DHET, 2013) that there are key elements of the actually-existing system that undermine their ability to quickly traverse the system and secure decent work. Here their intuition is well-grounded: only 2% of learners in the National Certificate (Vocational) track complete the college-based part of their qualification in the expected three years and only 10% in six years. Less than a third eventually go on to graduate their qualification with throughput rates ranging from a deplorable 0.6% in civil engineering to a deeply distressing 5.9% in tourism. Of particular concern is the pass rates and throughput rates of students provided – generally the poorest students in the South African TVET

From the first step of gaining access to the college, the journey to a sustainable livelihood is littered with barriers that are experienced mainly and particularly by the poorest TVET students. For the vast majority, access to college is dependent on achieving financial support that pays their student fees and a small travel allowance (if they live outside of the 10 kilometre radius of the college). Most students are stuck in limbo for at least three months, but more usually for the first five months, as they apply for their National Student Financial Aid Scheme (NSFAS) scholarship at the start of the academic year in January.

Before funding is secured, or if their application is unsuccessful, many students will have to drop out, wasting the rest of the academic year and having nothing to show for the months that they spent in VET. Loyiso didn't secure NSFAS support and left his college studies six months after enrolling:

I went to do ICT at [a local TVET college]. I didn't finish because of financial problems. I dropped out in the first year because I couldn't afford the taxi [local community minibus] money. It wasn't even a whole year. What frustrates me is that nobody supported me in anything. If I wanted to study I must find the money by myself. If I needed a bursary then I must find it. I waited half the year for NSFAS to tell me if my application was successful. Every day I had to *'scurrell'* [a local term that means refers to hustling and begging] for money to take me to college. I had to *'scurrell'* for money for lunch. I had to '*scurrell*' for textbooks and paper and pens. It became too much so I had to just stop.

Many drop out of the system during this waiting period either because they can no longer deal with the uncertainty or because they are unable to fund their own travel to and from the college on a daily basis.

Should the student's application to NSFAS be successful and assuming that they have not given up while waiting for a response, they then proceed to tackle their first major assignments, which constitutes a large part of their year mark. In many cases these assignments are due just days (or weeks) after confirmation that the NSFAS application has been successful. Unsurprisingly, the costs of scurrelling and worrying contribute to many unsuccessful attempts at this point.

Four months thereafter they confront their final examinations. The marks for the final exams, which are written in October/ November, are only available to the college student in December. Here a student will be told if they have passed or failed a subject and whether they can

proceed to the next academic year. The matter is, however, not a simple one as students might be provided the opportunity to write a supplementary examination if they are close enough to the pass-fail boundary. They are notified in December that they will be allowed to write the supplementary examination which is written in January of the following year.

A large number of students do not pass every required course resulting in many writing supplementary exams. Having written the examination, the student will now have to wait for two things. The first is confirmation of whether they have passed or failed their supplementary exam. The second is the decision as to whether they should proceed with the rest of the course or whether they should miss the academic year whilst catching up on the course that they wrote the supplementary examination for (perhaps one out of four of their courses).

Different colleges deal with this moment differently and have different rules that they apply with timetabling limitations being central to the decision. So while one college might decide that the student is not allowed to continue to the next year until they have confirmed that they have successfully passed particular subjects at level 2 (for example), another college might decide that the student should proceed to level 3 while they wait for the results from their supplementary examinations for level 2 subjects. The results of the supplementary examinations are announced between March and May with almost every student interviewed indicating that they received their results in either April or May of the year that they had written their supplementary examination. This means that the marking turnaround for supplementary exams is far longer than for the main ones, even though there are fewer candidates. If the student fails the resit, and the college had allowed them to proceed to the next level, they now need to return to the previous level halfway through the year and weeks before their first big assignment (and this is only if timetabling allows this). If they passed their supplementary examination and if they had not moved to the next level, they need to enter the class (almost halfway through the academic year) and play catch up as best as possible in the hope that they can succeed with this course. If they do not pass the course, they need to drop out of the level 3 subject that they had undertaken for five months and must then register for the subject at level 2 the following year.

An additional challenge is that the NSFAS scholarship will not pay for subjects that have been failed which means that the student might have to drop out of the year if they cannot afford the fees of approximately R1 300 per subject. This sum is greater than the monthly income of most people in the Eastern Cape, so is far from negligible, especially if more than one subject has been failed.

This is the problem that Busisiwe faced. She waited for five months for the results of her supplementary examinations which were a requirement for her to complete the theoretical component which, in turn, was a requirement for her to be considered for an internship arranged through the college's partnerships. Having failed her supplementaries in two subjects, she was now trying to work to save the R2 600 to pay for both courses. With no possibility to study part-time, she is likely to take several years to complete her programme. As she explains it,

If education was free then I would be doing different things this year. My studies would have been so much quicker. NSFAS only pays for four subjects and if you fail you must pay for those subjects that you fail. I failed two subjects so had to pay for the supplementary exams and now I'm saving up for the college fees. It's about R1 300 for each subject. I don't know where I'm going to get the money because I've saved nothing so far. If you fail any of your N4 subjects you have to repeat if you also fail the sup. I failed 2 subjects and so had to repeat. I saved up and did the one subject last year and now there's one left but NSFAS won't pay. You must finish those before you can go to N5 so I'm stuck now till I finish. It takes a long time because you wait in between every step. (Busiswe, TVET college graduate)

Busiswe explains the frustration of having to spend a year saving up the R1 300 needed to complete a failed subject and then another year doing just one subject as she couldn't afford to pay for both of the subjects that she'd failed. All in all, having failed two subjects in her N4

will cost her three to four years of her life. She has already spent one year working (scurrelling) to save the fees required to redo one of the subjects, one year doing only the one subject as she can only do it full-time (i.e. during the day). She is currently spending a third year trying to save money to do the second (and last) subject required for her to complete to complete her N4 and only then will she be able to enrol for the second subject that she failed. She describes the process as,

It's a crazy, crazy thing. It took me 48 months to get this far instead of 18 months. I lost a lot of time just waiting and waiting. Waiting for sup results. Waiting to scurrell and save money for subjects that I failed. I could do the one subject last year. Then I had to wait to see if I passed. I didn't pass at first but I passed the sup, but I had to wait to see if I passed that. Now I'm saving to do the other subject. You learn to wait in this system.

Once she (and others) completes her courses successfully, Busiwe is still not done. After getting to N6 (or NCV level 4 if she was enrolled for a National Curriculum Vocational), she is then required to get an internship in her field of study for 18 months before she is fully qualified. These 18 months do not need to be at the same enterprise, but the enterprise has to sign a form indicating that she worked there and that she attended regularly. Very few internships are available that covers the entire 18 months. Students report finding internships for 6 months or for a year. In such cases, they work for the 12 months and then proceed to 'wait' while they look for another internship. There is an awareness that the internship exists as only one step in a long process and while it is a prerequisite for the process, that it is does not serve as a guarantee that you will be employed at the end of the process. Thandiwe captures this dilemma when she says that,

The government is currently focussing on providing internships, which is good but what happens after the internships? You still do not meet the requirements that the industry requires, most the time they want people with 5 years' experience and you just did your internship for just a year or so, but you still do not meet the requirements.

Kwanoxolo shares her lived experience which captures Thandiwe's fears.

With internships you get an opportunity to learn but you don't get paid, the government don't have money to give stipend. I got a letter of recommendation after the internship and applied for jobs, but I couldn't get anything.

Four years ago, based on interviews undertaken with TVET college students and graduates between 2010 and 2012, we noted that many students who had successfully passed their year have not received their certificates. One such students was Jacob who explained that after being refused for one job because he did not have a certificate he resorted to writing a document that outlined exactly what he is able to do, and it was on the basis of this document that he gained his employment. Makukhanye, another graduate, explained that not having his certificate made it virtually impossible for him to find a job as employers want to see evidence that he had completed his training.

I applied for jobs so many times and [have] been to some of the interviews, but the problem now [that] I am facing, it's a problem we are all facing as students, we enrolled here, we haven't got our certificate. … They said at the job that I applied for … [that] they want the original certificate. It's been a long time. How can I enrol in 2009 and not have a certificate now? It's 2011. I got the letter they [the TVET college] did for me, but they [the employers] said they are not going to consider it. … So that is the very sad part of the whole thing for now, because if the course was mainly for the people that are going to find the work when they are finished, how are they going to find the work without their proof of what they did?

The DHET has since recognised this problem and has been working to resolve this issue. By the end of 2013, Qonde (2013) indicated that short of 38 000 certificates much of the certification backlog had been addressed.

An additional problem, highlighted in the 2010-2012 interviews, was that the certificates are received many months after the qualification has been completed. Thulani, for example, completed the practical component of his programme in November but he has been told that he has to wait for March before he can hope to expect his certificate. Thulani has decided to proceed to higher education and as he has not received his diploma yet will waste a year of his life, effectively waiting for the diploma to arrive, before he can apply to university.

It was surprising, and deeply concerning, to discover in the interviews undertaken at the end of 2017 and early 2018 with youth in the Nelson Mandela Metropolitan Bay in South Africa that TVET college students were still waiting many months and in at least one case over a year for their certificates. The waste of time, the frustration and the hardship brought to our poorest post school learners is completely unacceptable. Even more unacceptable is the underpinning message to these youth, most of whom either live in poverty or are vulnerable to poverty, which informs them clearly that you are so unimportant that your legal, moral and human right to achieve a certification that serves as evidence that you have successfully completed all the requirements of your course is just not a top priority. Makukhanye captured this in his interview when he said, "it's like we don't matter".

4   Conclusion

Elsewhere (Powell & McGrath, 2018) we talk of the considerable challenges of multidimensional poverty faced by South African VET students and the huge levels of resilience that many display in persevering with and succeeding in their studies. However, here our focus is on the ways in which the system undermines student agency and undermines their pursuit of desired life projects. It is important to note that the methodology did not target these aspects. The interviews focussed on what mattered to these young people, their aspirations and the way(s) in which VET could (and perhaps does) serve as either an enabler or barrier to achieving such. The concerns raised were directly linked to the way(s) in which these served as a barrier to moving forward in their lives.

As the findings above suggest, the possibility of a learner making it through the system in the minimum possible time are undermined by issues of student finance, assessment, certification and internship availability. This is to say nothing of things beyond the scope of this paper but included in our wider research, including pedagogy, learning environment and labour market imperfections.

This is simply not acceptable. From a narrow efficiency argument, the system is clearly generating too much repetition and drop out. However, more importantly, it is failing in its duty of care to these learners. That most of them are poor makes such a failure even more unacceptable. Like many other countries, South Africa has a strong public discourse of youth as lazy and undeserving. What is clear from this account, when read in combination with other aspects of our work, is that the story is much more one of young people who are striving to make their lives (and communities) better but who are being failed by those who designed and operate a system that blocks their routes to better lives and livelihoods.

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The Reform of Vocational Education and Training in Finland: Insights from Twitter

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Abstract

This paper aims to analyse and describe relationships and communication in Twitter in relation to vocational education and training reform in Finland. Data were collected during the early implementation phase of the reform from January 2018 to early June 2018. The data included 2400 tweets containing the hashtag #amisreformi (VET reform). Social network analysis was utilised to study the network and communities. The main themes of the tweets were analysed using thematic analysis, and automated sentiment analysis was used to examine the tones of the tweets and public opinion. The study showed that the official actors were central influencers in the network that lacked connectivity. Overall, the sentiment analysis showed favourable opinions towards the reform. The main themes of the tweets were related to cooperation between education and work, a new kind of teachership and learning and skills.

Keywords

reform, social media, public opinion

1   Introduction

Educational reforms and improvement in the quality of education have become important vehicles aiming to promote international economic competitiveness, and to improve domestic development (Gaziel, 2010). A number of key issues and drivers are behind vocational education and training (VET) reforms, those including numerical indicators, experiments and cross-country policy learning (McGrath & Lugg, 2012). Statistical and experimental reform approaches are based on a more technical understanding when the policy learning approach promotes policymaking based on public dialogue, but eventually policy decisions are both technical and dialogic processes (McGrath & Lugg, 2012).

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The Finnish government embarked on an extensive reform of VET in 2015. The new legislation came into force in January 2018. It led to changes in the steering and regulation system, and it introduced a new funding model focusing on qualifications and employment to improve the effectiveness of VET (Ministry of Education and Culture, 2018). The reform coincided with significant spending cuts in the VET budget. The main aims of the reform were to adopt a new customer-oriented and demand-driven approach, to decentralise decision-making to education providers and to increase work-based learning in order to better match the needs of the world of work (Ministry of Education and Culture, 2018). This seems to be a notable change; traditionally, Finland has represented the statist skill formation regime that consists of a low involvement of employers in VET and a high degree of public commitment to VET (Busemeyer & Schlicht-Schmälzle, 2014).

Implementing the policy seems to be the most difficult part of the reform process (McGrath & Lugg, 2012). Lindensjö and Lundgren (2000) developed an analytical model of an educational reform process that consists of two different contexts. According to Lindell (2006), the context of formulation relates to central level policymaking, which establishes the goals of and targets for the reform. The context of realisation focuses on administration and management. Accordingly, in the first phase the interest groups, stakeholders, voice their opinions and with the government, opposition and national authorities aim to achieve consensus. Independent from the first phase, in the second phase, local stakeholders and practitioners bring up possible conflicts and problems. Policy reforms may fail to be implemented if policymakers are suddenly confronted with a public backlash (Busemeyer et al., 2017). Therefore, understanding public opinion is important in order to assess the chances of the reform being successful (Busemeyer et al., 2017).

In the context of education policy, public opinion, i.e. individuals' policy preferences and attitudes, are shaped by (self-)interests and political attitudes, as well as by the institutional set-up of the education system (Busemeyer & Garritzmann, 2017). However, it is not always clear whether individuals rather support those kinds of institutions that already exist or policies that are different from the institutional set-up (Busemeyer & Garritzmann, 2017). Usually, if the performance of existing institutions is deemed to be sufficient, no large-scale changes are demanded (Jacobs and Weaver, 2015). It has been suggested that policy makers could use social media to support the implementation processes of reforms (Joseph et al., 2017). Social media has also proven to be a powerful tool for protesting against educational reforms and policies in recent years (Berry and Herrington, 2012). As a whole, examining the social media data may provide a better understanding of how policies are perceived (Joseph et al., 2017).

This paper seeks to examine VET reform in Finland by collecting Twitter data and analysing Twitter discussions. Unlike many other social networking sites, data is publicly shared in Twitter. This enables the mapping of public opinion. In Finland, Twitter has approximately 500000 users and active Twitter users include top-level politicians, experts and journalists (Ruoho & Kuusipalo, 2018). Similarly, Burson-Marsteller's (2017) global study recognised Twitter as the main social media channel for governments and ministries. Thus, Twitter's user base is highly skewed and far from being representative of the population at large (Jungherr et al., 2017). Although Twitter data does not represent the entire population, investigating the opinion of Twitter users may be especially interesting, since they represent a form of activated public opinion (Ceron & Negri, 2016). This kind of public opinion often consists of stakeholders attempting to build support for their views, and they are also the ones who are able to promote or contest reforms (Ceron & Negri, 2016). Additionally, Twitter offers a tool for individuals and policymakers to interact without intermediaries, and the use of social media allows any individual to become an important catalyst of collective action processes in their own social networks (Bennett, 2012). In order to provide information about influencers and public opinion from Twitter data, this study formulated the following research questions:

(1) Who are the main actors and influencers in Twitter discussions related to the VET reform in Finland?

(2) What are the tones and the main themes of the tweets related to the VET reform?

2 Methods

2.1 Ethical considerations

Twitter is an open platform where communication is based on tweets that have a limited character count (currently 280 characters). Using Twitter data raises a number of ethical challenges (Webb et al., 2017; Williams et al., 2017). Although interaction in the forms of tweets, likes, mentions and retweets is public, it is questionable whether this justifies collection, analysis and reproduction of tweets for the purposes of research (Webb et al., 2017). Webb et al. (2017) discussed good practice procedures for the publication of Twitter data related to informed consent, minimising harm and anonymization. They concluded that, in academic work, researchers often rely on Twitter's own Terms of Service as providing informed consent for data collection. For example, Twitter's (2018) Privacy Policy states that:

Twitter broadly and instantly disseminates your public information to a wide range of users, customers, and services, including search engines, developers, and publishers that integrate Twitter content into their services, and organizations such as universities, public health agencies, and market research firms that analyze the information for trends and insights.

However, informed consent might be necessary especially if direct quotes, original tweets, usernames and photos are published (Webb et al., 2017). In the UK, Williams et al. (2017) conducted a survey about Twitter users' concerns over their Twitter data being used by researchers. The survey showed a general lack of concern about posts being used for research purposes. However, a clear majority of Twitter users expected to be asked for their consent if their tweets were published in a publication, and they requested anonymity. Still, anonymizing and altering tweets is an issue, since Twitter guidelines prefer a full reproduction of tweets in publications and Twitter users, in an anonymous form, can be easily found through an online search (Webb et al., 2017; Williams et al., 2017). To minimise harm and to avoid the difficulties of anonymizing tweets, original tweets are not published in this paper. The user accounts are also anonymized in the data analysis, and no individuals are identified unless they represent official authorities.

2.2 Data collection

The data collection focused on the hashtag #amisreformi (VET reform) that was officially promoted (see e.g. Ministry of Education and Culture, 2018). The data collection began on 29 December 2017, right before the new legislation came into force at the beginning of 2018, and it continued until 7 June 2018. In the beginning of June 2018, interest groups and organisations started to prefer using the hashtag #uusiamis (new VET). During the data collection period, we collected a total of 2400 tweets with the hashtag #amisreformi (VET reform).

Two different tools were used to collect the data. The first tool, TAGS, was developed by Hawksey (2018); it is a free Google Sheet template that automatically collects Twitter data. The second tool, Luuppi (The Loop), is a machine learning-based tool developed at Turku University of Applied Sciences. It collects time, text, author, domain, URL, the likes and shares, and the type of tweet (tweet or retweet). Furthermore, it classifies tweets as having positive, negative or neutral sentiment.

2.3 Data analysis

Firstly, this paper aimed to determine the influencers, i.e. the persons or stakeholders, who form networks of influence via their interactions and who, thereby, affect the ways that information is shared (Willis et al., 2015). Social network analysis (SNA) was used to analyse that data. SNA allows for modelling Twitter users as network nodes that are interconnected through discussions and retweets (Jussila et al., 2014). The influence domain of a node is the number of nodes it can reach. Centralisation was measured using the node's in-degree influence, which is the number of nodes pointing to it, and the node's out-degree influence, which is the number of nodes it points to (Himelboim et al., 2017). The software programme, Gephi, was used to layout the communities, to calculate the metrics for the network nodes and to adjust the visualisation of the network (see e.g. Bastian et al., 2009; Jussila et al., 2014). The community structure was extracted based on the modularity detection algorithm and optimisation (Blondel et al., 2008) and the network visualisation of VET reform was drawn using the layout algorithm by Fruchterman and Reingold (1991).

Secondly, the tones and the themes of the tweets were investigated to provide information about public opinion and to identify key issues related to the VET reform. The sentiment of the tweet, i.e. an individual's state of negative or positive feeling spread through social interaction, was determined by using sentiment analysis (see e.g., Bae and Lee, 2012; Anwar Hridoy et al., 2015; Jussila et al., 2017a, 2017b) that was integrated into the data collection tool (The Loop). In a previous study, the tool was found to provide the most consistent results in a sentiment analysis that compared different tools for the Finnish language (Jussila et al., 2017b). The content of the original tweets was coded inductively, and the content and the themes were analysed based on thematic analysis (Braun and Clarke, 2006) to summarise the main themes.

3 Results

3.1 Main actors and influencers

The SNA showed that the network consisted of 804 Twitter users, with 2509 connections between them. Figure 1 shows a network visualisation of the Twitter data referencing the hashtag #amisreformi (VET reform) during the implementation phase between January and June 2018. The circles, the nodes, are Twitter users and the lines joining the nodes, edges, are the interactions between them, such as replies, mentions or retweets. The lines also link clusters of tweets and they show the nodes that are more central to the network.
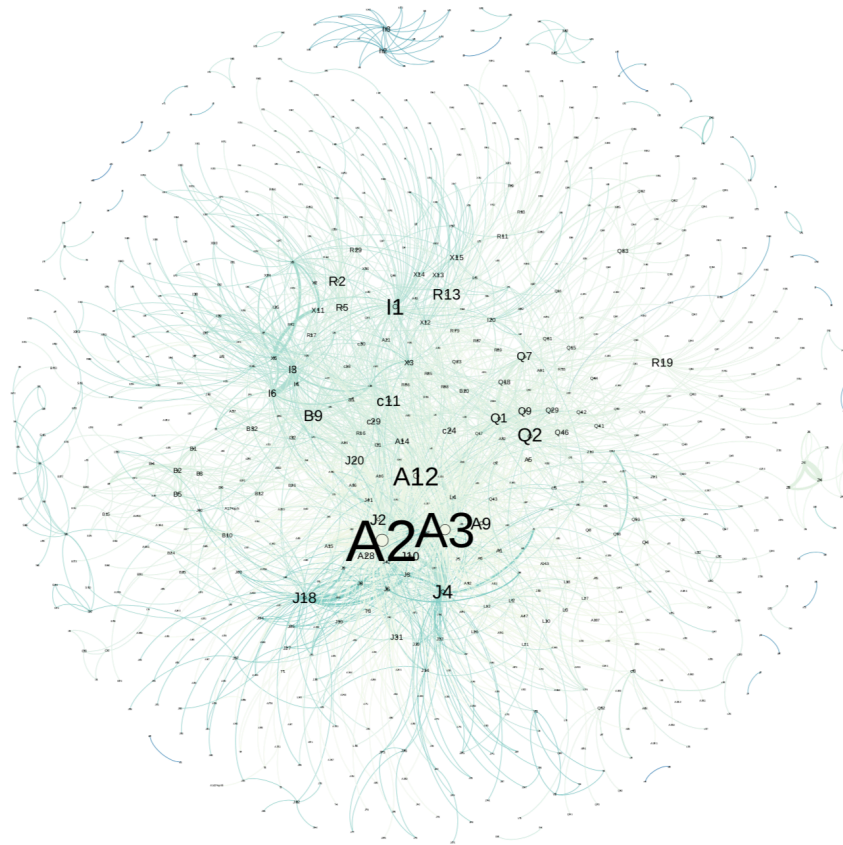
Figure 1   Network visualisation of the VET reform.

As seen in Figure 1, the network structure is relatively sparse, with few central hubs (e.g. A2, A3, A9, A12, I1, J4, J18, Q2), and many of the nodes only have a few connections to other nodes. The central nodes, the possible influencers, include the Ministry of Education and Culture (A2), the Minister of Education (I1), the Finnish National Agency for Education (A3) and the agencies' management (A12, A9). The central influencers also include stakeholders, such as the Federation of Finnish Enterprises (Q2), the Finnish Association for the Development of VET (B9) representing VET providers, and the Trade Union of Education (R13) representing vocational teachers.

When the network is filtered based on incoming connections (replies, mentions) from one node to another, ranging from 2–170 connections, the network size reduces dramatically to 55 nodes and 378 edges (Figure 2).
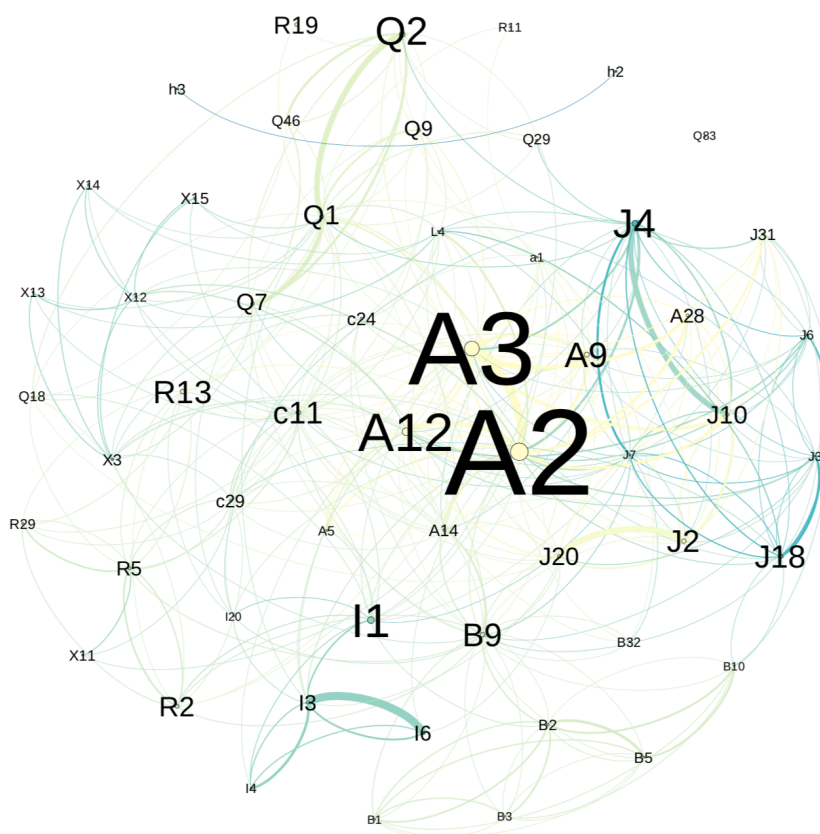
Figure 2   Network visualisation of the VET reform in-degree network.

The network visualisation in Figure 2 indicates that relatively few communities discuss VET reform, although many individuals have an opinion on the topic (see Figure 1 and Figure 3). Most discussions are targeted towards A2, A3, A12 and A9; these actors belong to the same community and represent the official actors. There are 170 incoming connections to the Ministry of Education and Culture (A2), 143 incoming connections to the Agency for Education (A3), also including management's 71 incoming connections (A12), and 44 incoming connections (A9). Other nodes, with approximately 40 or more incoming connections, include the Minister of Education (I1), the Federation of Finnish Enterprises (Q2), the Trade Union of Education (R13) and a networked project to support the teaching and guidance staff at schools and in workplaces (J4). As a whole, the community J seems to include vocational education providers, their management and some actors involved in vocational teacher education.
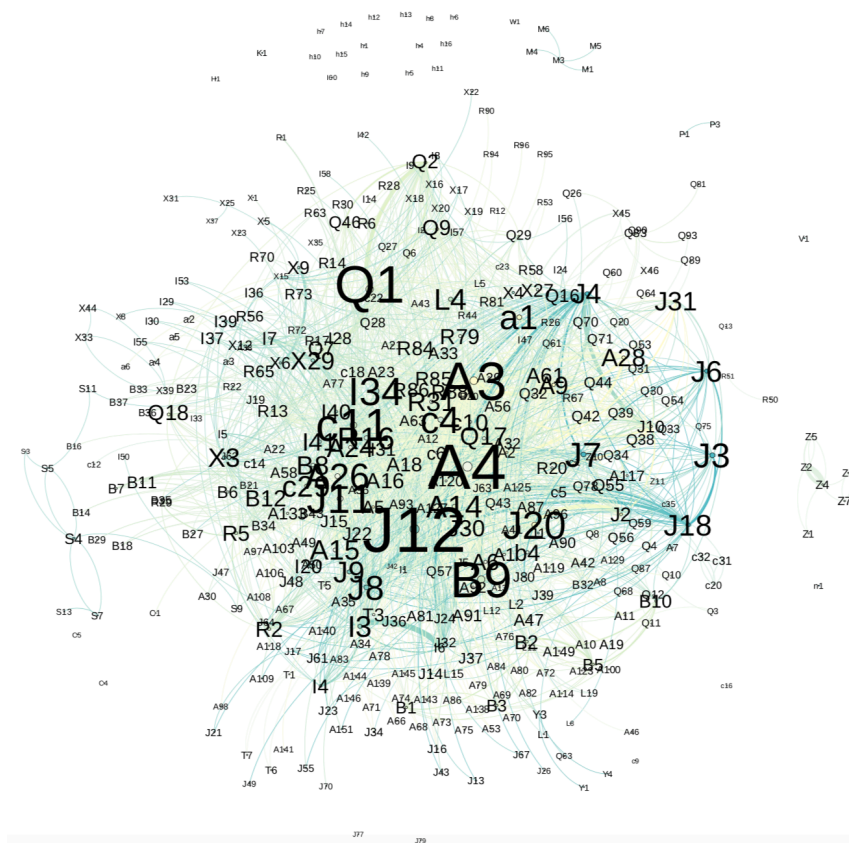
Figure 3   Network visualisation of the VET reform out-degree network.

Figure 3 depicts the out-degree centrality of the VET reform to show who make their views known to others (e.g. mentioning or replying to others, monitoring and retweeting messages by others). Here, the most central Twitter users are active individuals belonging to different communities, including A4 (out-degree 48), J12 (out-degree 43) and Q1 (out-degree 40). A total of 406 nodes and 1738 edges are included in the directed graph; the number of out-degree ranges from 2 to 48.

3.2 Tones and themes

Opinion mining as a sentiment analysis showed that the majority of the tweets or retweets were neutral (59.15%) or positive (27.22%). Most of the tweets referred to the changes and the implementation of the reform at general level. More specifically, *cooperation between education and work* was promoted and considered to be an essential part of the VET. This was also reflected in tweets about *a new kind of teachership* that would require supporting students and their individualised learning in versatile learning environments. Moreover, *learning and skills* were highlighted in the tweets. Students' learning opportunities and experiences were mentioned as being important, but on a more general level, different kinds of future skills were discussed; for example, digitalisation, including both digital skills and tools, was considered to be important for students, vocational teachers and workplace instructors. Information about new qualification requirements was also shared, and some tweets showed support for new and more flexible modularised qualifications.

It seems that, in general, the expressions related to the VET reform indicated favourable opinions, since the negative sentiment clearly had the lowest share of tweets (13.63%). However, some issues seemed to elicit negative opinions about the VET reform. Still, the negative opinions were very isolated; they did not represent the overall discussion conveyed through Twitter. Firstly, the reform was closely connected to budget cuts that have forced the education providers to cut their workforce. Therefore, the new kind of teachership was also contested and perceived negatively. In a few tweets, the diminishing amount of teaching, virtual learning environments, more individualised learning paths instead of communities and the need for more self-directed learning were considered to be challenges. Some tweets also criticised the change in vocational teachers' contracts and salary to an annual model consisting of 1,500 hours of work a year. It was also considered questionable to expect workplaces to participate in and take responsibility for VET in general. In addition, the workplaces' readiness to offer learning opportunities and support was questioned and the quality of learning was considered insufficient due to the students' lacking basic knowledge and skills. Furthermore, this was connected to the teachers' pressure to pass students, which was feared to be further worsened by the new funding model. In some individual tweets, the rush in preparation and implementation processes, the amount of regulation and the reform of the education system as separate entities (general education and VET) were criticised.

4   Conclusions

The aim of the present explorative study was to gain an understanding of the influencers and public opinion on the VET reform in Finland based on Twitter data. The study found that the official actors were the key actors and influencers in the network, which was characterised by a lack of connectivity and isolated views and opinions. However, it seems promising that the few central hubs that attracted a number of connections and affected the information flow also included stakeholders that promoted the reform. Overall, public opinion about the reform seemed to be neutral or positive; negative opinions were rarely expressed in this data set. The topics were related to cooperation between education and work, teachership and learning and skills.

In a further phase of this study, the longitudinal study design could allow for identifying changes in these discussions over time. The thematic analysis could also benefit from a wider data set and the automated sentiment analysis could be further studied and compared with manual coding. Previous research has shown that there are differences between human evaluators and automated tools, although, eventually, algorithms seemed to provide more uniform analysis than human evaluators (Jussila et al., 2017b).

The present study and the approach taken has been an attempt to add to the current body of knowledge about reform processes and public opinion. While the generalisability of the results is limited, the approach can be further developed and implemented in different contexts.

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A Case Study on the Potentials of Apprenticeship within School-Based VET Systems of Romania and Portugal

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Abstract

Dual Vocational Education and Training (VET) or apprenticeship schemes as a promising approach to overcome economic crisis in south Europe and to accelerate economic speed-up of former socialist states in East Europe are since years high on the agenda of European and national policies. Consequently, a manifoldness of approaches and projects have been started to support Work-Based Learning (WBL) in all of its forms, for a comprehensive overview see for example WBL-toolkit (2018). But when having a closer look at the forms or measures it has to be stated that many of them are rather far away from "real" apprenticeship schemes; most approaches are internships, learning projects, simulations, etc.

In our current ERASMUS+ project "Integrating Companies in a Sustainable Apprenticeship System" (ICSAS, 2017) we are working on the question, whether an approach, being close to apprenticeship scheme in Germany, is of benefit within and for VET-systems of Portugal (PT) and Romania (RO).

Keywords

industrial shoe production, VET curricula, work-based Learning (WBL), learning station analyses (LSA), tutor training, sector qualification framework

1 Introduction

Educational reforms cannot be imported from other countries or implemented "top-down"; stakeholders and practitioners from the sectors must be taken on board, also – and taken serious with their experiences, doubts, and beliefs. Therefore, in the ERASMUS+ project "Integrating Companies in a Sustainable Apprenticeship System" it will be investigated, whether an approach of Work-Based Learning (WBL), being close to the dual apprenticeship scheme in Germany, is of benefit for VET-systems of Portugal (PT) and Romania (RO). Apprentices will be trained in real working environments and will be supported by skilled workers for approximately one year. This WBL is furthermore curriculum driven, which means, that the learning objectives of work processes chosen for ICSAS will be in-line with VET-curricula of RO

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respective PT. In order to achieve a smooth piloting first focus of project were the questions what *could* be learned in real work-processes, what *should* be learned in real work-processes and how learning can be facilitated by tutors. To answer these questions rather conventional vocational-education research methods have been applied: a row of Learning Station Analyses (LSA, cp. e.g., Saniter et al., 2016) in chosen shoe-producing companies in Germany, Portugal, and Romania have been done, figuring out and describing the work-processes and the experiences with apprentices, learners, and/or new colleagues. The findings have been compared to national VET- curricula of shoemakers in order to see which contents can be covered by WBL. Afterwards a conception of a one-year piloting phase considering national VET-curricula is in the course of being developed.

2   Methodology

'LSA' (Learning Station Analysis) method was developed to support the training organisation at places of leaning within a work process in an effective way, taking into regard business needs as well as work processes requirements. Essentially, it helps users to identify places of learning that are important both in terms of their significance for the business process and for the learning opportunities they provide. This approach emphasises the value of training taking place at work places where the most significant operations are being carried out.

The following overview summarises the main ideas, steps, and milestones of the method LSA.

2.1 Learning station analysis (LSA) - an instrument to connect occupational spheres of activity and work-based learning (WBL)

Learning within work processes differs in three important aspects from formal learning in schools or apprentices' workshops:

- What can or should be learnt does not only depend on decisions of teachers or trainers, but is strongly determined by work processes;
- The absence of pedagogically specialised staff;
- The number of mentors (skilled workers accompanying the apprentices, supporting the development of their vocational competences).

Main features of method LSA are:

- The LSA method was jointly developed by researchers and trainers.
- Its primary objective is to evaluate learning potentials of work processes.
- It helps to set up training plans according to work processes and fosters the acquisition of skills and competences by the learners.

LSAs assigned to activity fields are divided into the following three phases:

- Preparation of the analysis,
- Accomplishment of the analysis,
- Evaluation and documentation of the analysis (the results serve for developing a training schedule respecting a logical sequence of progression through learning stations).

Preparation of an LSA:

- Ideally, an LSA is conducted by a skilled worker and an external colleague.

- The manual for analysis should be used as a toolbox, not as a rigid rule.
- A LSA takes several (few) hours.

Categories of the Analyses:

Analytical category
Business and work process
Workplace
Subjects and methods of skilled work
Tools / equipment of skilled work
Organisation of skilled work
Requirements of skilled work
Interfaces
Training experiences

Execution of Analysis and Documentation:

- The core of an LSA is to analyse daily work of a skilled worker from the perspective of an apprentice.
- LSAs are not an attempt to evaluate the individual performance of skilled workers.
- The skilled workers involved in the interviews should proofread and give their ok for publication of the documentation of an LSA before further circulation.

Evaluation:

LSAs answer the following questions:
- What can be learnt at a specific learning station?
- Which skills and knowledge should a trainee already have acquired before entering a new learning station in order to achieve optimal learning outcomes?
- Findings are recommendations; concrete implementation might be affected by frame conditions (e. g. number of placements at a time).

In this project LSA has been carried out at the companies Gabor in Germany, Carité in Portugal and Papucei in Romania at all relevant Learning Stations (10-15 have been identified) in order to see which learning potentials can be found within work processes of these companies.

3   Outcomes of LSA in Germany, Portugal and Romania

One of the basic assumptions of ICSAS project is:

Each vocation can be described by a series of "spheres of activity". Our research in various sectors and countries revealed that the number of "spheres of activities" varies between 8 and 16, depending on the vocation *as well as* normative decisions of the researchers and other stakeholders involved; neither number nor differentiation between spheres are God-given.

Spheres of Activity describe the respective skilled labour on the basis of purposeful and meaningful work contexts. Spheres cover a complete vocation and are typical for a particular métier.

Prior (to ICSAS) studies suggested that skilled work in shoe manufacturing can be described by 9 spheres of activity, of which 4 spheres (cutting, pre-stitching and stitching, assembly, finishing) were defined as core elements of the vocation, whereas the other 5 (design,

technical modelling, production planning, materials and production processes, quality assurance) were defined as peripheral spheres.

These assumptions have been mainly confirmed; our proposal of describing skilled work in shoe manufacturing varies only on 2 spheres (Table 1).

Table 1   Updated spheres of activity of industrial shoemaker according to findings of ICSAS-project

Core spheres					
Previous	Cutting	Pre-stitching and stitching		Assembly	Finishing
ICSAS	Cutting	Stitching	Lasting	Assembly	Finishing

Peripheral spheres				
Previous	Design	Technical development	Production planning	Materials and production organisation	Quality assurance
ICSAS	Design	Technical development	Production planning		Quality assurance

There was evidence from all 3 countries (Germany [DE], Portugal [PT], and Romania [RO]), where Learning Station Analyses (LSA) were undertaken, that it makes sense to subdivide "Assembly" to "Lasting" and "Assembly" and to combine "Production planning" and "Materials and production organization". These 9 ICSAS-spheres, (5 core and 4 peripheral) describe skilled work of industrial shoemakers on a transnational level.

This does neither imply that all participating production sites cover all these spheres (due to division of labour between different production sites) respectively organise their work according to these spheres nor that national curricula are in-line with the findings.

For the Gabor factory in Rosenheim (Germany) the question about compatibility with national curricula can clearly be answered with "yes"; spheres of activity, learning stations (local options), and central 8 vocational positions (Part A of DE VET-curriculum) are almost identical, as the following Table 2.

For Carité plant in Portugal a different organization of work can be reported; for example, the work in core sphere "cutting" is dived into 2 departments: "automatic cutting" and "mechanical cutting"; but, as Table 3 indicates, the plant offers a comparable learning potential as Gabor plant in Germany. Whether learning potentials are in-line with Portuguese curricula will be elaborated during actual work package IO2.

Table 2   Apprenticeship @Gabor (Rosenheim): Covering of both, spheres of activities and sector-specific vocational positions, via worked-based learning (WBL)

Core sphere	Cutting	Stitching	Lasting	Assembly	Finishing
Learning station @ Gabor	Cutting	Stitching	Lasting	Assembly	Finishing
Main Vocational position	A 2. Cutting and clicking of materials for upper manufacturing	A 3. Preparation of upper parts A 4 Upper manufacturing	A 6. Assembly preparation and assembly of shoe uppers and bottom parts	A 6. Assembly preparation and assembly of shoe uppers and bottom parts	A 7. Finishing of footwear and preparation for shipping and sale
Peripheral Sphere	Design	Technical development (I)	Technical development (II)	Production planning	Quality assurance
Learning station	Upper coordination	Technical bottoming	Technical pattern making (upper)	Work preparation	Research & development (R&D)
Main Vocational position	A 1. Assessment and use of raw and auxiliary materials for upper manufacturing	A 5. Assessment and preparation of bottom parts for production and further processing	A 8. Detailing of models	A 1. Assessment and use of materials and auxiliary materials for upper manufacturing	A 1. Assessment and use of materials and auxiliary materials for upper manufacturing

Table 3   Learning potentials @Carité plant in Portugal

Core sphere	Cutting (I)	Cutting (II)	Stitching (I)	Stitching (II)	Lasting (I)
Learning station @ Carité	Automatic Cutting	Mechanical Cutting	Stitching Preparation	Stitching	Lasting Preparation
Core sphere	Lasting (II)	Assembly	Finishing (I)	Finishing (II)	
Learning station @ Carité	Lasting	Sole Attaching	Finishing	Packing	
Peripheral Sphere	Design	Technical Development	Production Planning (I)	Production Planning (II)	
Learning station @ Carité	Design	Development	Planning	Production Management	
Peripheral Sphere	Production Planning (III)	Quality Assurance (I)	Quality Assurance (II)		
Learning station @ Carité	Supply Chain Management	Quality Control	Quality Management		

For Papucei plant in Romania the situation is very similar to the Portuguese; work share between departments is divided into smaller sections (compared to Germany); for example, the work in core sphere "cutting" is dived into 3 departments: "manual cutting", "press cutting" and "automatic cutting". But again, as Table 4 indicates, the plant offers a comparable learning

potential as Gabor plant in Germany. Whether learning potentials are in-line with Romanian curricula will be elaborated during actual work package IO2.

Table 4   Learning potentials @Papucei plant in Romania

Core sphere	Cutting (I)	Cutting (II)	Cutting (III)	Stitching (I)	Stitching (II)	Lasting (I)
Learning station @ Papucei	Manual Cutting	Press Cutting	Automatic Cutting	Pre-stitching	Stitching	Lasting
Core sphere	Lasting (II)	Assembly (I)	Assembly (II)	Finishing (I)	Finishing (II)	
Learning station @ Papucei	Heat setting	Pre-Assembly	Sole Attaching	Finishing	Quality control and packing	
Peripheral Sphere	Design	Technical Development	Production Planning (I)	Production Planning (II)	Quality Assurance	
Learning station @ Papucei	Design	Technical Drawing	Production Planning	Organizing the manufacturing process	Quality Assurance	

This section is also available as executive summary of findings from ICSAS project via http://icsas-project.eu/expected-results/. For a detailed description of the method "Learning Station Analysis" and the overall findings: Please refer to the respective national reports.

4   Concept of the one-year pilot phase

Determining what *should* be learnt via WBL is based on a comparison of findings from LSA and the respective national curricula in PT and RO. Currently (July 2018) we can report the aspired implementation approaches of the WBL pilot phase developed by our PT and RO colleagues; these might be slightly updated until our presentation in September 2018:

The development of a Romanian strategy is highly influenced by the current situation footwear companies are facing: A lack of qualified labour force and a poor VET offer for the footwear sector (on EQF levels 2-4) which is furthermore very limited nationwide. Another factor even complicates the whole problem: Conurbations of footwear producers exist in Romania, but particularly these regions do not have (or have very limited numbers of) VET programs in local high schools for educating footwear industry operators. Such a situation is found in the North Eastern region (Iasi, Piatra Neamt, Bacau, Suceava). Dealing with this background there was a huge urge to develop a WBL program which improves the situation and fits into national curricula. The solution right now is using the degree programs (EQF 3) in the TCF sector (textiles, clothing, footwear) in order to implement WBL in the footwear sector. Within this curriculum there are a number of hours provided which are covered by the Locally Developed Curriculum (LDC). This LDC is a specific curriculum of each VET school and is developed in cooperation with economic operators. Usually the school along with a company or several companies propose the LDC and the board of the County School Inspectorate approves it. Therefore, the RO partners (Technical University Iasi (TUIASI) and shoe company Papucei) together with RO advisory board (AB) currently elaborate a WBL curriculum in order to integrate it in the LDC – complying with national regulations and methodologies. In order to do so TUIASI and members of the RO AB studied existing possibilities for the introduction of ICSAS

apprenticeship-like schemes in school curricula in Holban/Iasi according to the methodology given by the national law governing the national organization of professional education in Romania (OMEN_3914_2017). The learning modules which are available to the school for the Work Based Learning (WBL) and which can be undertaken within the footwear company (Papucei) have been identified, resulting in a total of 612 hours: 150 hours for LDC in the IX grade, 270 hours for LDC in the X grade and 192 hours for training practice within the learning module for Activity Planning. The ICSAS core spheres are accordingly distributed in order to reach this number of hours (612). Next steps are: To integrate the ICSAS learning stations into the school curriculum, to prepare the necessary documentation according with the national regulations (OMEN_3914, 2017), to prepare and sign the LDC Agreement with Papucei company. After the County School Inspectorate of Iasi approves the curriculum, the ICSAS apprenticeship-like schemes will be implemented. RO project partners already announced this program and they received a row of applications by interested students.

Strategy for **PT** aims at upgrading an existing level 2 curriculum to a level 4 curriculum by adding 6 months WBL training (35 hours per week). It will consist of 80% WBL (supervised by tutors) and 20% theoretical learning (taught by certified trainers from VET school); both components will be delivered in the company. Additionally, a comparable modular training will be offered for active people already employed by CARITÉ. After the training, the trainees will undergo a *Recognition*, Validation, and Certification of Competences (RVCC) process to validate the skills acquired via WBL (for the overall job profile). PT partners will deliver a proposal to competent bodies to create the job profile and qualification referential of the level 2 "Footwear Manufacturing Operator" into level 4 "Footwear Industrial Manufacturing Technician". PT colleagues expect to face the challenge to attract youngsters for this newly developed programme, as the image of VET and the shoe sector is not the best.

5   Hindering and supporting Factors

All findings reveal enormous and comparable learning potentials within shoe-producing companies from the three countries. Results of LSA for the three countries are not identical, but comparable; most of the content of curricula from school-based VET and/or additional skills needed in the sector could be learnt via WBL within the respective companies. Main hindering factor are descriptors of national or regional curricula that determine learning objectives too narrow (e. g. by a number of hours for a certain production method) and the fact that daily working tasks in some departments like development or work-preparation are often not predictable. Here the option chosen by stakeholders from PT and RO of complementing LO from WBL via learning in structured learning environments like VET-student workshops facilitates achieving LO in-line with curricula.

There haven´t been found "objective" or "hard" barriers for developing apprenticeships in countries with traditionally school-based VET; but a row of "subjective" or "weak" factors have been identified, as e.g. scepticism about quality of LO from WBL, concerns that apprentices are exploited as cheap work-force, uncertainties about roles of involved stakeholders, etc. Apart from that matching a one-year work-based learning scenario into existing curricula of school has been challenging as practical phases of school vocational trainings are rather short. Nevertheless, these curricula are given and can´t be changed in a piloting project; but in our interim estimation the approaches chosen in PT and RO are a promising solution to overcome these inherent challenges.

6   Conclusions

Shoe producing companies in Portugal, Germany, and Romania are facing the problem that it is getting harder to recruit skilled workers. Additionally, companies in Portugal and Romania are challenged with a mismatch of skills of young workers and companies' needs. This also

affects German shoe companies, which are producing in these countries, as their interest is to maintain the quality of their products.

In-line with new policies on WBL in countries with traditionally school-based VET regimes we do expect that there is the option of a step by step implementation of WBL into national VET programmes of shoe producers in Romania and Portugal. This iterative approach is chosen not only due to legal restrictions (curricula); but also, to have all (partial very critical) stakeholders on board: A transparent implementation of (firstly) few elements of dual education minimises the risks of exploitation of VET learners and offers evidence for the fact, that apprentices are not cheap substitutes for skilled workers.

We are aware that approaches like ours in the ICSAS project cannot be considered as the "silver bullet" to overcome economic crises or to decrease youth unemployment rates from today until tomorrow – but even the longest journey starts with the first step.

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Relevant Teaching Practice for Vocational Teacher Students in Lower Secondary Education

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Abstract

This study focuses on the introduction of a new compulsory teaching practice for vocational student teachers, in lower secondary schools when a new curriculum framework was introduced. The study addresses the curriculum process and factors that both lower secondary head teachers and teacher educators consider relevant content for the practice. It also addresses the student teachers' experiences in the teaching practice. In light of the findings the challenges the schools and the university have in developing coherence for the practice, are addressed.

Keywords

teaching practice, coherence, curriculum implementation

1 Introduction

To ensure relevance in the education of professionals it is essential that universities work with the field of practice. To achieve such relevance our Department for Vocational Teacher Education has collaborated with practical areas to educate future vocational teachers.

However, this collaboration was given a new dimension on March 18, 2013, when the Ministry of Education introduced new regulations for the national curriculum for vocational teacher education (KD, 2013.) These regulations, along with national guidelines (NRLU, 2014) must be adhered to when universities develop their study programmes.

The regulations stated that the vocational student teachers, in addition to having teaching practice in vocational programmes (VET) in upper secondary schools, that they must have at least 10 days of practice in lower secondary schools (KD, 2013). The requirement for this teaching practice can be regarded as the most important change in the new national curriculum.

With this as a background we established a research study to find out what perspectives this new practice requirement might present. We were interested in finding out about the intentions behind the practice, how it was understood by the practical field and by teacher educators. The study also addresses vocational student teachers 'experiences during the practice. In light

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of the findings the challenges the schools and the university have in cooperating on the practice are also addressed.

The focus is on the teaching practice for students undertaking the post -graduate certificate in education for vocational teachers (PPU-y). The study started as our new study programme were being planned, in 2014, to cohere with the new regulations and continued until three groups of students had completed the practice placement in 2017.

This paper concentrates on two main research questions:

- To what extent is there correspondence between teacher educators and school leaders' understanding of relevant teaching practice for vocational student teachers in lower secondary schools?
- What are the vocational student teachers' experiences with the practice?

1.1 Background: Coherence and learning in practice

Vocational student teachers should be in the practical field, to learn through an experienced and contextual based learning approach to develop their teaching competence started at university. (Dewey, 1933, 1916; Dreyfus & Dreyfus, 2012)

However, there is a general concern by researchers that at there is a lack of comprehensive understanding between practice, and pedagogical theory in professional courses. The work of Billet (2014), Eraut (2004) and Hiim (2015, 2017) give support to these concerns.

Other researchers support this and conclude that the field is particularly challenged in its lack of coherence in teaching between universities and the practice field (Darling-Hammond, 2006, 2010; Canrinus, Bergem, Klette, & Hammerness, 2015).

Further in their study Canrinus et al (2015) show that in precise efforts to connect theory and practice the students reported more coherence. The research concludes that there is a need for tighter links between study courses and practical placements.

Billet (2002) addresses that a key factor of learning quality in a workplace is its willingness to offer opportunities for individuals to engage in work activities and be given support. He also emphasises the influence of historical-cultural practices in the provision of workplace learning.

Another aspect in creating relevance and coherence is in a curriculum process. Research generally agrees that it is crucial that teachers are included at all levels in any curriculum implementation. This is supported by the work of Fullan (2001) and Zeichner, (2010).

1.2 Curriculum theory

Goodlad's theory has been developed as a framework for studying and analysing curriculum work, therefore suited to analyse the introduction of the new practice (KD, 2013). Goodlad is concerned with three different phenomena that affect curriculum analysis: which he calls the *substance, the social policy and the technical professional* (Goodlad, 1979, p. 17).

The substantive addresses the content of the curriculum, and its learning outcomes, methods and assessment perspectives. The socio-political is the context in which the curriculum is included, for example historical- social perspectives. The technical-professional, is how the curriculum is implemented and realized in practice, based on human and material resources.

Goodlad also operates with levels of decision-making in curriculum processes, describing the curriculum's course from the ideological phase to the curriculum in practice. These are: the ideological curriculum, formal curriculum, which operate on the policymaker level, the perceived curriculum, at the university and school level. The implemented curriculum, where the teachers work is central and the learned curriculum, what is learned by the students. Goodlad promotes that all five perspectives interact to form the overall curriculum. For example, the ideological philosophy, can adapt to the needs of society as they are written into the formal curriculum. The teacher's attitudes and beliefs about teaching, (perceived curriculum) may be deliberately or unconsciously in conflict with the formal curriculum which can lead to

modifications when implemented. Students can also learn different aspects than the teacher planned for.

This article focuses on Goodlad's (1979) different levels of decision-making by looking at what occurred in the curriculum committee and how the new practice was understood and perceived by school leaders, teacher education and students.

2   Methods

The data in the study is based on quantitative/qualitative questionnaires, document analysis and 6 semi-structured interviews.

Document analysis

The minutes from all the meetings from 13. 4. 2011 - 15.5 2012 in the curriculum committee were analysed, by looking for words about youth -culture, lower secondary education and teaching practice. Further the regulations (KD, 2013) and guidelines (NRLU, 2013) were analysed. These documents are official authentic documents.

Questionnaires

- A quantitative/qualitative questionnaire to school leaders in 180 lower secondary schools in five near counties.
- A quantitative/qualitative questionnaire to 29 teacher educators responsible for implementing the new practice.

The questionnaires were conducted by a Web-questionnaire in 2014 and 2015 and were anonymous.

- A quantitative /qualitative questionnaire to students in 2015 (48 students) and 2016 (60 students) 2017 (54 students).

The questionnaires were comprised of both closed questions based on a comparative scale from 1-6, where 6 is most important and 1 is least importance, answer alternatives yes/no. preference questions, and there was room for open comments to each question. (Patton, 2015).

Semi structured interviews

Semi structured interviews were in 2015 conducted with 5 members of the curriculum committee and an administrator (Kvale & Brinkmann, 2009).

The quantitative data from the questionnaire were first processed, simplified and then the final analysis was conducted. We conducted a univariate analysis and the values were grouped (Johannessen, Christoffersen, & Tufte, 2016). We organized the findings into categories based on each individual question.

The qualitative data from the interviews and the questionnaires were transcribed and analysed resulting in sub-themes under the main themes. We choose an interpretive approach (Hatch, 2002) emerging themes from the data were indexed by us independently before the data was categorized, discussed and moderated by us together (Gadamer, 2004). These relate to an understanding of: Curriculum intent, teaching content /vocational teaching, assessment.

The focus of this article is mainly the qualitative data.

2.1 Results

With full awareness of the space limitations in a short paper we have chosen to put forward only some of the most important findings, presented around some of the main categories and

which are discussed only briefly. For clarity the results from the head teachers and teacher educators will be presented together, then the students.

Curriculum intent: Document analysis

The new curriculum was developed by a committee appointed by the department of education in April 2011. The committee had broad composition both in experience and included a student representative and 3 from teacher education.

    The minutes from the committee meetings showed that the committee invited various researchers to give information about today's youth- culture. Teaching practice was first mentioned in august 2011 when a working group was established. This group comprised of a head teacher, a teacher from upper secondary school and the student. This group presented the idea of the new practice, December 2011. The reasons were not documented.

    In the regulations (KD, 2013) no purpose for the practice was given. However, in the guidelines the following is given: "10 days practice in lower secondary education is to give insight in the transition from lower to upper secondary education" (NRLU, 2014 p. 13).

Interviews with Curriculum committee members

In the interviews with the committee members about the idea behind the practice two members recalled that it was the student member who was most interested in this, two others said that it was to understanding school transition. The student stated that it was her idea and that she was interested in two aspects: 1) that vocational teacher students could encourage a more practical every day and encourage more pupils to choose vocational courses. 2) Transition from one type of school to another.

Interview with a member of the Practice administration

This informant informed that the practice dates are decided by team-practice centrally and would be in March/April each year. She said further that the practice would be an observation practice.

    The findings indicate that only one of the ideas for the teaching practice was developed further in to the formal curriculum. What affected this was not easy to ascertain but according to Goodlad (1979) that the ideological philosophy was only in part documented in the formal curriculum is due to it largely being separate from consensus policy aspects in the curriculum development.

    Further it is interesting that our analyses indicate that no representative from lower secondary schools was invited to the committee at any stage in the process.

    That timing of the new practice and that practice administration meant that it should be an observation practice also raises questions of relevance and who and where the decision-making lies in a curriculum process. That a teaching practice for, vocational teacher students says nothing about vocational teaching can raise questions of purpose, relevance and coherence (Billet, 2014, Eraut, 2004 & Hiim, 2015, 2017).

Questionnaires

Table 8 shows the response rates for the questionnaires for both head teachers and teacher educators.

Table 8   Response rate from head teachers and teachers' educators

Respondent group	Number invited	Number of responses	Response rate
Head teachers	180	90	50%
Teacher educators	29	16	55%

The questionnaires to head teachers and teacher educators were formed differently. The head teachers were asked amongst other aspects about knowledge of the new regulations for practice, its implementation and content.

Teacher educators were asked amongst other aspects: intent of the practice, practice preparation, type of practice and content

As seen in Figure 1, 100% of the head teacher respondents said they were either unaware of or were little aware of the new practice with 66 saying they had no knowledge and 24 who had little knowledge.
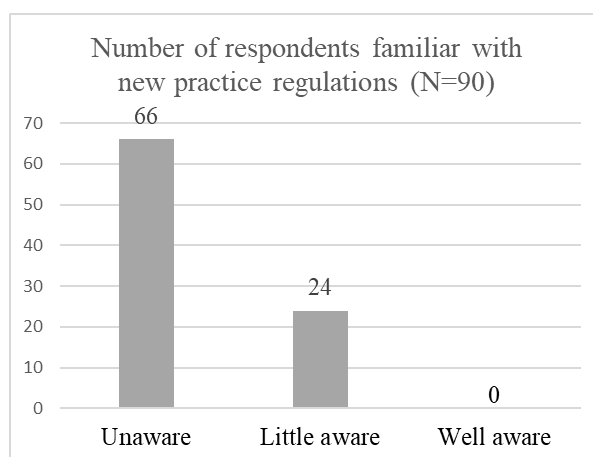
Figure 6   Shows head teachers' awareness of the new practice regulations

However, 53 of the schools said they were positive to take vocational students whereas 37 schools said they were not. Those who were not willing said that they did not know what was expected of them.

The decision making in a curriculum process according to Goodlad (1979) occurs at different levels but these results indicate that in the intended curriculum process, (the philosophy or vision and the formal curriculum) the head teachers in the field of practice were not involved. That a relatively high percent of the head teachers did not know what was expected of them supports this.

Teacher education

All the teacher educators except 3, said that practice in lower secondary was an unexpected regulation. They rated the most important aim of the practice as transition between the two schools which is in line with the formal curriculum. However, they also saw as important: to convince the schools that VET-teachers have relevant teaching areas for lower secondary education, to give insight into career guidance and experience in youth culture

All of the teacher educators said that they needed to gain more knowledge to prepare the students for this practice, and that a good practice teacher was crucial, preferably with a vocational background or well informed about it.

When asked if the practice should be an observation practice, 14 said they disagreed whilst 2 agreed. All agreed that the best practice should be a combination of observation and teaching.

These results indicate that the teacher educators' perceived curriculum (Goodlad, 1979) is more expansive than the formal curriculum and includes vocational aspects. This is supported when they also want the practice teacher to have a vocational background.

The findings indicate that the majority were not aware of the new practice earlier. These findings can indicate that the educators's involvement has been at a later stage in the process despite that research shows that including teachers at all levels is important (Fullan, 2001, Zeichner, 2010). The majority of teachers did not want only an observation practice. The findings recommend a more participatory practice.

Content in practice

Table 9 shows in a priority list what the head teachers and teacher educators said was the most important learning activities for the practice.

Table 9   Most important learning activities

	Teacher educators	Head teachers
1	Transition	Classroom leadership
2	Spread knowledge about VET-courses	Common core subjects from lower to secondary education
3	Introduce more practical teaching	Youth culture
4	Career guidance	Conduct practical teaching activities
5	Youth culture	Assessment for learning
6	Insight into practical subjects in lower secondary	Work related subjects
7	Curriculum analysis	Develop courses

The findings show, although there are some similarities that both groups have different perceived curriculums (Goodlad 1979) which can indicate differences in implementation. This again raises questions of coherence (Darling-Hammond, 2006, 2010; Grande et al., 2014; Hiim, 2015, 2017).

Based on the findings from these two groups, and prior to the student placement, the post graduate teacher educators developed a practice document to be sent to schools. The document was, at the time, seen be too detailed therefore a shorter version was developed by the practice administration and send to the schools. In the guide for practice it was in the end written that the *students could be included in the teaching activities.* (Practice guide 2015 p. 7). At the same time each post graduate teacher educator was given 10 days in which to observe in lower secondary education.

2.2 Students experience in practice

Curriculum content

The majority of the students rated the experience in lower secondary school as high in value. We see a reduction in the students' values in the in both 2016 and 2017 but they still rate the experience as being of value as seen in Table 10.

Table 10   How students rate the practice

Grade*	1	2	3	4	5	6
2015 (55)	1 (2%)	0 (0%)	4 (7%)	6 (11%)	21 (38%)	23 (42%)
2016 (60)	3 (5%)	4 (7%)	3 (5%)	15 (25%)	20 (33%)	15 (25%)
2017 (54)	0 (0%)	4 (7%)	13 (24%)	12 (22%)	10 (19%)	15 (28%)

Note. * Grade 1 is least valuable, 6 is most valuable.

The majority of students said there were two main aspects that they learned most of, class-room leadership and a culture for sharing amongst the teachers. They stated further that the culture was very different and that they experienced a clear focus on learning. The two quotes from the students illustrate this:

"I experienced a culture focused on sharing, and teachers, who were more than willing to share with me."

"The practice was so good that I wish there were several weeks of this type of practice, learning was happening all the time."

But the students experienced different approaches. Some experienced that schools were not prepared and that there was little interest in them. This was more common in 2017 than in 2015. Some students experienced that they were involved in one subject only and from that learned little. Again, this was more common in 2017. One student illustrates this:

"I have become an expert in cooking chicken and rice, but it doesn't really fit with what I wanted to learn, not with my background either, from media and communications."

Some of the students said that 10 days in a different school culture was too long and that they wanted more involvement in the teaching. However, some students experienced involve-ment in teaching. This was more common in 2016 and 2017 than in 2015. Others reacted to invigilating exams and questioned the learning in that. All the students said that the period for practice should be earlier, because of exam time. Some said that there was not enough emphasis on transition between schools.

Vocational content

The students' experiences with vocational subjects varied and they said that the PTs had very little knowledge of their education. Some students experienced that career advisors were inter-ested in them presenting VET-courses. The findings point to this being more common in 2016 and 2017.

The majority of the students said that the practice teachers were very professional, excellent role models and that affected them as students. But not everyone experienced this. Some said that the practice teachers didn't know what to do with them.

The findings indicate that the students' experience of the curriculum varied and were for some different from the intended curriculum (Goodlad, 1979). The majority said that the expe-rience was of value but that they could have learned more if given more opportunities for in-volvement.

Billett (2002) emphasises the need for opportunities for engagement as being important for learning, however the findings point to the students being given very different experiences and not always given opportunities which were relevant. Billett (2002) emphasises that the culture practices in a work place affects learning, which some students also experienced in an unfamil-iar culture for learning and lack of understanding of their background.

3   Conclusion

The aim of this paper was to understand the degree of relevance as seen by head teachers, teacher educators and vocational student teachers in a curriculum process establishing a new teaching practice.

The findings indicate that there is degree of understanding between head teachers and teacher educators on what they see as relevant to the teaching practice. However, the study highlights differences in what they see as the aims and relevant content and which is more expansive than the formal curriculum.

The students' experience in the practice varies with regard to relevance, but high value is put on this experience. The students also experience that the practice is more an observation than a participatory observation practice.

Further, the study highlights the complexity of a curriculum process, where decisions are made at different levels, by different people with different values and mandates, and not necessarily in agreement with one another. The study also highlights, as Fullan (2001), the necessity for both teacher educators and the practical field to be involved for effective achievement of such a process.

Prior research indicates that developing coherent teacher education is challenging (Canrinus et al., 2015; Darling-Hammond, 2006), however, this study highlights concerns that can give us a common starting point for such a cooperation.

This study points to several main challenges:

While there is evidence of excellent relevant experiences it is clearly not universal, so there is considerable scope for identifying, developing and sharing good practice amongst the practice teachers, students and teacher educators.

The question of what observation or participatory observation in practice involves must be discussed between teacher educators, the practice teachers and the students. Not all experience is necessary valuable (Dewey, 1938), but in our experiences observation can equally provide the basis for reflective discussions where the novice learns from the expert (Dewy, 1938; Dreyfus & Dreyfus 2012).

We need to establish more formal dialogue about this practice, first between teacher educators and then between the university and the practical field, on content and practice guidelines, both on a personal but also organisational level. Zeichner (2010) also highlights that continuous involvement of the practice field in curriculum planning will strengthen the theory-practice dimension in line with contemporary challenges.

Similarly, teacher educators need to be more in contact with the schools than is current practice, as this developed as solely an administrative and not necessarily a professional exercise.

Canrinus et al. (2015) indicate that successful coherence is dependent on developing a re-design conceptualised around coherence. This then necessitates that our vocational teacher education rethinks its organizational approach and methods of knowledge exchange both internally and with the practical field.

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School-Work Alternation: Teachers' Voices about the Development and the Assessment Process of Soft Skills

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Abstract

The European (COM, 2010) and national recommendations (L.107/2015) are focused on the reinforcement of the partnership between educational contexts and the world of work. The aim is to build spaces for transformative learning for all systems involved, and to provide students with experiences, useful for developing not only technical-professional, but also soft skills. The usefulness to promote, in the young generations, the development of skills useful for real life, led researchers to investigate, through a qualitative approach, if according to the teachers' perspectives, the compulsory School-Work Alternation (SWA) experiences promote soft skills development, and if teachers include it in the students' learning design and assessment process. Findings show some contradiction between learning, design and assessment processes, with important implications for practices and policies.

Keyword

school-work alternation, soft skills, students' learning design, assessment, partnership

1 Introduction

The implementation of strategies and practices to support the development of skills for the employability of new generations is recognized, at the European level (COM, 2010), a collective responsibility within educational and training contexts. In Italy, according to European recommendations, was introduced one of this strategy by the Law 107/2015, as a compulsory learning and training 'methodology' for students of every secondary school. In fact, with the formal introduction of School-Work Alternation (SWA) as part of secondary school curriculum and of the international Work-Related Learning programs, students have to spend 200/400h within workplaces during the last three years of their learning pathway. The aim of SWA is to give teachers the opportunity to innovate didactics, to create congruence between the formal learning and the real needs, to promote the development of students' professional competencies, and strategic soft skills as well.

This need is strongly connected to necessity to achieve the European standards, and therefore to reduce some phenomena, such as drop out, unemployment, NEET population. They are problems connected not only with the globalization phenomenon, but also with the educational

systems. This last aspect was well described by Resnick (1987) through four factors that high-lights the discontinuity between formal and informal contexts:

1. individual activities in the school vs shared cognitive activities in the real contexts;
2. mental activities in the formal contexts vs handling objects and practices in extra school activities;
3. the symbolic thinking in the school vs contextualized thinking in real situations;
4. general skills development in school vs situated skills in informal contexts.

To be aware of all these aspects represent for teachers a good starting point of reflection on the necessity to innovate didactics, teaching and learning methodologies. It is a process of innovation that foresees the development of strategic, learning experiences for students within communities of practices (Fabbri, 2007; Lave & Wenger, 1991; Wenger, 1998), because learn-ing and competencies development are strongly connected with the cultural and social contexts where they take place. In this perspective, SWA as a privileged site where learning is embedded in the practices, needs to be investigated through a pedagogical point of view, because it gives the systems involved— schools and workplaces —the opportunity to create a 'third space' made of new artifacts, and an innovative culture with a transformative power and impact on them-selves and on students (Fedeli & Tino, 2017). In fact, if both the systems will be able to cross they boundaries, on the base of disequilibrium generated by differences of their cultures, arti-facts, and perspectives, they can activate systems' creativity oriented to the implementation of their expansive learning process according to a transformative travel (Engeström, 2001; Engeström & Sannino, 2010) along their proximal zone of development (Vygostky, 1987). Consequently, the quality of students' SWA experience depends on this effective school-work partnership. It means that, SWA is a complex paradigm made of two intertwined dimensions: *partnership* and *situated practice* (Tino & Fedeli, 2015; Tino, 2017, 2018). Only a strong and learning school-work partnership, will motivate partners to participate in a boundary crossing process, in boundary objects' development, and *goal-oriented* actions in order to guarantee stu-dents situated learning experiences aimed at the development of not only specialized compe-tencies, but above all of transversal skills (Tino & Fedeli, 2015), because 'enabling people to enter and stay in working life is an important part of the role of education in the strengthening of social cohesion' (EC, 2006, p. 1). Therefore, in the scenario of the complex dynamism of the organizational and social contexts, the competitiveness due to the globalization, the personal and professional needs of individuals connected to the importance to avoid social exclusion, the responsibility of teachers is demanded in increasing their awareness of the importance of soft skills for their students and highlighting the consequences of their shortcomings (Schulz, 2008), as well as in identifying training experiences aimed at promoting them.

In this perspective, SWA experience was explored in order to identify if it is considered by teachers an innovative didactics methodology unable to support students during their personal-ized learning process oriented to the development of skills useful for work and for life, and how schools and all professionals involved have faced this new challenge.

2 Theoretical framework

This research was focused on the soft skills development during students' SWA experience, and the soft skills assessment.

Soft skills are presented by the literature not only with different terms, such as *generic skills* (Bautista, 2016; Webb & Chaffer, 2016) *essential skills, core skills, key competencies, employability skills,* and *transferable skills (*McEwen, 2010), but also with different definition:

- "abilities for adaptive behavior, that enable individuals to deal effectively with the demands and challenges of everyday life" (World Health Organization, 1993, p. 1);
- "a set of achievements—skills, understandings and personal attributes—that makes graduates more likely to gain employment and be successful in their chosen occupations, which benefits themselves, the workforce, the community and the economy" (Yorke, 2006, p. 8);
- "the intangible, nontechnical, personality-specific skills that determine one's strengths as a leader, facilitator, mediator, and negotiator" (Robles, 2012, p. 457);
- "normative capabilities", as those generic skills by which people put in practice technical competencies (Lowther, McMillan, & Venter, 2009).

Soft skills have been also clustered within different *models*; some of them have been defined by:

- The World Economic Forum (2015) that describe the skills useful for the XXI century and cluster them into three big categories: i) Foundational Literacies that include those abilities that people use for daily tasks; ii) Competencies (creativity, critical thinking, problem solving, communication, collaboration) considered the way by which individuals face challenges; iii) Character qualities, such as leadership, adaptability, curiosity.
- The OECD (2002), that through DeSeCo project, present three different macro-competencies considered important to support people to face social changes: i) the ability to use instruments in an interactive way; ii) the ability to interact with different groups; iii) the ability to act with autonomy.
- Tuning project (Gonzalez and Wagenaar, 2008) that cluster soft skills into other three macro-competencies: instrumental (cognitive, methodological, and linguistic competencies), interpersonal (social competencies), and systemic competencies (combination of competencies).

They are *models* built according to the society's needs. It means that, even if hard skills continue to be highly valued in the educational/academic world, soft skills are highly valued in the working and real environments. Beside to the national and European political interest for preparing young generation, also labor market complains the lack of inadequate skills in young people; technical skills, alone are no longer sufficient to operate in the dynamics, competitive and complex working reality (Schulz, 2008; Taylor, 2016). Therefore, hard and soft skills need to be considered complementary and not alternative in the students' educational curricula, and within the current scenario of the interdependence between systems (Engeström, 2001) that requires the exchange of expertise among individuals and contexts; they are skills which all individuals need for personal fulfillment and development, active citizenship, social inclusion and employment (EC, 2006).

Although the importance to create links between educational world and labor market, and the development of soft skills are recognized as central aspects for young generations' personal and professional life, few are the studies that consider the introduction of soft skills and their assessment in the school curricula. In fact, "the assessment of soft skill is widely practiced, but there is little in the way of research or evidence on how well this assessment is done" (Gibbs, 2014, p. 455). Therefore, two seem to be the conditions that educational contexts need to take in account: i) the acquisition of transversal skills requires "specific, non-traditional teaching methods; […] for instance, entrepreneurial competence can not be promoted without effective participation in practical experiences of real or virtual associations/ companies" (Gordon et al., 2009, p. 183); ii) soft skills need to be considered as a learning objective and systematically assessed throughout the school learning process (Hoffman, 2003). This requires teachers to consider the challenging aspects of the assessment process: a) the definition of the competence

and the understandable indicators of performance; c) to provide students with the right information about what is required them in order to achieve a positive evaluation; b) students should participate actively and feel part of the evaluation process (Clayton et al., 2003).

All this include both the innovation of teaching and learning methods, realized with the consideration of SWA experience in the learning path of the students, and the assessment process that enhance the students' involvement. It concerns a change of perspective that move from the teacher-centered to the student-centered approach, according to which students are the protagonists of their learning and assessment processes.

In this perspective, and with the awareness of the lack of similar studies in Italy, the paper sought to respond to the following research questions: i) According to teachers, does the SWA students' experience promote soft skills development? ii) Is SWA learning design focused also on the development and assessment of soft skills?

3   Methods

The study here presented was part of a wider research whose purpose was to explore, through the voices of teachers and students, which competencies SWA experiences promote. In this specific study, only teachers' perspectives were presented. The research was carried out through a qualitative approach with the participation of 12 high schools (5 technical schools and 7 lyceums) of 7 different regions: 4 in the northern area, 1 in the central area, and 2 in the southern area of Italy. Specifically, a narrative interview (Atkinson, 2002) was aimed to 24 teacher-tutors (2 per school) who monitored SWA students' experiences. The interviews conducted in the period of April and September 2017, were based on the idea of collaboration and mutual sharing between the interviewer and the interviewees, thanks to the use of communication strategies, and oriented to motivate participants to provide information useful to answer research questions (Creswell, 2008). The narrative interviews allowed to investigate different dimensions, such as:

- teachers' idea of competence;
- students' learning;
- SWA strengths and weakness;
- typology of competencies;
- students' learning design;
- assessment process.

For this specific paper were analyzed only those useful to answer the research questions, linked to the teachers' awareness of the development of soft skills during SWA experiences, and the consequent assessment process.

In order to support participants' reflection on the experiences the interviews were mediated by the technique of *photolangage,* developed by Babin, Baptiste and Belisle in 1978 as a tool for group animation and formation. The interviews were audiotaped with participants' consent, and then transformed in digital documents, in order to do the text-analysis through the software Atlas.ti. Mostly, a *bottom up* approach (*grounded*) guided the analysis of collected data in relation to the object of investigation (Corbin & Strauss, 2008), precisely, because of the need to know an unexplored phenomenon and giving voice and meaning to the experience lived by teacher-tutors. However, at the end the researchers couldn't avoid to compare the results with the theoretical framework of reference. That allowed them to identify the presence or the lack of some key-elements identified in the literature. The analysis with Atlas.ti.07 allowed to create two *Hermeneutic Units* (HU) as a collection space for the 24 *Primary Documents (PD)* each with the related *codes, group-families* and *networks*, to identify the *core-categories* connected to the research questions.

4   Results

With the aim to focus just on two specific aspects of data collected, the analysis of the interviews allowed to identify three common important transversal *core-categories* (Table 1) among the *Primary Documents*:

Table 1   Transversal core categories

Core category 1	SWA experience promotes the development of students' soft skills
Core category 2	The development of soft skill is not really included within students' learning design.
Core category 3	The assessment process of soft skills needs to be built and developed

The first core category allowed to respond the first research question: *According to teachers, does the SWA students' experience promote soft skills development?* Concerning to it, the participants, beside the importance of hard skills, highlighted how SWA experiences promote the development of soft skills. Specifically, they mentioned different soft skills connected to social, management, personal, cognitive, and strategic competencies (Table 2).

Table 2   Soft skills developed by students, during SWA experiences

Macro-competencies	Soft skills
Social competencies	• Teamwork • Relationship • Collaboration • Communication • Sharing • Listening • Mediation • Speaking languages • Leadership • Respect of people • Respect of rules
Management skill	• Time management/ activities and tasks management
Subjective competencies	• Self-awareness • Commitment • Autonomy
Cognitive competencies	• Problem solving • Decision making
Strategic competencies	• Digital skills • Flexibility/Adaptability • Creativity • Learn to learn • Spirit of initiative

The second and the third core categories allowed to respond the second research question: *Is SWA learning design focused also on the development and assessment of soft skills?*

Concerning the consideration of soft skills in the SWA learning design, the most of participants stated contradictory statements; they said that soft skills were included within the learning design, but then they added: "only from a formal point of view"; "[…] now we are thinking about, but at the beginning of the experience it was not easy". This shows how they are still focused on development and assessment of hard skills, but in a traditional way, in terms of content and not in terms of competencies.

The second core category showed how the weakness of SWA project design is proved also by the soft skills' assessment process. In fact, it seemed to be the most difficult issue for teachers. They, sometimes, showed do not have a real knowledge of the soft skills characteristics; it was proved by the following statements:

"We can't evaluate soft skills; we can't know who really act them; we are not sure, for instance, who has relationship competencies; […] Probably we will get there, however, I think it will take us long time of adaptation, and it requires a change of culture as well."

The criticality of assessment process is related to different aspects as proved by the expressions that participants used during the interviews. They are clustered in the following table (Table 3), from which come to light that teachers do not only really assess soft skills, but they do not have clear idea about how to include soft skills in the learning design, or to evaluate them.

Table 3   Teachers' opinions about skills assessment

- There is no soft skills assessment
- Soft skills assessment is difficult
- Soft skills assessment doesn't fit with school subject content
- We take in account of soft skills in the summative assessment process
- Soft skills assessment is realized according to teachers' perceptions
- Soft skills are considered in the students' process changes
- Formal and general soft skills assessment

5   Conclusion

The sample involved can not represent the whole population of Italian teachers, but the choice of researchers to involve twenty-four teachers who works in different schools (high schools-technical schools), situated in northern, southern, central Italian regions, allows to consider the findings here presented as a picture in a mirror of the trends of the most Italian school contexts.

Findings show that teachers think that SWA experiences promote the development of soft skills. It means that workplaces contexts represent privileged site for the developments of soft skills (NCVER, 2003). These are those skills that are recognized important also within the models presented through the theoretical framework. However, even if teachers have the awareness that SWA represents a privileged space where students can develop soft skills, they do not seem to be available to consider neither SWA as an important part of school curricula, or soft skills as learning objectives of curricula as much as school subjects objectives. This mirrors a teaching and learning traditional culture that can compromise soft skills development and assessment, through the reproduction of knowledge according to a teacher-centered approach.

Findings present important implications for the practice, because they show how is important to rethink:

- the educational and training teachers relatively the nature of soft skills. If teachers do not know the nature of competencies, they can not make any project learning design to promote

them, or identify indicators of performance according to which creating tools for their assessment;

- the importance to create connections between learning design and the competencies development and the assessment process, according to a virtuous circle. It supports the idea of formative assessment as part of students' process learning;
- the importance to investigate teachers' culture assessment, to help them to be aware of their assumptions, and to think critically about it through different lens. That has the potentiality to enhance the assessment innovation system, recognizing it as a tool for promoting students learning, and to reflect on the learning process in an holistic way: doing, learning and assessment as part of a unique process. That is what happens in the communities of practices, where the assessment and learning happen within the "context" (Grion, 2017);
- the introduction of soft skills in the school curricula, and the involvement of all school subjects, and teachers, because the one of the objectives of education / training is to promote students' skills development for adaptability to different situations and to enhance the lifelong learning process.

In conclusion, findings show that still school and work systems need to make further efforts to cross their boundaries; they seem to be not really involved in the construction of boundary objects; in fact, teachers talked about a lack of congruence between students' learning design, the competencies that SWA promotes for students, and the assessment process. It means that their partnership is not built on a shared vision, or on a boundary crossing activity.

SWA methodology, soft skills development and assessment are strongly connected to the whole innovation of teaching and learning process, that, in turn, depends on teachers' perspectives, and on their abilities to develop effective partnerships. All that means that the changes can be promoted if teachers will be involved in a new process of learning and reflection, based on the transformation of their culture and assumptions, and promoted through the professional development.

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The MasterPlan: Master without Bachelor. Discussing diversity in higher education within a pilot case study at Brandenburg University of Applied Sciences (Germany)

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1 Abstract

As a result of the promotion of lifelong learning processes over the past two decades, the focus of educational policy has increasingly been placed on non-formal and informal learning as forms of learning that have equal status with formal learning. The impetuses set by the European Union have caused a development in this regard and it is clearly discernible that strategic considerations at the macro level are increasingly leading to specific actions at the micro level. This paper emerges from research, the amendment of the Brandenburg Higher Education Act and according activities at Brandenburg University of Applied Sciences. A pilot case study is being conducted with focus on access for qualified professionals without a higher education degree in special postgraduate courses universities of applied sciences. All of these policy documents are driven by national need, particularly in relation to the labour market and job activation. The overall aim of the MasterPlan project is first to create, develop and design a target-group-oriented procedure to examine if job-qualified applicants without a first university degree are suitable to enrol in a master's degree course and second to test them in a pilot phase. The project has been specifically established for the purpose of collaboration on enhancing access, transfer and progression opportunities across the region. The paper describes the current process of interlinked project stages, preliminary reflections for the empirical pilot case study and shows first outcomes of the project.

2 Keywords

diversity in higher education, Master without Bachelor, VET, Germany

3 Introduction

On 20 December 2012, the Council of the European Union issued a "Recommendation on the validation of non-formal and informal learning", which calls upon the individual member states to introduce relevant regulations for the validation of non-formal and informal learning in accordance with their national education systems by 2018. This means that in all EU member

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states individuals should have the possibility to get their competences, skills and abilities gained through non-formal and informal learning validated (European Commission, 2012).

In the context of promoting lifelong learning, which significantly has influenced international as well as national education policies over the past decades, we can observe a change of how learning and its key processes and elements are being understood. The concept of lifelong learning thereby strengthens the idea that a person is learning throughout their entire life and in every context of life. To take account of this multi-dimensionality, education policies started to incorporate strategies, programs and qualification frameworks to support the validation and recognition of competences obtained throughout life (Bohlinger & Münchhausen, 2011).

As a result, the focus of educational policy, has been placed on non-formal and informal learning as forms of learning that have equal status with formal learning to promote lifelong learning processes. The impetuses set by the European Union have caused a development in this regard and it is clearly discernible that strategic considerations at the macro level are increasingly leading to specific actions at the micro level. An orientation towards learning outcomes was key to the introduction of the European Qualifications Framework for Lifelong Learning in April 2008 and of the German Qualifications Framework for Lifelong Learning (DQR) in May 2013. Although the DQR's eight reference levels have thus far "only" been aligned to qualifications acquired within the scope of formal learning processes, there are prospective plans that the outcomes of non-formal and informal learning processes will be included.

The aims are to strengthen the flexibility of learning pathways, to improve the permeability and diversity of educational systems to increase labour market inclusion and mobility across Europe. One key objective is to enhance employability, labour market opportunities and educational chances for disadvantaged individuals such as the low skilled, unemployed, migrant workers, refugees and individuals with restricted labour market and learning opportunities. The second key objective we have to take into account is the demographic change. Already today it becomes clear that non-academic, but also in academic fields specialists are missing - and here especially in technical disciplines (cf. Koppel & Plünnecke, 2009; Konegen-Grenier & Winde, 2017).

So, the Federal State of Brandenburg provided with the amendment of the Brandenburg Higher Education Act (from April 2014) access for qualified professionals without a higher education degree in special postgraduate courses at universities and universities of applied sciences. It focusses on promoting lifelong learning and improving the permeability of the German education system as well as actively endorsing higher education and securing skilled labour in a relatively sparsely populated and structurally weak region characterized by emigration and population decline the last two decades.

Since its founding in 1992, the Brandenburg University of Applied Sciences (THB) has faced the growing challenge of actively promoting higher education and securing skilled labour. The THB has therefore attracted new target groups for study, expanded the range of flexible study formats (part-time, dual courses of study etc.) and endeavoured to increase the success rate in the study formats. Regarding this background Brandenburg University of Applied Sciences decided to conduct through the MasterPlan project a pilot case study and offers those without a bachelor's degree, but with a vocational qualification and professional experience the opportunity to obtain a master's degree in the pilot course of Security Management.

The MasterPlan project is conducted and supervised by the Centre for Permeability in Higher Education and Dual Courses of Study at Brandenburg University of Applied Sciences.

It is sponsored by the Ministry for Science, Research and Culture from the European Social Fund and the Federal State of Brandenburg between 2016 and 2018[1].

This paper outlines a national perspective on informal and non-formal learning with respect to Work-based-Learning (WBL), vocational and educational training (VET). It presents a pilot case study of how to provide and reflect pathways to higher education institutions (HEI), in the Federal State of Brandenburg and keeps in mind structural and institutional differences between European countries and within Germany.

4   Research perspective and methodology

The possibility of access to higher education master courses without a first bachelor's degree has yet to be tested at the universities and is the subject of controversial discussion. The MasterPlan project contributes to scientific discourse and, furthermore, establishes an example of best practice. First of all, the requirements stipulated in the law must be fulfilled, that means qualified professionals as future students must show that their knowledge, skills and competences are equivalent to those of a qualifying university bachelor degree. In order to ensure the equivalence of the qualifications we have to answer the following questions: what do we mean with knowledge, skills and competences? What are such knowledge, skills and competences? Which competences are characteristic for bachelor degrees? These questions having been addressed, other higher education institutions (primarily in the Federal State of Brandenburg) might be able to open vocational qualifications for a further master's program.

To tackle these challenges between research, policies and practitioners, the research project described here works with 2 different research methods in 2 different steps. We started literature-based, the methodology of theoretical analysis, in order to select and discuss theoretical material and descriptive material, in context, and detailed comparison of theories in terms of their applicability for the second step, the empirical case study. MasterPlan is a comprehensive pilot study and so, both quantitative and qualitative methods (interviews, questionnaires etc.) will be used. With this concept in mind the research questions are defined as following:

- What is necessary for qualified professionals without a higher education degree (normally, a first university degree) to gain access to special postgraduate master programs at universities and universities of applied sciences in the Federal State of Brandenburg?
- How to measure competences in a scientifically valid way?
- How can an administratively manageable procedure be developed?

5   Empirical approach and preliminary outcomes

Following the research questions 4 interlinked project stages were defined in order to develop and combine the literature-based theoretical approaches with the empirical case study.

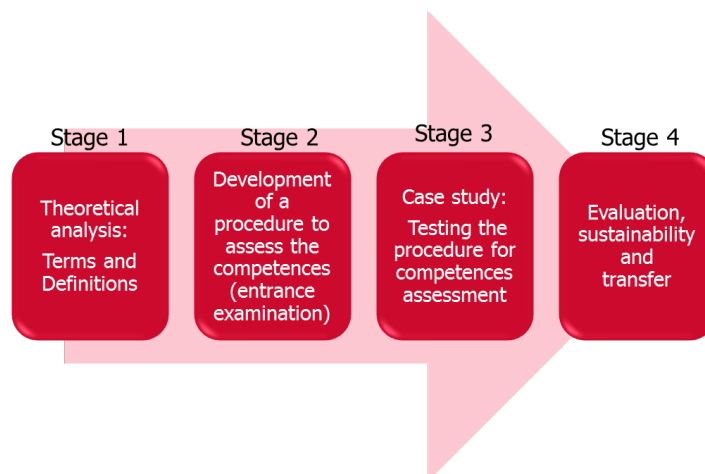[1]   An application for project extension until 2019 has been submitted.

Figure 1   Four interlinked project stages

5.1 Stage 1: Terms and definitions

Knowledge, qualifications and competences are often used synonymously in everyday language. The research literature showed a comprehensive scientific discussion of the terms knowledge, skills, competences and qualifications. Primarily, within the MasterPlan competence is the person's ability to act. While the term qualification refers to the ability to act in concrete (usually professional) situations, is clearly use-oriented, the competence concept is subject-oriented. It is also more holistically oriented: competences include not only content or technical knowledge and skills, but also non-technical or interdisciplinary skills, which are often described with terms such as method skills (know how to know), social skills, personal skills or key qualifications (cf. Erpenbeck & Rosenstiel, 2003; Gehmlich, 2009; Spöttl, 2011; Erpenbeck, 2012).

According to different relevant researchers there are no competences without knowledge in the strict sense and neither abilities nor qualifications or knowledge alone are competences. They are merely the necessary prerequisites for building competences. Knowledge refers to data and information with the help of experience and, as a result, leads to an improved decision-making process. Knowledge is a basic prerequisite for qualifications and competences and is taught in schools, universities, HEI etc. Qualifications are legally verifiable professional and interdisciplinary skills and abilities. Qualifying always means that you can name a start and an end point. (cf. Erpenbeck & Sauter, 2013; Schulmeister, 2014).

Erpenbeck and Rosenstiel (2007) define competences as internal prerequisites (dispositions) that somebody brings with them in order to act psychologically and physically self-organized in a situation. It is not the knowledge itself, but the application and its development in the foreground. Within this definition the term competence thus takes into account social changes. So, competences are skills for self-organized, creative action in (future) open problem and decision situations, in complex, often chaotic systems (self-organization dispositions). Competences are skills to solve problems in a self-organized manner (self-organization dispositions) (cf. Heyse et al., 2015). Therefore, WBL is systematically integrated into the learning process.

Based on methodological classifications we conducted qualitative theme-centred interviews (cf. Schorn, 2000) with a semi-structured guideline with 3 lecturers and professors of the Security Management pilot degree program in order to identify and decode manifest as well as defended and latent meanings of basic competence groups (corresponding to the competence classes) and which will be used in the project MasterPlan:

- Area-specific professional competences (for example: IT-knowledge)
- Scientific competences (for example: scientific work, languages)
- Methodological competences (for example: self-learning, re-apply existing knowledge in different settings)
- Social competences (for example: communication and presentation skills)
- Self-competences (for example: time management) (Erpenbeck & Sauter, 2013; Schulmeister, 2014; Heyse et al., 2015).

The evaluation of the interviews was carried out with qualitative content analysis. We opted for the "content structuring qualitative content analysis" (Kuckartz, 2014), because it is particularly suitable for semi-structured open and problem-centred interviews.

5.2 Stage 2: Development of a procedure to assess the competences (entrance examination)

Based on the identified competences an entrance examination for the target group of qualified professionals without a higher education degree was designed. The professionally qualified persons are to prove knowledge, skills and competences that correspond to a suitable university degree, usually a bachelor's degree. How can we do this for the specific target group of qualified professionals, without any university degree?

Learning outcomes are descriptions of what the learner should be able to know, understand and imagine after successfully completing the lessons. The learning outcomes are expressed in terms of the level of competence that is to be achieved by the learner (cf. Gehmlich, 2009; Heyse et al., 2015).

Regarding the literature review WBL in this stage of research project is also a main track, which focuses on the relation between job and work and should be considered in the process of entrance examination. Most authors agree that the WBL is based on the experiences of individual employees. Work is the curriculum (cf. Boud et al., 2001, pp. 4, 7). Another aspect to consider is the university academic staff members are assigned as resources (teachers, coaches, facilitators etc.) for students in WBL and contribute to the learning process to different extents.

Based on these theoretical approaches, reflections about learning outcomes, measurement and WBL, a procedure to assess the competences (called entrance examination) was developed. Important and depending on the individual requirements and professional competences of the candidates, 2 specific preparatory courses were designed: Scientific work and IT & Network Basics. Accompanying the conception, it was formally necessary to develop and implement a University Entrance Examination Regulation and to revise the University Study Examination Regulation for the Security Management degree program. The statutes and regulations had to be approved by the university boards and Brandenburg's Ministry for Science, Research and Culture. In future, they can be transferred to other universities (especially in the Federal State of Brandenburg) as a model.

The entrance examination consists of

1. writing an access thesis. It is a scientific paper (with scientific problem definition, study reference and if possible from the professional context of the applicant) in the scope of approximately 30,000 characters. The work proves the following competences, which correspond to a suitable bachelor's program: area-specific professional competences, scientific competences, methodological competences (i.e. self-learning, re-apply existing knowledge in different settings, critical thinking) and self-competences (i.e. time management). The processing time is eight weeks and the thesis is written within the framework of the preparatory course "Scientific Work", which includes the approach of WBL.

2. defending the access thesis. The defence includes the presentation of the scientific paper and the critical classification of the results with discussion. Important here are area-specific

professional competences, scientific competences, methodological competences, social competences (i.e. communication and presentation skills) and self-competences.

3. an oral examination. The following competences are examined, which correspond to a suitable Bachelor's degree: area-specific professional competences (i.e. IT-knowledge), methodological competences (i.e. self-learning, re-apply existing knowledge in different settings, critical thinking), social competences (i.e. communication and presentation skills) and self-competences (i.e. time management). The preparation for this is done in the preparatory course "IT and Network Basics", which includes the approach of WBL.

All parts of the entrance examination should be assessed by at least two lecturers or professors and must be passed in order to complete the further parts of the examination. In all parts of the examination, the defined competences are tested at a comparable bachelor level. Basically, the entrance examination phase is designed also as a bridge semester for the participants in order to ensure they enter into the master's program successfully.

The certificate of the passed entrance examination is classified as a higher education certificate (exclusively for the special master course Security Management at the Brandenburg University of Applied Sciences).

Figure 2   Entrance Examination

5.3 Stage 3: Testing the procedure for competences assessment (case study)

The empirical case study completes the research project. The designed procedure is offered to professionally qualified persons and tested in the master's degree pilot study course of Security Management (SecMan).

As we can see in the following figures (Table 1) the case study has started with the entrance examination on March 2018 with 2 persons and in the Summer Semester 8 qualified professionals participate at entrance examination. Since 2016 the number of individual consultations (information about the project, process, requirements etc.) has increased. It has taken time to comply with formal and legal requirements and to reach the heterogeneous target group for the empirical case study (Table 2).

Table 1:   Interested qualified professionals, Project MasterPlan, 01/01/2016 – 30/04/2018

	Female	Male	Total
Individual consultations 2016	0	7	7
Individual consultations 2017	2	16	18
Individual consultations until 30/04/2018	2	14	16

Table 2   Participants at entrance examinations

	Female	Male	Total
Entrance Examination 19/03/2018			
1 participant study start SecMan Summer Semester 2018	0	2	2
1 participant study start SecMan Winter Semester 2018/2019			
Entrance Examination July 2018			
Expected study start SecMan:	0	8	8
Winter Semester 2018/2019 as well as Summer Semester 2019			
Total of participants	0	10	10

There are already first preliminary outcomes which show that professionally qualified persons have the necessary competences to successfully complete the entrance examination. These include primarily sector-specific expertise as well as social and self-competences. It has already been emphasized that the individual accompaniment of the participants as well as the specific preparatory courses "Scientific work" and "IT & Network Basics" serve as assistance and as a result, so far missing methodological, theoretical and technical competences are obtained.

In the first qualitative interviews, current participants speak very positively about the project and feel encouraged for the successful completion of the entrance examination and the admission to the master's program. *"The personal support has taken away my fear of studying at a university and gave me the confidence to do it. [...] At a young age, I was not ready for the "Abitur" or to concentrate on studying, only now that I have had some experience in the professional world, I realize how important theoretical basics are for my further career in the security sector. [...] Through digitization, cyber-crime, etc., it is a thriving industry. [...] But you also need a formal degree "*, one current project participant told us.

Further evaluations by the participants and project reports from preparatory course lecturers are still pending.

5.4 Stage 4: Evaluation, sustainability and transfer

The project will be finalized by a conclusive evaluation (questionnaires and qualitative theme-centred interviews) and a corresponding scientific review in order to accomplish a sustainable transfer of knowledge.

6   Concluding reflections and research preview

It is evident already at this stage of the research project that some qualified professionals without a first bachelor's degree have individual competences that are important for a successful master's degree program and that correspond to a suitable bachelor's degree (methodological competences, social competences, self-competences and expertise competences). It seems that scientific and theoretical competences, however, have to be yet developed by the participants.

Preliminary findings in this study speak to many of the central debates on VET, but again, in ways that point to complexity and subjects for further research. We consider a number of issues that arise from these multi-dimensional findings (knowledge, abilities, competences as well as support, retention rate etc.), but is still far from complete, because the case study is going on and we will accompany the participants during their first 2 semesters of master's degree course.

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Biographical notes

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Dual Vocational Training. A Unique-Case Study from the Perspective of the Agents Involved in its Development

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Abstract

Dual Vocational Training (DVT) is a training modality that combines training processes in high schools and companies. In this modality there are several agents involved in training (high school tutors, company tutors and students). The general objective is to know the training needs of agents involved in DVT student training. Through a descriptive-exploratory design, focused on a case study, the training needs of the professionals involved in the development of DVT in a company from Asturias have been analysed. The information is provided by 11 people, with whom discussion groups have been developed that have enabled qualitative analysis of topics related to the implementation of the DVT program, in order to identify needs and propose improvements. Data analysis shows that DVT is located in Asturias in the initial phase of its implementation, focusing on learning by competences in academic-professional contexts, facilitating the insertion of young people in the labour market and allowing the exchange of information between educational system and labor market. As conclusion we can say that it's necessary to improve the coordination between the academic institution and the company, influence the design of individualized training plans for students and activate training strategies for tutors, especially for company tutors.

Keywords

dual vocational training, case study, company tutors

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1 Introduction

Among the objectives of the European Cooperation Strategy regards education and training "Education and Training 2020" (ET2020) undertaken by Spain together with other countries of the European Union and considered priority areas for the period between 2015 and 2010, they are highlighted those ones focused on reducing academic premature drop-out rate and improving the professional qualification of those who are destined to incorporate themselves into a working market in which technologies are getting more and more spotlight.

In that framework, and with the aim of ensuring educational quality, it is compulsory that all social sectors get involved with the correct developing of the training actions. Among those agents, a key role is given to the business and working sector representatives in order to strengthen the link between educative and training systems with the working world by the collaboration of both of them (Eichhorst, 2015). From this point it will be possible to build a thriving and sustainable society able to thrive its citizens' employability (MECD, 2013).

One educational modality which meets the requirements to make the link between work and training formation viable is the Dual Vocational Training (Dual VT) (Martín, 2016; Delautre, 2014; Schmidt & Foster, 1997). First introduced in Spain in 2012, has a large background in European countries such as Germany and France (Hernández, 2012; Euler, 2013). This modality distinguishes itself by combining the teaching-learning process on two institutions, the educational centre where the student performs theoretical and practical activities and the company, in which he develops didactic-productive activities that complement and alternate (Vega, 2005; Araya, 2008).

The purpose of the Dual Vocational Training is that curriculum contents are not only given with a theoretical way from the educational centre, but that the enterprise, that collaborates in the theoretical and practical training of the student of this modality, offers a practical training which complements the one acquired at the educational institution (Molina, 2016). In this way, the person will be able to achieve a development level at a workstation that will be useful in his process of incorporation to the working life (Hoeckel & Schwartz, 2010; Graf et al., 2014).

The formative process is developed, therefore, with an alternation regime of working activity in an enterprise, in which is combined internship and training in the company, with the formative activity, fundamentally theoretical, received in the Professional Education system framework (Deissinger, 2015; CEDEFOP, 2014).

In the design and development of the formative programmes to the established the structure of the Dual VT, there are several agents involved: people in charge of internship coordination in middle school and business training coordinators, institutions and organizations in which alternation internships are held, company tutors (direct and active responsibles for monitoring the training action in direct contact with the training student), academic tutors from schools and students.

All these aspects make that, in this educational proposal, based on the strategic alliance between the company and the educational centre, both institutions participate in a coordinated and interactive task. This should imply that, ultimately, when the student enters the labour market, he can compete as a highly qualified professional. This approach and its implementation make Dual VT becomes a comprehensive training for students and makes it possible for both institutions to benefit. Since, on the one hand, the company receives a contribution of knowledge from the educational centre, and, on the other hand, this, the educational institution updates and enriches its academic work based on the real needs of training.

This kind of training arises to give an answer to the need to adapt high school training to the reality of the labour market. As indicated by Marhuenda, Chisvert and Palomares-Montero (2016) one of the main reasons why this training system has been implemented has been the desire to improve vocational training as strategy to reduce youth unemployment and improve education quality.

In addition, the new demands of the labour market, in terms of work skills, have forced educational systems to complement this academic training. This approach seeks to establish a close relationship between academic education and the workplace, as a result of the need for professionalization to respond demands of the new production systems (Echeverría, 2013).

In this scene, this paper shows the results obtained, through case study, on the Dual VT development in a school in Asturias (Spain) in association with a agrofood industry related multinational company which welcomes the students in internship.

The main goal has been to identify the training needs of the agents involved in the students training within the Dual VT modality, in Asturias (Spain).

This study has been partially funded by "Severo Ochoa" research scholarship (PA-17-PFBP16206) (Asturias – Spain).

2   Methods

In order to reach the proposed objective a qualitative methodology has been used, because it has been considered a perfect strategy to face the Dual VT analysis from a contextual description of the studied object. The aim of turning to this point of view is ensuring the maximum objectivity at reality capture (Taylor & Bogdan, 1992; McMillan & Schumacher, 2007).

On the basis of an exhaustive theoretical revision of the aspects that substantiate the Dual VT and considering the current development of it at Principado de Asturias (Spain), a descriptive survey has been made by means of discussion groups in order to know the reality of the Dual VT within the enterprise or through the opinion of it that the involved agents have.

The strategy has been arranged into an only case study (Stake, 2005), in which the students' enterprise has been defined as the unity of the study analysis, and the involved agents in this process as informers: the students, the enterprise tutors, the educational centre tutors and the technician-operator in charge of the students' tracking.

The simple has been formed by three students from a secondary formation centre of public ownership which have participated in the Dual VT project at a alimentary transformation enterprise, and by the six tutors in charge of their tracking both at the enterprise and at the educational centre.

Creating discussion groups was used for gathering all the information, one of them with the students, the other one with the tutors of the enterprise and other with the tutors of educative centre. Because of that, a protocol and a template have been designed for the "ad hoc" information record. The template has been revised and validated by the opinion of methodology experts with the aim of ensuring the reliability and validity of the investigation. The experts have validated the suggested categories (informant profile, Dual VT development, satisfaction and needs), getting a concordance index of the 89,06% within them.

After that, the information analysis phase has been developed, divided in two fundamental stages: the procedure (processing and organization of the information) and the interpretation of the obtained information (Verd & Lozares, 2016). This process is based on the transcription of the obtained information, categorization and analysis os the data by the MAXQDA (v.10) program and the subsequent interpretation of the reached results, following the perceptive steps of the qualitative analysis of the data (Tójar, 2006; Miles & Huberman, 1994).

3   Results

The analysis of the given information by the agents provides the results presented hereafter, stressing the coincidence and discrepancy points between the people that conformed the discussion groups regarding the variables previously mentioned.

The most significant and coincident results with the assessments of all reporting agents are as follows:

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All people argue that a good enterprise tutor must be able to communicate and motivate properly, and also serve as a guide for the student.

"I have this obsession with trying to leave some kind of legacy behind. In our case it is clear that the exchange has to be mutual, we have to receive a benefit in return, even if it is intangible. I am not talking about an economic benefit, or a benefit because that person ends up working with me, which does not have to be [...] there are many benefits: from developing other people to help them in their mentoring, to developing training tasks for people who are sur-rounded by them, helping you to improve a process, to optimizing or creating training material" (Tutor 3).

"This is what I always try to transmit to them [...] we focus more on skills that are not taught anywhere, but they are very important in working life [...] many related to proactivity, responsibility, commitment, leaving the comfort circle, being a person who adapts to change, because that's what we see that we're going to have to suffer in the future, be empathic, work with other people" (Tutor 1).

People stress that there is no specific training for becoming a tutor, making tutorial competences more difficult, so it is required a training that allows the tutor of the company to achieve skills to train the apprentice.

"We have training on how to lead teams, how to manage them, in this if we are trained, [...] because we work with people […] aimed at taking out the potential of the people who work with us, trying to get the best out of the people who are part of the organization, but not specific training to be tutors " (Tutor 2).

"They are trained in experience, but as a training, they have job training, which they have given to them to work there. But as trainers I do not think so" (Student 2).

From the results obtained, is concluded the need for coordination between the educational centre and the company, since all the informants consider that they should open channels of fluent communication so that there is a bidirectional knowledge of the aspects and student pro-file.

"We have seen, both the educational centre and we (the company), that coordination must improve [...] the relationship is made and intertwined, now it has to be forged, it must take shape, that in some way it must conform to this structure and that it must not be released to improve. We are there, this is completely incipient, so we are with good intentions, but we are beginning" (Tutor 1).

In relation with the satisfaction of the involved agents, they mostly point out positive aspects about the development of the program, the learnings of the students and the tasks carried out by the tutors.

"Then, finally, this is a mutual training, in quotation marks go. Although they, the students will obviously absorb much more than we can absorb, but it always helps you with respect to contact with people, to teach giving them feedback and so on, that makes you grow as a pro-fessional " (Tutor 4).

Regarding the discrepancies at the feedback, we highlight the following aspects.

Students point out that the don't have meetings with the tutor of the enterprise, except for the welcome of the FCT and at the end of it. Nevertheless, the tutors stress that every 15 days they have a meeting with the students to know better their evolution.

"Do we dedicate the necessary time? Maybe we could, or we should spend more time [...] I think that many times what we lack is time to focus and think what that person may need. I hold fortnightly meetings to see how things are going" (Tutor 3).

"Well, there were two times we talked about, there were not many more […] And we talked to her at the beginning and end of the practices" (Student 2).

Professionals in charge of the students' training disagree with the students concerning the satisfaction with the tutor tasks and the organization of the activities developed by the students.

The results obtained allow us to conclude that it is necessary or advisable to continue gathering more intel from different agents, emphasize the convenience of improving the organizational structure, carry on deepening the relevance of activating proposals for collaborative action among the involved institutions (educational and business), and , above all, improve the tutor's training (academic and business) in aspects such as communicating with students, monitoring and reception of students in the company, the development of training plans adapted to each individual characteristics of the students, the need for coordination between the school administration and the school, the training for the student's capability and the evaluation of their skills in order to improve the quality of this training.

4   Conclusions

The needs assessment carried out has made it possible to know, through a study of the specialized literature and the corresponding regulations, the different aspects of Dual Vocational Training. Its development in Europe, Spain and Asturias has been analysed, elaborating a theoretical and normative framework that allows knowing the state of the art of this training modality.

Through the empirical study based on the discussion groups, it has been possible to find out if the detected needs coincide with the state of the matter previously described in the theoretical foundation. It has also allowed to establish a series of training needs within the company in regard to the training of Dual Vocational Training students.

From the results analysis, we conclude that this is an initial experience in which all the agents involved express a high degree of satisfaction with this kind of training, despite the fact that there are difficulties and shortcomings that can be improved.

Although the company tutors have an internal training related to the development of people, they lack specific training to be tutor of students that allows them to contribute to their integral development.

The functions of the company tutor, coinciding with the opinions of both the company tutors and the operators who are responsible for monitoring the students are training and professional enrichment of the student, the management and guidance of people and give feedback. All this coincides with the functions established in the "Guide for company tutors" of the Bertelsmann Foundation (Caballero & Lozano, 2016).

In the same way, the people involved in the students training in the company, consider that a good company tutor must have communication skills, be able to motivate and have skills to know how to train students. In addition, it must make a good reception and serve as a guide in the internship development of the student. This statement resulting from the result analysis is also consistent with what the Bertelsmann Foundation points out in its "Guide for tutors" on the functions and tasks that the company tutor should have (Caballero & Lozano, 2016).

All the informants agree on the need to develop a training program focused on the student characteristics. All the stakeholders involved in the development of Dual VT, say there is a lack of coordination between the educational centre and the company. The visits of the high school tutors to the company are not regular, as the comments on the matter disagree among the informants.

Company professionals indicate there is a communication lack with the students, since they do not know their motivation to develop a Dual Vocational Training program, their previous experience and their interests, as well as their satisfaction level with tasks performed.

Students consider that the necessary tutorial sessions for their formation in the educational centre and in the company are not carried out.

From the different instances, the Dual Vocational Training modality is not advertised as would be necessary.

Both students and academic tutors at the high school point out that it would be appropriate if internships in the company and the high school training to be taught at the same time, so that simultaneous training in both institutions would be possible.

Thus, taking into account all of the above, we can say that immersion in internship institutions is an important educational opportunity for students. Especially in what refers to putting into practice acquired knowledge in the educational centre that is complemented by the professional skills acquisition that allow them, in the future, to develop in the workplace.

For training as future professionals, it is necessary to have contact and integrate in real contexts. It is a fundamental component in the training process, since not only should the theoretical content and practical activities carried out in each degree be limited, but it should be observed and participated in the reality that we will face in the future as professionals. Therefore, training in a workplace is an element that improves the quality of education. For these reasons, the Dual Vocational Training modality is a key element in the partnership between the educational system and the labour market.

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An Exploration of the Potential Role of Vocational Education in Facilitating the Integration of Forced Migrants into Society[1]

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Abstract

Human migration has always been a feature of social development, but the current scale of migration seems unprecedented (UNHCR, 2016). While voluntary economic migration can be managed through a range of policy instruments, forced migration due to war, disaster, persecution or climate change is less predictable and more problematic to manage. While there is some recognition of the right of forced migrants, particularly refugees, to education, this right has largely been interpreted in terms of access to schooling. The role of vocational education is largely ignored. Vocational education has the potential to play a key role in assisting individual migrants, host societies and sending societies in making the transitions of migration more humane and manageable. A major obstacle for migrants relates to their ability to access the labour market in their new homes. Migrants variously face a range of obstacles including: legal obstacles; inability to gain recognition for their qualification and experience; prejudice from employers or co-workers; and gaps in their social and technical expertise. Vocational education systems and institutions can mediate some of these transitions and address the blockages if they have policies, resources and curriculum that are attuned to the needs of the migrants. This paper reviews the available published and grey literature on VET and forced migration to understand the ways in which actors in the vocational education space, be they policy makers, organisational leaders, educators, employers or migrants themselves are constrained or enabled by particular processes and practices, and what can be learned through comparisons across different settings.

Keywords

forced migration, refugees, TVET, social integration, access

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1   Introduction

Migration is as old as human society and has been central to its development. In recent times it has reached unprecedented levels and consequently receives enormous attention from policy makers, academics and the general public. While the social, political and economic benefits for individuals and host and home countries can accrue with voluntary and regulated migration, migration that is not orderly, safe, and regular negatively impacts human and social development.

The trends, scale and dimensions of migration are constantly changing. Increased conflicts, climate change and economic crisis in some developing countries have led to many forced displacements. In 2015, it was estimated that about one in every thirty people was a migrant (International Organisation for Migration [IOM], 2017). This estimate excludes the millions who are internally displaced by conflicts and disasters within their borders or voluntarily move within countries for a range of reasons. These migration trends have implications for the migrants as well as the origin and host countries. Most importantly for purposes of this discussion, it challenges vocational education and training systems to respond either to mitigate the causes of migration or to facilitate the integration of migrants into host economies and societies. Analyses of the causes of different types of migration and their consequences is useful to understand the role of TVET.

This paper focuses on forced migration, and then analyses its consequences for migrants and host countries TVET systems. Section one briefly outlines the methodology and presents a conceptual framework for understanding the reasons for international migration. After that, brief overviews of displacement and forced international migration trends are presented. The second part discusses the implications of the consequences and causes of migration for TVET.

2   Methodology and conceptual framework

This paper is based on a concept paper commissioned by UNESCO-UNEVOC in order to provide a basis for discussion on three types of migration (economic, environmental and forced) and TVET and how UNEVOC might begin to respond (see Wedekind, Alla-Mensah, & Fakoush, 2018). The concept paper drew on a review of literature on migration generally, and the limited literature on TVET and migration and migrants. The literature in this field is wide ranging. This posed some challenges as the concepts and theories used in the different disciplines vary. It was thus necessary to spend some time trying to first understand the dimensions and scale of migration and clarify differences.

The education specific literature tends to be unpublished or grey literature with many useful reports being available directly from international agencies, NGOs and government departments. This literature was also reviewed.

Early versions of the concept paper were workshopped with UNEVOC. Feedback from those workshops was incorporated into the report. In addition, suggestions and contributions were solicited through the online TVeT Forum. Final drafts were sent for comment to specific people.

This paper focuses on forced migration. Forced migrants are a subset of all migrants. Available data shows that the total stock of international migrants rose vastly to 258 million in 2017, compared to about 150 million in 1990 (IOM, 2017). This stock comprises refugees and asylum seekers, labour migrants, and their families.

In 2017, out of a total number of international migrants, more than one third (38%) moved within developing countries (South to South migration). Thirty-five percent moved from South to North, 20% migrated from North to North, while 6% moved from North to South (UNDESA-PD, 2017, p. 2). Contrary to perceptions of the predominance of South to North migration, the largest migrant groups move from developing countries to other developing countries.

3   Migration

Migration is the movement of people from one place to another. It is classified into different types depending on (a) destination (internal and international), (b) duration (seasonal, medium term and permanent migration), (c) reasons (e.g. climate change, economic and political) and (d) choice (forced or voluntary) (Waldinger, 2015, p. 5). Forced migration can be for many different reasons only some of which are recognised in international law. Furthermore, the degree to which a decision to migrate is forced or not, is difficult to categorise.

In the academic literature, there are different theories that explain the causes of migration. Some of these include the neoclassical macro and micro migration theories, dual labour market theory, push and pull factors and social capital theory (Hagen-Zanker, 2008). For purposes of this paper a simple adaptation of Faist's (2000) classification of the three levels on which migration theories function is used. These are macro, meso and micro levels.

3.1 Macro-level theories

Macro-level theories mainly focus on the structural factors at the national level or world system that influence the movement of people across borders (Boswell, 2002; Faist, 2000). These factors act to either pull people to destination countries or push them from their origin countries (ibid). Examples include political factors such as conflict and persecution in origin countries that force people to move to more peaceful and secure destinations, or environmental factors such as disasters and hazards.

3.2 Micro-level theories

Micro-level theories explain migration at the level of individuals (Faist, 2000). They attribute the decision to migrate to individual rationalisation of the benefits and costs perceived. Characteristics of individuals that influence their ability to move are also emphasised (ibid). However, analysis at this level also takes into consideration forced decisions taken on behalf of individuals (ibid). Examples of micro factors that influence migration include age, education, sex, language, religion, wealth, and marital status (Foresight, 2011).

3.3 Meso-level theories

Meso-level theories bridge the macro and micro theories of migration, to make up for gaps in the decision to migrate. They focus on the relational dimension of migration. These are the 'social and symbolic ties among movers and groups and the resources inherent in these relations' (Faist, 2000, p. 31). Meso-level theories also provide explanations for the perpetuation of migration (Faist, 2000) and in-depth views of enabling circumstances which then influence system feedback (Richmond, 1993).

It is important to note that theories or factors at the macro, meso and micro levels are useful in explaining aspects of the migration process. On their own, they do not adequately explain the multiplicity of factors that characterise forced migration. In the case of political migrants, structural factors such as conflicts or persecution push them to migrate from their origin countries. However, the decision to move, to stay, or the final destination to settle, is driven by other micro factors such as sex, marital status and education. Also, meso factors such as household characteristics, networks and immigration policies in destination countries influence where they settle. For forced migrants, macro factors play a major role in the decision to migrate, however meso and micro factors are major influences on the destination choice. Many of those who arrive in refugee camps take journeys further by sea or through other routes to seek livelihoods in more developed countries where employment or welfare support is available (Crawley et al., 2016).

3.4 Forced Migration

The term 'forced migration' is far from clear as it is used to describe irregular migrants, refugees, asylum seekers and stateless people. This section will distinguish the different groups of forced migrants.
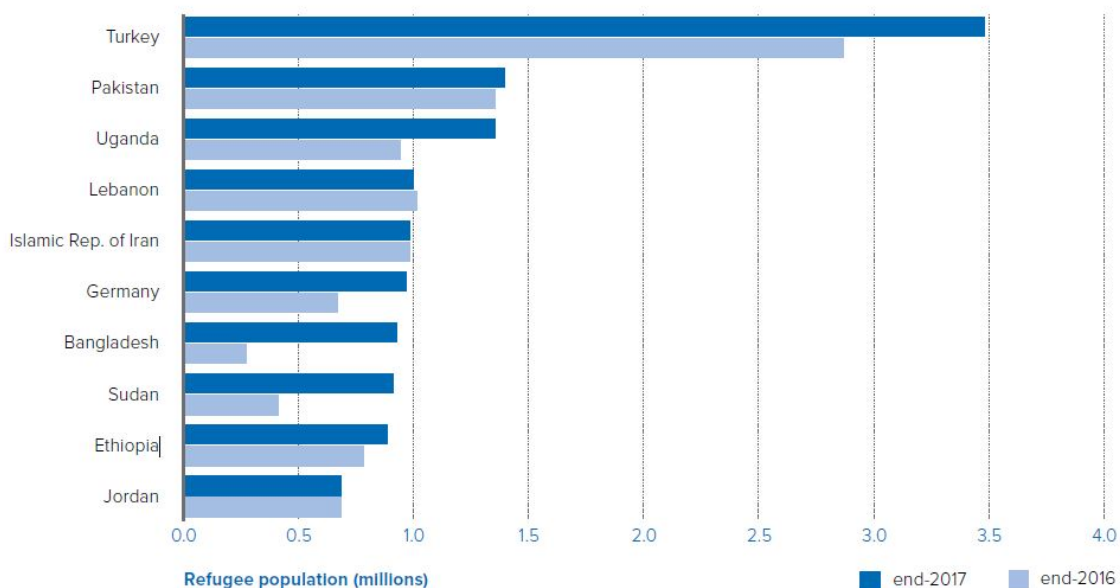
3.5 Irregular Migrants

There is no universally accepted definition of irregular migrants (IOM, 2016). Under the umbrella of irregular migrants, the literature includes human trafficking victims and undocumented migrants. Many refugees and asylum seekers resort to irregular migration to cross borders, making it increasingly difficult to distinguish them. This makes it very difficult to quantify the number of irregular migrants and different sources publish estimates that vary greatly (Koser, 2009). Thus, it is important to develop an understanding of the concept in a way that recognises the differences within the group to distinguish their needs.

3.6 Refugees

The term refugee is defined by the 1951 United Nations Convention Relating to the Status of Refugees as individuals who:

> *(...) owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it.* (United Nations High Commissioner for Refugees [UNHCR], 2010)

By the end of 2017, the total global refugee population reached 25.4 million (UNHCR, 2018). A large proportion of refugees reside in developing countries. The figure below shows that out of the top 10 countries hosting refugees, Germany is the only developed country (United Nations Statistics Division, 2018). At the end of 2017, Turkey remains the country registering the largest number of refugees (3.5 million) refugees compared to 2.6 million hosted in the whole of Europe (UNHCR, 2018).

Figure 1   Major refugee-hosting countries

The numbers of recognized refugees have increased by an estimate of 65% in the last five years (UNHCR, 2017). More importantly, the number of new refugees in 2017 has almost doubled compared to 2016 (UNHCR, 2018). The major source countries of registered refugees are illustrated in Figure 2.
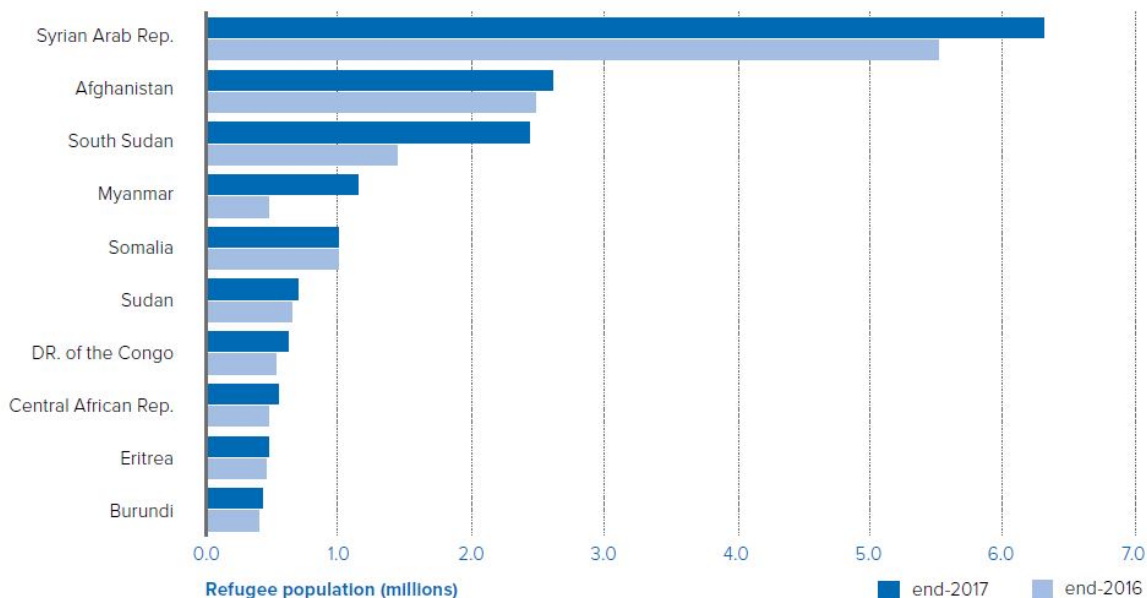
Figure 2   Major source countries of refugees

In 2017, the number of refugees returning to their countries has increased to reach 667 400 compared with 552 000 in 2016 (UNHCR, 2018). Nevertheless, on average 44 400 newly displaced individuals every day have been registered (ibid), which makes the number of returned refugees a very small proportion.

3.7 Asylum seekers

Asylum seekers are those waiting for a decision to be legally identified as refugees (UNHCR, 2015). The numbers of asylum seekers pending decision are 2.8 million worldwide (UNHCR, 2017). Asylum seekers are subject to more legal constraints when compared to refugees, especially with respect to accessing work, education or training. The average waiting time for a decision on an asylum claim varies from one country to another. For example, in the UK, more than 50% of asylum claimants wait more than 6 months for a decision (Doyle & O'Toole, 2013) and in some cases asylum seekers wait 10 years for a decision (Chadderton & Edmonds, 2015).
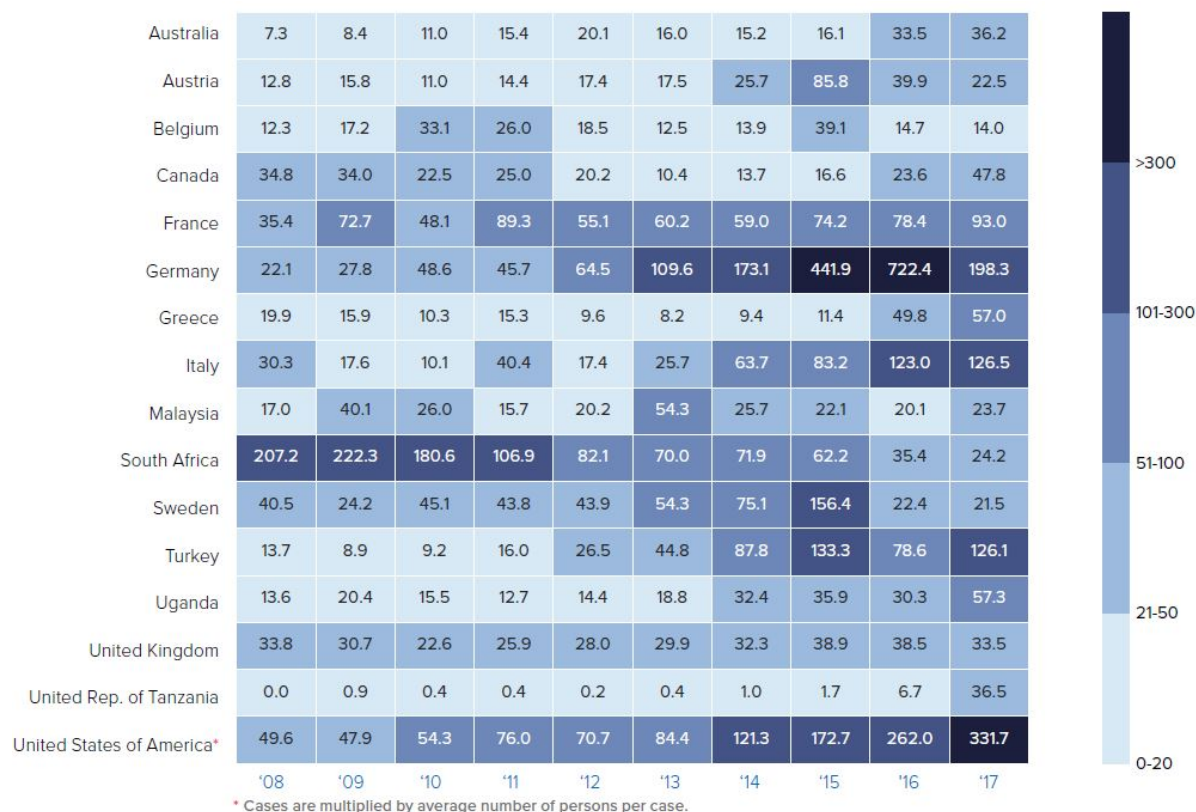
	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17
Australia	7.3	8.4	11.0	15.4	20.1	16.0	15.2	16.1	33.5	36.2
Austria	12.8	15.8	11.0	14.4	17.4	17.5	25.7	85.8	39.9	22.5
Belgium	12.3	17.2	33.1	26.0	18.5	12.5	13.9	39.1	14.7	14.0
Canada	34.8	34.0	22.5	25.0	20.2	10.4	13.7	16.6	23.6	47.8
France	35.4	72.7	48.1	89.3	55.1	60.2	59.0	74.2	78.4	93.0
Germany	22.1	27.8	48.6	45.7	64.5	109.6	173.1	441.9	722.4	198.3
Greece	19.9	15.9	10.3	15.3	9.6	8.2	9.4	11.4	49.8	57.0
Italy	30.3	17.6	10.1	40.4	17.4	25.7	63.7	83.2	123.0	126.5
Malaysia	17.0	40.1	26.0	15.7	20.2	54.3	25.7	22.1	20.1	23.7
South Africa	207.2	222.3	180.6	106.9	82.1	70.0	71.9	62.2	35.4	24.2
Sweden	40.5	24.2	45.1	43.8	43.9	54.3	75.1	156.4	22.4	21.5
Turkey	13.7	8.9	9.2	16.0	26.5	44.8	87.8	133.3	78.6	126.1
Uganda	13.6	20.4	15.5	12.7	14.4	18.8	32.4	35.9	30.3	57.3
United Kingdom	33.8	30.7	22.6	25.9	28.0	29.9	32.3	38.9	38.5	33.5
United Rep. of Tanzania	0.0	0.9	0.4	0.4	0.2	0.4	1.0	1.7	6.7	36.5
United States of America*	49.6	47.9	54.3	76.0	70.7	84.4	121.3	172.7	262.0	331.7

* Cases are multiplied by average number of persons per case.

Source: UNHCR, 2017

Figure 3   Main countries of asylum for new asylum seekers, 2008-2017 (in thousands)

3.8 Statelessness

Perhaps the most challenging group of forced migrants are those under the UNHCR statelessness mandate. These individuals are not nationals of any state, and it is therefore very difficult to identify stateless people and report on the scale of this phenomena. National and international protocols related to migrants assume statehood, and stateless people become unaccounted. The UNHCR has launched an action plan to end statelessness through a framework that aims to develop a collection of quantitative and qualitative data on statelessness (UNHCR, 2017).

3.9 Environmental migration

There is no universally accepted definition of environmental migrants. In the academic and grey literature, terms such as 'environmental refugees' and 'climate change refugees' are used interchangeably to refer to persons who have moved from their homes as a result of changes in their environment (Dun & Gemenne, 2008). IOM's definition is often referenced in the literature due to its comprehensiveness. IOM defines environmental migrants as 'persons or groups of persons who, predominantly for reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their homes or choose to do so, either temporarily or permanently, and who move either within their country or abroad' (International Organization for Migration, 2008, p. 493).

This definition encompasses all the dimensions of environmental migration. It also considers the reasons for environmental migration as comprising sudden changes in the environment resulting from events such as floods, earthquakes, typhoons etc. and progressive or slow-onset changes such as land degradation, rises in sea level, desertification etc.

The difficulty in disassociating the environment from other drivers of migration contributes to the challenges in capturing data of environmental migrants and estimating the global scale. This is exacerbated by the unavailability of instruments that capture the stock and movements of environmental migrants.

4 Consequences of migration

Refugees and environmental migrants are not classified as labour migrants. However, once they arrive in host countries or communities, their desire for employment add to the labour market pressure. Access to host countries' labour markets and education and training systems is particularly challenging due to the following difficulties:

a. Administrative and legal barriers

b. Labour market barriers

c. Education and training barriers

d. Cultural and social differences
   (European Employment Policy Observatory, 2016)

This section focuses on the consequences of forced migration for migrants and education systems. The particular implications for TVET are then discussed.

4.1 Administrative and legal barriers

There are many international legal instruments and conventions that exist to protect the rights of migrants and govern international migration. Some of these include the 1951 Refugee Convention, the 1990 International Convention on the Protection of the Rights of all Migrant Workers and Members of their Families and the 2000 Protocol to Prevent, Suppress and Punish Trafficking in Persons especially Women and Children (UNDESA-PD, 2013). However, not all countries have ratified these conventions and for those who have, variations exist in the way these are implemented. These variations consist of the period for reviewing asylum claims and the employment and education rights of asylum seekers and refugees.

In Jordan and Kenya, many UNHCR recognised refugees are not allowed to leave refugee camps, whilst in Turkey, until January 2016, the government had allowed only Syrian refugees work permits to enter the labour market (Crawley et al., 2016). These examples show that

despite some universal recognition of the rights of refugees and asylum seekers, the legal status extended to them is dependent on the host country.

Aside the politics and administrative challenges encountered by countries in handling migrants, the status of migrants also affect their recognition and treatment in host countries. For example, irregular migrants are denied access to human rights protection which contributes to their marginalisation (Dembour & Kelly, 2011).

This is also experienced in attempts to access education and training in host countries. The circumstances that lead to forced migration mean that such migrants are sometimes not able to make important decisions regarding their destination and education and training opportunities available in host countries. For forced migrants, documentation to prove previous education and training may not be available and this further complicates their integration into host societies.

Furthermore, different types of migrants encounter peculiar issues in accessing education and training in host countries. Variations in the implementation of international legal instruments and the lack of understanding of the rights of some groups of migrants is unhelpful. While most countries acknowledge the legal rights of undocumented migrants, some do not (Platform for International Cooperation on Undocumented Migrants [PICUM], 2012, p.2). It is argued that in some countries such as Hungary and Malta, the 'law states the right to education for children residing regularly, so implicitly excludes undocumented children' (ibid). Although the rights of migrants to continuing vocational education and training is controversial, the lack of residency permits for undocumented migrants hinders their access to further education after completion of basic education (PICUM, 2012, p. 3).

Neighbouring countries to conflict affected areas host the majority of refugees, and hence are often resource-constrained in integrating migrants fully in their education systems. In response to this, the non-governmental sector is playing a crucial role in filling the gap in education and training. It is however important to acknowledge that non-formal education provided by NGOs, businesses and corporate companies can be problematic. Concerns about such educational provision usually revolve around the ethics of motivation, limited co-ordination, and dominance of technology as well as lack of accountability. These constrain the benefits of such initiatives (Zakharia & Menashy, 2018).

Additionally, features of education and training systems in host countries also impact on migrants' access to TVET and social integration (Konle-Seidl & Bolits, 2016). This is the case of skills formation systems of some countries. For example, in collective skill formation systems, entry into VET is highly regulated, competitive and not easy for migrants with foreign education to access (Rietig, 2016). In cases where there are strong linkages between Initial Vocational Education and Training (IVET) and Continuing Vocational Education and Training (CVET), as in the German system, deciding on the appropriate entry level for adult refugees or learners is challenging (Chadderton & Edmonds, 2015). Rietig (2016) further argues that employers may be reluctant to train adult learners as they 'see the VET system as a youth training system' (ibid, p. 6). But in the Netherlands, Desiderio (2016) notes that the 'emphasis on life-long learning and non-linear education trajectories' (ibid, p. 27) makes the VET system more responsive to the integration of foreigners.

On the other hand, within liberal market economies where coordination among stakeholders is weak, variations exist within skill formation systems. For example, the voluntarist nature of vocational education in UK makes employers generally less committed towards training and especially for migrants. Chadderton and Edmonds (2015) state that, while the 'VET system is more flexible due to multiple providers and entry points, it is complex to navigate even for the indigenous population and more so for newcomers' (ibid, p. 144).

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4.2 Labour market barriers

Economically, all types of migrants are more vulnerable in host countries. Their vulnerability stems from their education and training, language difficulties, administrative and legal constraints, initial unemployment or precarious employment. Migrants usually commit significant financial resources to their migration, with the hope of finding employment once they arrive in the host countries. However, the reality is often different from what was anticipated, and this increases their financial or economic vulnerability. One of the problems they encounter in host societies is the lack of knowledge about employment opportunities, vacancies and how to search for employment, leading to initial unemployment (Cedefop, 2011, p. 10). Closely linked to information problems, are language barriers. Mostly, migrants are not proficient in the official language of their host communities and this increases the difficulties they face in looking for employment (Cedefop, 2011). Beyond the immediate need to be employed, language difficulties also affect the integration of migrant workers in their host communities and limit their accumulation of social capital and job-related information (ibid). This problem applies to both skilled and unskilled migrants.

Another challenge that migrant workers face in host countries relate to undertaking unskilled jobs or being over-qualified for the work they take on. Cedefop (2011) report that this is a very common phenomenon in Europe. Migrants' employment decisions sometimes result from labour market restrictions and discrimination that they face in host countries, the lack of host-country working experience and skills mismatch. These lead to underutilisation of their skills (Craw, Jefferys, & Paraskevopoulou, 2007).

Occupational regulation is one of the characteristics of host-countries' labour markets that constrain migrants' integration. While these are high in some countries they are not in others. For example, licensing of occupations is high in Germany (33%) compared to 19% in UK (Koumenta & Pagliero, 2016). In countries where occupational regulations are high, entry into these regulated occupations is often met with challenges, as many requirements in the host country need to be fulfilled.

The requirement to undergo education and training before acquiring licenses to practice has ramifications for retention in TVET. For example, Rietig (2016) notes that '70% of asylum seekers and refugees [in Muncih] dropped out of their VET positions, compared to 25% of natives' (ibid, p. 7). The high dropout rate in VET programmes can be partly explained by the opportunity cost of undergoing years of VET with low income compared to other low skilled jobs that pay better in the short run and are easily accessible (ibid).

Challenges with skills recognition and certification is more pronounced in some highly skilled professions like medicine and health. In most cases, even when health personnel have acquired sufficient training in their origin countries, they are required to undergo further training and examination to be able to practice in host communities. This restricts labour market integration and mobility, contributing to labour shortages in some occupations. An example is the shortage of nurses in the UK's national health system because health care professionals such as migrant nurses find it difficult to get accreditation and provide the necessary documentation to gain work (Moyce, Lash, & de Leon Siantz, 2016).

For refugees in camps the legal and geographical barriers may have restricted their access to the labour market. However, the Zaatari camp in Jordan (UNHCR, 2018) has more than 3000 shops and businesses (Al-Husban & Adams, 2016). The economic activities have also outgrown the camp to provide trade to the local community, with these 'small-scale entrepreneurs […] currently generating an estimated 10 million Jordanian dollars in revenue per month' (Al-Husban & Adams, 2016). Such examples could promote a more sustainable approach to refugee migration, rather than the common short-term emergency model. Providing education and skills development in this context contributes to the development of a local in-camp economy that can eventually lead to the integration of a new town or city.

5   Implications and role for TVET

This section turns to the implications that these consequences pose for education and training systems and the role TVET can play in facilitating the labour market integration of migrants in host countries.

5.1 Access and Provision

A basic challenge faced by host societies is ensuring sufficient provision to accommodate migrants. In countries with well-established VET systems, this is not usually a problem, particularly as many of those societies have surplus capacity due to demographic changes or declining uptake of VET programmes. However, in developing countries where the largest proportion of forced migrants are found, provision of TVET to migrants when the countries struggle to meet their own citizens' demands, can be a challenge. When outside agencies provide specific training or resources for migrants that are not available to local people, resentment can build between local communities and refugees or migrants. It is thus critical that provision for refugees is integrated into the general support and development of the TVET system and does not create a sense of preferential treatment for migrants (British Council, 2018).

5.2 International Recognition of Skills and Qualifications

The international recognition of migrants' skills and qualifications is very important for their integration into host countries' education and training systems and labour markets. Through UNESCO's leadership and with the cooperation of member states, substantial progress has been made regarding the global recognition convention, which seeks to strengthen existing regional conventions and agreements in the recognition of higher education qualifications. However, more work needs to be done on the international recognition of TVET qualifications (Marope, Holmes, & Chakroun, 2015). The challenge lies with the different conceptions, the quality, and institutional provisions of TVET across countries and regions. Bateman and Coles (2017) argue that the development of an international guideline on quality assurance is necessary and underpins the 'trust and transparency in qualifications, which are a prerequisite for comparability and international recognition of qualifications' (ibid, p. vii). As these have been developed for some countries in the Association of Southeast Asian Nations (ASEAN) region, its development in other regions will enhance progress towards an international guideline (ibid).

Sweden's approach towards the recognition of migrants' skills shows that early intervention is necessary for migrants' integration into host economies. This is because it has the potential to reduce the levels of demotivation and the skill and CV gaps which often prohibit migrants' access to jobs (European Employment Policy Observatory, 2016). The country's migration agency carries out a general mapping of employment, education and occupational skills while asylum seekers are waiting to be granted status.

In Germany a nation-wide framework exists to allow all migrants to go through a recognition process to determine the equivalency of qualifications obtained abroad to that of Germany's (OECD, 2017). Although this framework is open to all migrants, assessing the qualifications of asylum seekers and refugees is more challenging as documentation to prove previous training are usually unavailable (ibid). The European Training Foundation (ETF) recommends procedures for recognising qualifications that take into consideration the limitation of documents to be provided (ETF, 2017). Similarly, South Africa's Qualification Authority has mechanisms in place where migrants can submit qualifications for evaluation of equivalence which are recognised by all education providers.

However, challenges remain. Even with regional qualifications frameworks, employers are sometimes sceptical about migrants' formal qualifications, especially when the content differs from that of the host country. As a result, Cedefop (2011) suggests the establishment and

subsequent communication between members of an international network of TVET providers as it will help to solve the challenge of comparability and acceptance of TVET qualifications across countries.

Forced migrants often come from countries where many occupations can be practiced without qualifications, which makes it more difficult for host countries with established occupational and vocational systems to recognise their skills. For employers and educational providers to trust the qualifications and skills acquired abroad by migrants, communication between employers and providers across countries as suggested by Cedefop (2011) is important.

5.3 Language support

Language is one of the main barriers towards the integration of migrants. Although essential, migrants find themselves trapped in years of language training before they can enter host-countries' labour markets. In addition, provision for language training varies across countries, with some providing only basic or minimal training due to lack of funds. In the UK, underfunded and oversubscribed ESOL classes mean that newly arrived migrants have to wait 6 month or more for a place (Craw et al., 2007). In Belgium, teacher turnover is one of the main factors contributing to the lack of success of language classes according to refugees taking part in those courses (European Employment Policy Observatory, 2016).

It would be beneficial if migrants who are proficient in the language of a host country are recruited as teachers of new migrants. Their understanding of the background of migrants and their peculiar challenges can help them have more impact. In addition, they will serve as useful links between new migrants and their host country, assisting them to understand the new society and to integrate better. Highly skilled migrants with adequate language proficiency also face challenges in relation to employment communicative competencies (Madziva, McGrath, & Thondhlana, 2016). Although linguistic abilities avail migrants to enter the labour market, often they find themselves unable to integrate socially in the work place (ibid).

In addition to general language courses, there is the need for skills development programs for migrants and TVET institutions to develop packages aimed at accelerating the vocational language proficiency of migrants. Some countries, like Sweden have pursued this by integrating language tutoring into vocational education and training. This enables migrants to acquire vocational language specific to their trade or industry (Guo, 2013). Inclusive programmes that combine learning and work can help migrants build social capital and reduce frustration relating to unproductivity while learning new languages (Fiddian-Qasmiyeh, Loescher, Long, & Sigona, 2014).

For TVET institutions and language providers therefore, there is the need to understand the different language needs of migrants, and tailor training or pedagogy to meet these needs. A study of the experiences of African migrants in TAFE institutes in Australia by Onsando and Billet (2009) showed that there were differences in the language learning needs of adult and young refugees, however teachers did not comprehend this. This phenomenon has been observed in other countries and is partly explained by the fact that vocational teachers often lack the expertise to teach standard language courses, while other language providers lack the expertise to offer vocational language training (OECD, 2016, p. 89).

6   Implications for TVET curricula

TVET's direct relationship with production, consumption and the world of work makes it particularly well placed to contribute to sustainable practices and skills. In relation to the environmental driver for migration for instance, Priority Action 3 of the Hyogo Framework for Action, states the need to 'use knowledge, innovation and education to build a culture of safety and resilience at all levels' (International Strategy for Disaster Reduction, 2005, p. 6). In accordance

with this action plan, the impact of disasters and consequently the pressure for environmental migration could be mitigated through TVET's contribution to reducing disaster risk. This involves the incorporation of disaster risk management strategies into context specific curricula and integrated into occupational standards and workplace practices in sectors such as construction and manufacturing.

Furthermore, through TVET, people can be equipped with new skill sets to enhance their income diversification. Robinson-Pant (2016) notes the need to explore opportunities beyond agriculture and to combine hard and soft skills. Consequently, this can help reduce people's vulnerability to climate change. Also, it is necessary to enhance people's livelihoods and reduce pressure on the land.

Increased diversity resulting from international migration requires TVET curricula to incorporate intercultural modules that emphasize awareness of diversity, inclusion and cultural competences. Cultural competences in particular are important in the context of working with diverse people and therefore a concern for employers or educational providers in host countries (Brinkley, 2015). TVET providers can thus play a significant role in raising awareness of the host country natives about the life histories of migrants and what their needs may be.

6.1 Implications for teacher education

The large number of international migrants accessing education and training in host countries raise new challenges for teachers or instructors in schools and workplaces. Emerging trends in the literature show that tutors' attitudes toward migrants can enhance or hinder migrants' education and workplace integration (Rutter, 2006). Teachers are expected to deal with diverse students with different experiences of education and this task can be achieved only under circumstances of retraining. In-service training on intercultural pedagogy in the context of increased diversity is essential (Palaiologou & Faas, 2012). It will help teachers to respect and understand differences and know how to deal with issues at sites of learning. Intercultural education can help reduce the incidence of racism and discrimination in vocational schools and workplaces (Itkonen, Talib, & Dervin, 2015). Aside this, pedagogy in VET institutions also needs to be adapted to suit the peculiar challenges of migrants.

In addition to the implications of migration for teacher education, teachers in countries with a large influx of migrants face enormous pressure meeting the needs of everyone and some express concerns over the effects that extra support for migrants and refugees can have on the education of citizens (Hannah, 2000). In Jordan, Lebanon and Turkey for instance, the lack of capacity to provide education for all migrants and refugees has led to the running of double shifts for migrants and refugees. While new teachers are recruited to assist with teaching, the poor and hasty training offered to these teachers can compromise the quality of education provided to migrants (Aydin & Kaya, 2017).

7   Mental health and well-being challenges

The impact of migration on migrants' mental health and well-being is widely recognised (Lindert et al. 2009). However, the level of impact varies based on the type of migrant and multivariate factors that contribute to the decision to leave the country of origin. Forced migration and disaster displacement in particular leave individuals vulnerable to mental health problems. This is due to the macro factors that compel them to abandon their previous livelihoods, possessions, families and societies. In addition, the perilous journey many go through, coupled with financial, physical and emotional commitments involved in migration also strain them (Aydin & Kaya, 2017). Refugees in particular often suffer from anxiety, emotional and cognitive problems which hinder their social integration in host countries (Simpson, 2018). Furthermore, cultural, religious, and linguistic differences between home and host countries as well as difficulties integrating into new environments can have psychosocial effects on all types of

migrants. These problems challenge the capacity of TVET systems and teachers as well as relevant providers to adequately respond to the needs of migrants.

While teachers sometimes receive training on how to assist refugees to deal with the effects of traumatic experiences, they are limited in the extent to which they can do this. A study by Aydin and Kaya (2017, p. 464) revealed that Turkish schools lacked specialist psychological support for Syrian refugees. This finding also shows that although schools may not be the original sites of the provision of specialist psychological support, in the context of increased migration there may be the need to consider this as migrants may find it difficult to access these services in the relevant institutions.

Trauma sensitive approaches, peace education projects and psychosocial support are important to address the psychological barriers and mental health issues faced by forced migrants (Simpson, 2018). Few TVET institutions have placed much emphasis on psychological support systems and there is often resistance from TVET teachers to take pastoral and affective roles seriously. While training is required, there also needs to be cognizance taken of the impact of this sort of work on the teachers' workloads and the potential additional stress that can be associated with providing support to students.

7.1 Guidance

It has been argued earlier that migrants encounter difficulties in navigating the education, training and labour market environment of host countries. As a result, guidance in navigating these areas is very important. The different forms of TVET and the position it occupies in different countries can puzzle migrants. In countries where TVET occupies a central role in education, training, and labour market integration, TVET is often presented as an option to migrants. However, migrants' negative perception of TVET, due for example to its low status in their origin countries can be a major barrier (Chadderton & Edmonds, 2015). Therefore, information and career guidance are key to promote TVET as a viable option for entry into host-countries' labour markets. Among refugees and asylum seekers, a study in UK and Australia found that most of the guidance for forced migrants is provided within communities and charity organisations where the focus is more on welfare and legal advice. Even though in some Australian centres there are dedicated employment and education officers, they are often ill-informed of international qualifications previously acquired by migrants (Hannah, 2000). Also, policies such as that of Belgium to fast track refugees into low-skilled employment can discourage those with the potential for pursuing higher level studies (European Employment Policy Observatory, 2016). Adequate mapping and guidance are relevant to ensure fair access for migrants to work and training.

7.2 Facilitation of local work experience

TVET institutions in host countries can help reduce challenges that migrant workers encounter in seeking employment as a result of insufficient host-country work experience. With close links between providers of TVET and employers, trainees or workers could be linked to firms, so that they can acquire relevant work experience while undergoing training. Also, migrants have realised that volunteering is a useful way to acquire work experience in host countries. While some are able to use this to gain entry into their previous occupations (Webb et al. 2017), others are not able to and hence are trapped in positions that they are overqualified for. Such cases are common in countries where bridging courses are not accessible for migrants. For TVET providers and public employment services, connecting migrants with relevant employers is an important way to help them gain relevant work experience connected to their previous occupations. This, in addition to the provision of subsidised bridging courses and modularisation will ease migrants' acquisition of local qualifications and subsequently ease their transition into labour markets (Rietig, 2016). Cedefop (2011, p. 15) argues that internships and

volunteering in particular can enable migrant workers to build social capital necessary for employment after training.

8 Conclusion

To conclude, this paper adapted Faist's (2000) categorisation of migration theories to analyse the drivers of migration. From the analysis, it was realised that the decision to migrate was caused by a multiplicity of factors at the macro, micro and meso levels. The second part of the report analysed the consequences of migration for migrants, home and host countries. Problems regarding migrants' labour market integration, legal status in host countries, and mental health affect their economic well-being and access to education and training. These consequences are relevant to all categories of migration, but the level of impact differs based on the type of migration and individual migrant's circumstances. While a proposition to tailor TVET to individual needs is almost impossible, the paper discussed broad implications of migration for TVET. Some of these included the need to recognise prior skills and qualifications, provide language and career guidance for migrants and ease their entry of migrants into labour markets. If addressed, these will enhance migrants' human development and contribution to host economies.

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