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Gregson, Margaret and Gregson, Daniel (2024) DEEPER THAN REASON: WHY PRACTICAL AND PRODUCTIVE FORMS OF KNOWLEDGE NEED TO BE RESTORED TO VOCATIONAL EDUCATION. *International Journal of Higher Education Pedagogies (IJHEP)*, 5 (1). ISSN 2669-2333

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DEEPER THAN REASON: WHY PRACTICAL AND PRODUCTIVE FORMS OF KNOWLEDGE NEED TO BE RESTORED TO VOCATIONAL EDUCATION

Abstract.

This article chronicles factors contributing to the neglect of the assessment of practical forms of knowledge in Vocational Education and Training (VET) in England. It illustrates how older, more coherent concepts of forms of knowledge, skills and competence have been pushed to the margins of educational discourse, replaced by restricted, fragmented and much less credible conceptual imposters. The consequences of these restricted conceptions and how they have subsequently become organised, taught and assessed in VET are discussed. Particular attention is given to the ways in which such restricted conceptions can lead to vocational assessment regimes which require little more than ‘one-off’ demonstrations of successful performance, expressed in behaviourist outcomes; the superficial recall of cognitive concepts; and the regurgitation of factual information in pen and paper examinations. Comparisons are drawn between the strongly centralist system of control regulating VET in England and alternative more collaborative state partnership systems of VET currently operating in Continental Europe.

This small-scale, qualitative study, conducted with 12 tutors of VET in Further Education (FE) colleges and Industry Training Providers (ITPs) brings to light the impact of these restricted concepts in VET in England today. Research methods include, literature review, transcripts of semi-structured interviews with vocational teachers and education leaders and focus group discussions. Reflexive Thematic Analysis (RTA) is employed to identify subthemes and themes in the data in order to identify, refine and discuss findings. Results reveal that sector practitioners require further professional development in addressing current issues in incoherent curriculum design and inauthentic approaches to assessment.

Key words: Vocational Education and Training (VET); Forms of Knowledge; Joint Curriculum Planning; Problem and Project-based Learning; Multimodal Assessment.

1. Introduction

This paper draws upon research conducted by the authors from 2018-2023. The research, which forms the focus of this study, was funded in part, by the Education and Training Foundation (ETF) for the delivery of the national Practitioner Research Programme (PRP). The PRP is

designed to support research conducted by teachers and education leaders working in a wide range of VET contexts in England. Each of the practitioners, supported by the PRP, is engaged in research which aims to lead to the improvement of an aspect of educational practice in the VET sector. The purpose of this paper is to analyse and evaluate how and how well, key concepts and organising principles related to VET as they are understood and implemented in different national contexts in England compare with those operating in Continental Europe through the accounts of sector practitioners working in a range of VET contexts in England.

This article then explores the consequences of this framing of organising concepts in terms of “skills”, knowledge and competence surrounding the practice of VET in England, from the perspectives of those who are faced with trying to make VET in England good in practice - its education leaders and practitioners. This paper compares organising principles and concepts of knowledge skills and competence operating in VET in England with their systemic counterparts in France and Germany.

The purpose of the paper is to:

1. Critically discuss the significance of concepts of knowledge, skills and competence and the organising, underpinning concepts and principles operating in VET in England in comparison to those in operating in France and Germany
2. Illuminate consequences of how concepts of knowledge, skills and competence in VET in England influence curriculum planning, curriculum design, pedagogy and multimodal assessment in VET in England and how these compare with systems operating in Continental Europe.

2. 2. Methods

The methodology employed in this small-scale study is inductive in that it begins with particular cases and moves tentatively and incrementally towards what may be plausibly inferred to be more general. Data are derived from a series of semi-structured interviews conducted with 12 PRP participants from across a range of PRP cohorts as well as those of students who progressed from the PRP to complete their studies at MPhil and PhD Level. These data are combined with extracts from PRP participants’ accounts of their experiences of conducting research into their own practice as they attempt to implement VET policy in the contexts in which they work. These data sets are brought together and discussed with reference to critical events and practical examples derived from a range of intensive, residential, Research Development Workshops in the form of field notes as well as data from tutorials and extracts from theses. These data are used to inform data analysis and discussion. Data are also distilled from a number of data collection methods including, semi-structured interviews as well as series of written accounts of empirical studies conducted at MPhil and PhD level by sector practitioners engaged in the PRP. Each PRP practitioner conducts research into the problems and issues that education leaders and teachers in the VET sector encounter and have to surmount in making VET policy in England good in practice. It also illustrates how distorted concepts of forms of knowledge, skills and competence are currently influencing organising principles, curriculum content, design, pedagogy and assessment in VET in England and their consequences for educational practice.

3. Literature Review and Discussion

3.1 Problems in Curriculum Design and Assessment in Vocational Education in England

Young (2004) draws upon a range of empirical and theoretical studies to illustrate how misunderstandings and misconceptions regarding the nature of the vocational curriculum, the kinds of knowledge that should constitute it and how they should be aligned are not new. He traces proposals for the reform of vocational education in England back to the late nineteenth century, noting that,

“ Since the end of the Second World War and especially since the 1980s, both criticisms and proposals for reform have recurred with increasing frequency. At the same time, the focus has varied widely from institutions and curricula to more recently qualifications. Where responsibility for failure is placed has also varied.

Young 2004, p.185

Raggat and Williams (1998) draw attention to how successive UK governments blamed trade unions who were seen as blocking changes to vocational education in the interests of maintaining their bargaining power. The Further Education (FE) was also blamed by various UK governments for being out of touch with the workplace and for its failure to grasp the realities of the nature of workplace learning. Coffield and Williamson (2011) are critical of the short-termism of politicians and VET policy professionals whom they argue have repeatedly shown themselves to be incapable of taking a long-term structural approach to the problems of the English FE system. On the other hand, Finegold and Soskice (1988) locate the weaknesses of the vocational education in England to its wider social and political context. While, Wiener (1981) points to the elitist culture that has been the traditional hallmark of English governing classes with their tendency to value knowledge as a mark of status and power, rather than knowledge as something to be put to use in practice. On the other hand, Green (1990) identifies the continued reluctance of governments across the political spectrum to extend either a legal obligation upon employers guarantee the right to vocational training to members of their workforce or to increase the range of occupations that require some form of licence to practice.

More recently, in the *Skills for a Jobs Transition Report* published in July 2023, by the Future Energy Skills Programme, in collaboration with the General Municipal Boilermakers' (GMB) Union and (among others) Centrica, an international electric services company, offers no less than 48 recommendations to the UK Government regarding the urgent need to move toward Net Zero in ways which not only create the next generation of skilled jobs but also ensure that no worker or community is left behind in the race towards a Greener future .

“ Working together to overcome the challenges identified in this report, we can create the next generation of skilled jobs while ensuring that no worker or community is left behind in this dash towards a greener future.”

Skills for a Jobs Transition Report, July 2023, p.2

The report goes on to point out that the UK drive towards securing a Greener future for its workforce needs to be done in ways which are fair to everyone in situations where workers and the communities in which they live are not at risk of losing out as older industries are phased out (for example, as was the case in the devastation of the steel and mining industries, and the communities who depended upon them across, the UK in the 1980s under the Thatcher Administration).

“Across political parties, industry and society there is now a consensus for the move towards net zero. The debate is about how to get there, how quickly, and how to do it in a way that is fair to everyone. ”

Skills for a Jobs Transition Report, July 2023, p.2

The many issues, the *Skills for a Jobs Transition*, report draws attention includes, a lack of apprentices and graduates in Science Technology Engineering and Maths (STEM) subjects; inflexible, slow and flat-footed qualifications and skills development; a lack of an equivalent status between vocational and academic education in the UK; short-term policy and short-term investment in vocational education for the Green Skills Industries of the future. The authors of the report discern a distinct lack of flexibility within the curriculum content and design of apprenticeships and in other vocational courses in relation to adding content to vocational curricula, developing more authentic assessment regimes and qualifications in order to meet emerging needs and demands of new Green industries at an appropriate pace and in an flexible way.

“A Lack of Apprentices: There is still an over-emphasis in our education system on academic routes over vocational education. For some, there is a lack of equivalence in status between these two educational routes while others find the vocational route is not connected to the green jobs for desperately need skilled workers.

A Lack of Graduates: The number of STEM subjects graduates in the UK is increasing but demand still far outstrips supply – and a large proportion of these choose jobs in the finance and tech sectors rather than green energy. ”

Skills for a Jobs Transition Report, July 2023, p.44

The report calls for the development of a more responsive and agile system for the creation of apprenticeships which is quicker, leaner and more alive to changing employer and learner needs. In particular, the report calls for the development of modular apprenticeships which allow companies to cross-skill their apprentices through alternative pathways which enable them to access and progress into competence training schemes and qualifications which support existing engineers to transfer their current skills into newer technologies through traineeships structured around an agreed standard, guided learning hours and learning outcomes.

“We need a more an agile system – able to create apprenticeships- from inception, to development, approval, and delivery- much faster than it currently does. The life cycle needs to be quicker, leaner, and more responsive. The ability to respond rapidly to changing employer and learner demands, as a key factor in bringing us in line with other leading apprenticeship countries.

Compared to economies where apprenticeships are more numerous and more valued, such as Germany, Austria and Switzerland, the employer voice in the United Kingdom systems are under recognised and underrepresented.

To upskill the workforce of the future and take advantage of the opportunities of a green economy, changes need to be made to the Government’s existing apprenticeship programs and other schemes. We recommend that the government work with industry to develop training programs that are tailored to the needs of the energy sector, and that provide apprentices with the skills and knowledge required to work in the industry of the future.

We need to focus on linking skills provision to real jobs. Currently higher and further education are too often not delivering what businesses need. We need to ask some honest questions around why we have some qualifications and swap out those within higher and further education that do not add value and do not have direct links with jobs. ”

Skills for a Jobs Transition Report, July 2023, p.44

It also notes that it is currently taking too long for new courses to be created and for skilled people to emerge from them, compared to the significant rate at which employer needs and consumer demands are accelerating. In conclusion, the report calls for spaces to be opened up in the design and delivery of the VET curriculum in the UK in which vocational subjects and courses can be translated into real-world and fluid configurations of modules and skills.

“...current arrangements which exist in the UK for the identification of training needs, the formulation of new course content and the ongoing training and assessment of competence is out of date in relation to the new available technologies that we as a nation can now utilise.

It is currently taking too long for new courses to be created and skilled people to emerge compared to the significant pace at which employer needs and consumer demands are changing. As new technologies and new careers emerge, “add-skilling” is too difficult and slow. There is a lack of flexibility within apprenticeships and courses to add content to meet emerging demands. For example, there is no clear route to becoming a heat-pump engineer- rather you have to become an electrician or plumber first.

With a mismatch between employers needs and skills provision, too much of existing skills is poorly targeted- for example, the £3bn of apprenticeship levy funds going unclaimed. ”

Skills for a Jobs Transition Report, July 2023, p.46

Finally, the report urges the UK government to demonstrate the same level of commitment to the Green Skills and the progression of the Net Zero agenda on the scale at the same levels of additional investment currently available in the United States (\$369 billion) and the European Union (€ 210) million.

“This policy proposal seeks to urgently shift the member countries of the EU from a reliance on fossil fuels to decarbonised power generation and higher levels of energy efficiency. To enable this to happen, the European Commission proposes to bring forward significant levels of investment on scales not previously seen. Some €210 billion euros in additional investment is now proposed alongside targeted policies to support renewable generation such as solar and wind.

Alongside the developments in Europe, the United States has passed into the law the US President’s ‘Build Back Better’ proposals which are largely contained within the ‘Inflation Reduction Act’.²¹ These proposals represent the most ambitious set of policies yet to enable the US to decarbonise its economy. It is anticipated that some additional 500,000 new ‘green jobs’ will be created in the energy sector alone on the back of some \$369 Billion investment in the green economy. ”

Skills for a Jobs Transition Report, July 2023, pp.14-15

To ignore these issues, the authors caution, is to risk the UK being left behind in the high-stakes, international race for Green Skills jobs and industries. For example, the report argues that the transition to a “ Green Skills” economy,

“ ... will require industry to work with governments and their agencies to firstly forecast the demand which will exist in locations around the UK for the installation of these products and then, secondly, establish where the most beneficial locations, and for the manufacturing sites to be located, in terms of jobs, investment, skills, and access to colleges and universities”

Skills for a Jobs Transition Report , July 2023, p. 20

It is important not note, that throughout the above report, the term “skills” is used no less than 254 times, while only 5 references are made to the term knowledge (usually in connection to discussion of levels of knowledge rather to any recognition the existence of different forms of knowledge). In this way “skills” become proxy for the concept of knowledge.

In the same month, in a thematic review of the main Technical Level qualifications (T-Levels) on offer in the England, the Office for Standards in Education, Children’s Services and Skills (Ofsted) reports that the volume and complexity of content in T-Levels, the amount and methods of assessment, need to be more appropriate and comparable to similar qualifications at the same level (Ofsted, 2023). Ofsted reserves some of its strongest criticism for approaches to the assessment of T-Levels and the provision of assessment feedback to learners regarding their progress and what they need to do to improve. Ofsted report these as being overly generic and vague. The report goes on to comment that,

“Assessment and examinations continue to be a cause for concern for many T-Level students... In some providers, teachers use too narrow a range of assessment methods to adequately prepare students for assignments and examinations....[and this]...can result in the administration of assessment driving curriculum planning and limiting teaching time”

Ofsted July 2023, pp.19-20

In the same report, Ofsted inspectors also point out that teachers and students engaged in the implementation of T-Level policy feel let down by Awarding Organisations because of the “poor quality the availability curriculum resources and assessment activities and materials.” Both of the above reports are helpful in bringing into clearer view, enduring problems and issues surrounding how VET is currently conceptualised, organised, delivered and assessed in England.

3.2 Literature Review Discussion: Concepts of Competence and its Assessment in VET in England

This article critically reviews literature surrounding organising principles and concepts of knowledge, 'skills', 'competence' as they are currently understood and implemented in curriculum design, delivery and assessment in T-Levels and in other VET contexts in England. It illustrates how in the English context, organising principles and concepts of forms of knowledge, 'skills', 'competence' in VET have tended to be distorted and reduced to decontextualised, atomised, long lists of putative 'skills' (Wolf, 1995). These 'skills' are then combined in VET practice with the mechanical transmission of technical knowledge which assumes that vocational competence in any occupation requires little more than acquiring a set of techniques and simple rule-following. In addition, the same organising principles and concepts of knowledge, 'skill' and 'competence' in VET in England, often frame theoretical knowledge and practical knowledge as, not only being separate, but also in binary opposition to each other. This Anglo-Saxon view also tends to position practice as being subordinate to theory; assumes that theory must always come before practice; that practice can only be taught in the workplace, and that theory can only be taught in FE and HE institutions. In VET in England the use of, and preoccupations with, the use of the term, 'skill' is serving to decouple concepts of occupational and vocational competence from the acquisition, development and assessment of different forms of knowledge. .

In contrast, in Continental Europe, organising principles and concepts of 'skills' 'competence' and the place and the role of different forms of knowledge are framed very differently. Continental European countries readily acknowledge (albeit in slightly different ways and using different linguistic terms) that becoming competent in any occupation involves not only the acquisition of 'skill' but also the evocation, cultivation and development of qualities of mind, virtues and attributes including the development of the personhood and character of the a 'good' vocational practitioner. It is troubling therefore that in England today, the VET system and the teachers, learners and employers who work within it, continue to be beset by the consequences of 'thin', deeply flawed, mechanical-clockwork framings of VET and the narrow concepts of 'skill', 'knowledge' and 'competence' which underpin it.

3.3 Concepts of Skill, Competence and Assessment in VET in England

When the Manpower Services Commission (MSC) was established in England over forty years ago, an approach to curriculum design and assessment in VET in England, grounded in functional analysis, was coupled with reductive concepts of knowledge, skills and competence and in turn led to the unitisation of vocational qualifications. Since then, the VET sector in England has been in a state of constant flux, turmoil and, some would argue, decline (see for example, Hyland 2006). The origins of functional-analysis in VET are rooted in Fordist-Taylorist techno-economic principles of time-and motion-studies as they operate in highly industrialised organisations. In functional analysis, jobs are reduced to functions, which are then further reduced to units, elements and performance criteria. Subsequently using the principles of functional analysis in the English system of VET, these learning outcomes expressed in terms of behaviourist skills and competences, measured in relation to prescribed lists of knowledge, skills and attitudes have dominated the VET landscape in England. It is

important to note here, how knowledge is commodified in terms of inputs and outcomes and how it is viewed as being capable of being broken down or built up into a hierarchy of discrete component parts. This fractured conceptualisation of knowledge, skills and competence not only mistakenly divorces the theoretical from the practical, but also implies that some basic tasks require very little knowledge, whereas more advanced tasks may be considered to be part of a linear hierarchy, requiring foundational prerequisite knowledge before a high level or advanced knowledge can be acquired . Wolf (1995) notes how this fracturing of knowledge can also lead to a descent into impracticable and impenetrable lists of discrete lists of knowledge, skills and competence which are not only paralysing in their complexity but inoperable in practice. Distorted conceptual framings of knowledge, skills and concepts first introduced in the form of NVQs have come to dominate the VET discourses in England (see for example, Gregson, 2002). With the notable exceptions of Coffield (2008, 2011); Hyland (2006, 2011, 2014a, 2014b); Brockman, Clark and Winch (2011), few outside of Germany were aware of the caution with which the modularisation and unitisation of were being approached in VET circles in Germany or the reasons for that caution. Such misconceptions or ‘category mistakes’ (Ryle 1949, p.17) in VET policy in England have had adverse and profound implications for the acquisition, development and assessment of knowledge in VET across the UK and in England in particular, distorting, diluting and fragmenting, rather than integrating approaches to teaching, learning and assessment. Driven by preoccupations with functionalist-reductivist dogma and top-down, centralist policy diktat, these category mistakes and conceptual errors are still with us today, in part due to the strong centralist control of VET in Britain. The language and spirit of the same category mistakes and distorted conceptions are evident in both the language of, *The Skills for a Jobs Transition* (2023) report and the *Ofsted T-Level Thematic Review* (2023) reports discussed in the introductory section of this paper. A particular concern is persistence and prevalence of functionalist-reductivist uses of the term ‘skill’ and its relegation to narrow reduction to matters of technique. These are ubiquitous not only in both of reports discussed above, but also in almost all of the discourse surrounding the labour market in England,

The functionalist-reductivist language which currently pervades VET discourses in England reflect a historical and cultural, narrowing, of the concept of ‘skill’ which simply reduces the concept and meaning of the word to a bunch of ‘techniques’ to be mechanically acquired and and set of rules to be mindlessly memorised and followed in the pursuit of supposed competence. The use of this terminology is unhelpful because it causes confusion between a concept of ‘skill’ which requires the development of a variety of forms of knowledge including, enhancing the attributes of an individual in ways which are firmly rooted in older more coherent concepts of knowledge and models of vocational education which involve extensive and integrated practice and experience such as those widely in use in Germany and France and its very different, ‘thin’, incoherent and rather questionable, English counterpart.

Dunne (1993) rejects this functionalist-reductivist approach to concepts of knowledge. He locates its routes and its behaviourist foundations and compares it to older, more coherent framings of concepts of, knowledge, skill and competence in practice such as those operating in the French and German VET systems . Dunne defines a practice as,

“ ...a coherent and invariably quite complex set of activities and tasks that has evolved cooperatively and cumulatively over time. It is alive in the community who are its insiders and it stays alive only so long as they sustain a commitment to creatively

develop and extend it - sometimes by shifts which may at the time seem dramatic or even subversive.”

Dunne 2005, pp. 152-153

Dunne (1993) is particularly critical of learning outcomes expressed in behaviourist terms, measured in the form of largely decontextualised performance criteria and discrete observable behaviours. He draws attention to how,

“ Atomised objectives may seem worthwhile, however, only if they aggregate over time into qualities of mind and character, such as an ability for independent thought and reflection, a habit of truthfulness, a sense of justice, a care for clarity and expressiveness in writing and speech. So far from giving one any reason to suppose that this aggregation will occur, however, the behavioural objectives model cannot offer ground for supposing that qualities such as these, which I took to be the really significant achievements of education - even exist.”

Dunne 1993, p.6

Dunne’s position resonates with the work of Sennett (2009) and the Commission for Adult Teaching and Learning, (CAVTL, 2013) where they argue that the development of knowledge, skill and competence in VET routinely involve, problem-finding, problem-solving, evaluation, collaboration, cooperation and critique in context. Sennett describes the process of problem-finding, problem-solving and critique conducted in cooperation and collaboration as the ‘motor of good judgement’ and the ‘engine which drives the development of good practice’ forward in VET contexts. Dunne is also careful to connect the concept of ‘skill’ and its advancement in VET contexts to the development of a person’s virtues or ‘qualities of mind and character’ (Dunne 1993, p.10). Qualities of mind and character, discussed above are for Dunne, fundamentally constitutive of person and definitive of the ‘who-ness’ of people and the ‘what-ness’ of their vocational practice. The notion of a good nurse, chef, plumber, electrician, blacksmith, photographer, creative writer, film producer, etc., is not synonymous with the idea of a person who knows a bunch of techniques and simply follows a series of rules and mechanically puts these into practice. Our argument in this paper is that concepts of knowledge, skills and competence in VET need to incorporate crucial, ethical, moral and aesthetic dimensions of working life in which qualities of mind and character, virtues, dispositions, values and attitudes, shape social practices in influencing how people actually use the skills they have acquired in pursuing vocational competence.

Coffield (2008) graphically illustrates this point where he recounts his experience of observing teaching and learning in a VET class in Germany as follows,

“ I was sitting in the back row of a class of electrical apprentices in a German vocational school on the outskirts of Duisburg, the German equivalent of Middlesbrough - only

with jobs and highly paid jobs at that. About twenty 18-19 year olds were studying part of the core curriculum German literature and on this particular Friday morning they were taking turns to read out loud from Goethe's *Faust*, with the lads working out in advance who would have to speak the part of Gretchen and inciting their foredoomed classmate to assume a high pitched voice. When the class was finished, I turned to the lad sitting beside me and explained that I was a visitor from Britain studying the German 'dual system' of vocational education. I then asked him what was the relevance to his future life as an electrician of Goethe's *Faust*. He thought for a moment and whispered back: 'Electricians have souls too you know'."

Coffield 2008, p. 43

German and French VET systems reject thin, mechanical, behaviouristic conceptions of knowledge, skill and competence operating in the English VET system on the grounds that they are overly simplified and discretely framed in terms of a limited collection of procedures or techniques which are necessary in accomplishing a specific task. From the English VET perspective, the assumption is that 'techniques' can be unproblematically assessed through the methods of observation, routinely reduced to the ticking off of long lists of tasks (often required to be successfully performed only once) and pen and paper examinations. What is important to note that is what is being deftly sidestepped here is that in the English VET system and the assessment regime which accompanies, is any recognition of or any attention given to the pivotal nature of much less easily observable or straightforwardly assessed, forms of knowledge which underpin "skill" development and, 'competence' in practice in the real-world in real workplace contexts.

The flawed organising principles and distorted concepts supporting the framework of National Vocational Qualifications (NVQ), was devised by politicians, policy civil servants, employers and occupational psychologists in England, many of whom worked for the MSC. NVQs were introduced and promoted by the Department of Education (DfE) through MSC in 1986 with the intention of making the accreditation of "skill" in VET in England transparent to employers. As discussed above, perhaps the most disturbing component of the notion of an NVQ resides in the assumption that it is both possible and desirable to acquire an NVQ before acquiring the certificate demonstrating that a person has sufficient underpinning knowledge necessary to practise the "skills" competently in a range of real-world contexts often in often, complex and unfolding situations. As discussed above, through the work of Sennett (2009) and CAVTL (2013) real-job, real-world circumstances inevitably involve problem-finding in real time, based on systematic and local knowledge; problem-solving and the planning a course of action to deal with the problem; adapting the plan in practice in the light of evidence; critiquing the quality of judgments made and evaluating the success of the course of action taken in terms of its consequences in action (Winch, 2007; Sennett, 2009). In England, the relationship between theoretical knowledge and practical knowledge (practical wisdom) has been diluted and weakened over the past 40 years, to the extent that the relationship between different forms of knowledge is frequently, insufficiently well-understood by VET policy professionals, education leaders and tutors. As a result, it is now widely assumed that concerns surrounding different forms of knowledge and their assessment can simply be dispensed with and all that is needed for a person to be able to be 'competent' is to be able successfully perform the "skill" (at worst)

only once (at best) in a narrow range of circumstances and contexts. In short, this paper argues that simply displaying certain “skills” on a ‘one-off’ basis in limited occupational conditions and contexts, does not, and never will, constitute ‘competence’. A person’s possession of propositional, practical and productive knowledge is not irrelevant to whether or not they possess a “skill”. On the contrary, possession of propositional, practical, productive and other forms of knowledge are vital to if/how and how well a “skill” is enacted in a wide variety of real-world situations and contexts with competence.

As concepts of “skill” in England, were progressively subordinated over a long period of time to the demands of functional-analysis and approaches to assessment in vocational education became increasingly predicated upon the achievement of scores in written assessment examinations; based upon highly prescribed and predictable learning outcomes; expressed in behaviourist terms; and measured in the form of largely decontextualised performance criteria, the VET system in England has steadily worsened. The stated purpose of NVQs was to make vocational qualifications more responsive and flexible to the demands of the contemporary world of work. However, this has led to the production, which is less of a system of VET and more of a catalogue of specifications of curriculum content from which employers and training providers could select according to their perception of need, in situations where different forms of knowledge were underestimated or removed from the ‘performance’ of the “skill” in question. The introduction of NVQs also served to reduce the role and power of trade unions and institutions of VET to flexibly and pragmatically determine and shape curriculum content, the different forms of knowledge to be acquired and developed at different points and stages as well as the means and measures of their assessment, now significantly in the control of for-profit Awarding Organisations/Bodies. A far-reaching consequence of this is that occupational competence in the real world has become only a weak determinant of the content of vocational curricula and assessment practice in England, where the mechanical, atomised and decontextualised world of functional analysis of job roles has strongly influenced curriculum design, curriculum planning, vocational pedagogy including approaches to the development and assessment of vocational practice. Evidence of the persistence of the decline of a coherent understanding of concepts of knowledge, “skill” and competence recur in the *Skills for a Jobs Transition* report (2023). In short, the legacy of functional analysis, distorted notions of knowledge, “skill” and competence combine and are deeply embedded in the current system of VET in England and do not seem to be in decline. However they are clearly not working in practice ... or at least not working very well in practice. Competing organising principles and different driving concepts of knowledge, “skill” and competence do of course have profound consequences and bring about crucial differences in forms of vocational education and training in different national settings including how they are organised and delivered. Constellations of knowledge, “skill” and attributes required by working people in different occupational settings in different countries reflect national economic infrastructures and these differences impact upon transnational workforce mobility. The organising principles and narrow framing of concepts of knowledge, “skill” and competence in VET contexts in England is now what most separates discourses surrounding knowledge “skill” and competence including practical wisdom and know-how in the English VET system from those which operate in Continental Europe. These issues are discussed in some detail in the next section of this paper.

3.4 Concepts of Skill, Competence and Assessment in VET in France

Writing on the subject of the education of the worker in France, Méhaut (2011) refers to Brucey (2008, p. 37) where he presents an account of how in a memorandum written in 1920, the French Minister of Education Edouard Herriot, defined the education of the worker as follows:

“ By law, the worker is also a citizen and an individual. As such, he is not a means to an end; he must have the ability, not only to produce, but also to think; he is entitled to the culture, which makes one an individual, that is to say a free being.”

Here, Méhaut is helping us to see how the trilogy of worker, individual and citizen still resides at the heart of the main VET qualifications in France. This is spelled out most noticeably in the concepts of, *savoir*, *savoir-faire* and *savoir-être*. Méhaut draws our attention to how VET in France is grounded on a very different conceptual basis from the English system. He goes on to note how, as in the Netherlands, the French system is witnessing the growth of the influence of the concept of competence. He invites us to notice however, that the French concept of competence is quite different from the Anglo-Saxon one because in VET the bedrock of the French, ‘kernels of competence... are larger and articulated in a more holistic way where competence is not synonymous with performance (Mehaut 20011, p.36). Méhaut goes on to illustrate how articulations of academic and vocational education are also different from English ones. He explains how French terminology tends to make distinctions between three basic categories of knowledge and knowing.

Knowledge (*savoir*) normally considered to be based on a body of scientific or technical knowledge coded and shaped by a particular discipline that can be acquired by teaching or self-directed learning.

Savoir-faire, (knowing how to make something) based on the implementation in the concrete situation of both knowledge and experience, such as, the blue-collar workers’ manual dexterity and skilled work as a worker’s ability to deal with the breakdowns or malfunctions. This empirical *savoir-faire* may be acquired through learning, experience and through professional practice.

Savoir-être (knowing how to be... a good plumber, a good bricklayer, a good carpenter, a good nurse, a good teacher etc., - knowing how to conduct yourself well in vocational and social settings) relates more to knowing how *to be* in interpersonal relationships than to technical matters. *Savoir-être* may also relate to the communication with colleagues in relation to problem-solving capacity (*aptitudes or capacities*) within a team or autonomy in the context framed in terms of a hierarchy. These aptitudes or ‘knowing how to behave’ or knowing how ‘to be’ are not considered to be innate attributes of the VET student, but acquired as a result of the learning process. Méhaut urges us to note how, unlike in other languages, each of these three words includes the idea of knowledge (*savoir*) as well as different ways of knowing and being.

Méhaut enables us to see the emphasis that is placed in France on *savoir* goes back in part to the century of the Enlightenment and its encyclopaedist tradition. He explains the persistence of *savoir*, *savoir-faire* and *savoir être* across Diploma, Award and Certificate level of French

qualification because these concepts are at the heart of the *referentiel* (frameworks) that form the basis of vocational qualifications in France regardless of level. He also points out from the beginning of the 20th century to the postwar years, vocational education has progressively been attached to the general education system in France, passing more and more under the control of the Ministry of Education. Méhaut describes how during this period the influence of pedagogues and a scholarly conception of vocational education has increased, assisted by the perception that, after the rise of Taylorism, work was often destructor of, rather than a creator of competences. Méhaut also draws attention to the importance of how, in contrast to Britain, the French state does not delegate the award of diplomas to private bodies and that training and awarding bodies are not separate, although examination boards are made up of professionals (employers and employees) as well as teachers or trainers belonging to the training providers. He goes on to explain that this does not mean that preparation for diplomas only takes place in public institutions. Private institutions, profit-making or not, attached to professional organisations and chambers of commerce in France, co-exist with and depend upon Ministries of Education, Employment, Agriculture etc. In relation to nationally recognised qualifications diplomas (*diplômes*) and awards (*titres*), Méhaut foregrounds how each of these are prepared by special committees on which unions, employers, teachers and vocational tutors/trainers are represented

3.5 Concepts of Skill, Competence and Assessment in VET in Germany

In the context of VET in Germany, Hanf (2011) notes that since the beginning of modern Europe there have been two sources of social recognition. The first can be found in the form titles given by education systems which value a culture of written knowledge and legitimise access to social positions. The second source of social recognition can be found in the older framing,

“ ...the heritage of the trade through tradition of experience in workplace practice (apprenticeship, mastership) and the protection of the social status related to it”

Hanf (2011, p. 50).

He notes how, depending on the approach taken, different ideal types of qualification, state controlled (as in France), function-oriented (as in England), and *Beruf* (profession oriented, as in Germany and other German speaking countries) - an organising principle for both employment and VET in the German VET system is aimed at supporting occupational competence at intermediate (skilled worker) level, where intermediary institutions (corporations) are in charge and work-based practical experience continues to be the dominant approach to skills formation. Through a number of developments including integration with the principles of the schools system, the explication and codification of occupational knowledge, the differentiation of theory and practice the *Beruf* approach was extended into wider areas of labour. Hanf illustrates how, in this way, the institutional structure for a separate institutional structure for a separate vocational education and training (VET) system was founded which was distinctly demarcated from the education system, even although VET in companies was complemented with part-time vocational schools). In the German system, Hanf discusses how privately organised VET is based on the Federal (national) Training Act (*Berufsbildungsgesetz*) closely linked with national labour and trade law. On the other hand the *Länder* (Federal States) legislation, applies to other forms of education (including vocational schools). Hanf also draws attention to different demarcations between different forms of progression and career pathways which produce a highly stratified hierarchy of school/university qualifications, defined by a hierarchy of knowledge. For example, Hanf explains, the education system produces a highly differentiated of school university qualifications defined by a hierarchy of knowledge, while the VET system based on the Vocational Training Act provides its own hierarchy of Initial and Continuing VET qualifications defined by a hierarchy of competence related to the positions in the labour market. Soskice and Finegold (1999) point out that this Dual System of education is widely considered to be key to the generally high skills level of German Society. However, they raise the question of the extent to which this (or indeed any system of VET) is able to respond adequately to structural changes in the economy, and is the organisation of work as well as to demographic shifts. Hanf (2011) identifies two points of tension that pull the concept of *Beruf* in two different directions at the same time, towards more academic education (knowledge) on one hand and a push towards training for employability (skills) on the other. In these circumstances Hanf argues, it may be necessary to loosen some of the current rigidities in the *Beruf* without abandoning it all together by coupling the VET sub system more closely with the education system. He suggests that the qualification framework approach may provide

options to overcome existing limitations in national and international VET contexts. It is important to note that the specific institutions and bodies involved in legislating for initial VET in Germany are the Federal Government and its Ministries, in cooperation with the social partners and the *Länder* governments. This involves a complex process of consensus-building that ensures that the regulation of the VET standards is accepted by all sides. At the level of provision, self-administered bodies (chambers and similar bodies) supervise the quality of training and organise external exams independently of individual companies, in this process the importance of the role that social partners play in this process is not to be underestimated at company level with employee representatives consulted and engaged in all matters of practical training.

The work of Hanf, is particularly helpful in illuminating how concepts of knowledge (*Fertigkeiten* - functional knowledge), skills (*Kenntnisse*, - factual, declarative knowledge) and competence (*Fähigkeiten* - knowledge that goes beyond functional knowledge - methodological, social and personal) and how they are understood and used in Germany. In discussing these concepts, Hanf points out that while they are not defined in detail, and are explicitly understood as being vocational, they are always mentioned together, never on their own. Hanf explains in the 1990's a new concept was introduced by the Conference of Education Ministers (*Handlungskompetenz*) by structuring curricula in *Lernfelder*, roughly translated as 'fields of learning'. *Handlungskompetenz* applies the notions of didactic innovations, such as task-oriented and comprehensive learning programmes to the context of vocational colleges. *Handlungskompetenz* - the ability and readiness of the individual to act adequately in a socially individually responsible way not only in occupational but also in social and private situations) unfolds in the dimensions of (*Fach* - competence in actively dealing with objects, real or symbolic) (*Sozial* - social competence in dealing with oneself) and (*Humankompetenz* - competence in dealing with others). The work of Hanf, brings to light how *Handlungskompetenz* is an holistic concept integrating all dimensions of knowledge, skills and competence. Through the work of Edrtl and Sloane (2005) Hanf reminds us that the Vocational Education Regulation stipulates that,

“...these competences cannot be taught or learned separately but only in an integrated way; there is no separation or categorization in the vocational education regulations in the school curricula .”

Ertl and Sloane 2005, cited in Hanf 2011, p. 57.

The main idea here is, where the tasks and activities of trainees routinely involve real-life problems confronted in real world contexts which then form the basis for the planning and organisation of teaching and learning arrangements. In this way, learning situations at vocational colleges constitute the field of learning, drawing upon the knowledge that is incorporated in school subjects. In the process traditional subjects are transformed into a cross-curricular structure in which comprehensive tasks have to be fulfilled and real-life problems found and solved by trainees in the form of collaborative and cooperative projects derived from actual work contexts. This serves to bring about a streamlining and integrating the vocational training in company, recouping and consolidating losses in the curriculum content covered in general education.

3.6 Results

This comparative study of concepts of knowledge skills and competence and organising principles in VET systems in England, France and Germany reveal that despite the distinctiveness of the strongly centralist state control of VET in England and alternative state partnership models, organising concepts and principles in the design, planning, funding and delivery of VET systems currently operating in France and Germany, there are complex similarities and differences both within and between countries.

By providing detailed ‘on the ground’ descriptions of what is currently going on in practice through direct accounts of the lived experiences of tutors, education leaders and learners, this small scale research study of the PRP which provides the focus for this paper, offers cumulative, real-world and real-time insights into the *processes* through which VET policy is currently being implemented *as* it is being implemented in England. This presents VET researchers and policy professionals a ‘history of the present’, intelligence in the ‘here and now’, regarding what is currently happening in the implementation of VET policy in England. It also provides opportunities for policy professionals and other stakeholders to adapt, modify and improve the implementation of VET policy in England in real-time in the light of incrementally accrued evidence, derived from the direct experiences of sector practitioners. These include unintended, subtle and less easily measured aspects of the impact of VET policy and their consequences in practice. This research is therefore distinct from the ‘rear view mirror’ sector intelligence which presents retrospective perspectives of the large-scale outcomes and more easily measured aspects of the impact of a policy, after the event and from the outside (Gregson *et. al.* 2019).

In this study, accounts of PRP qualitative data from practitioners’ accounts of their experiences of the PRP are distilled from a series of data sets collected from 12 practitioner-researchers. These include, semi-structured interviews including their narrative accounts of engaging in the research programme. Extracts from their theses and critical events from field notes taken in Research Development Workshops are also analysed and used to identify and refine categories of data, clusters of sub themes progressively organised around a number of distinctive themes. These data sets in this study are subsequently thematically analysed through the application of a systematic six-step approach to data analysis, first advanced by Braun and Clarke (2006), subsequently applied by Nowell *et al* (2017) and then further developed by Byrne (2021). The above authors describe this approach as Reflexive Thematic Analysis (RTA). Approaches to thematic data analysis and practical examples presented by Braun and Clarke (2006, 2019, 2020); Nowell *et al* (2017); and Byrne (2021) are put to work in this thesis to inform the development of a framework to guide and support the approach to systematic thematic data analysis adopted in this study. However, it is important to point out that the process of data analysis was not a simple or linear process of moving through the phases. Instead data analysis became a recursive and iterative process which required us to move back and forth through different phases of the data analysis process as and when necessary. In the interests of transparency, trustworthiness and credibility both authors coded the data sets independently and them compared and discussed and agreed categories, subthemes and themes.

Interview Results and Discussion

Practitioners in the study are unanimous in their recognition that coherent curriculum planning and the assessment of the different forms of knowledge involved (in this case) in the achievement of a T Level or indeed other vocational education qualifications and the development and alignment of appropriate methods for their assessment, require policy professionals in the DfE, ETF and the VET Practitioner Community to move beyond the provision and funding Continuous Professional Development (CPD) ‘events’ largely based upon the transmission of information. Instead, they call for the development of a new approach to CPD based upon the opening up of practical collaborative and cooperative *working* spaces in which coherent curriculum integration and authentic and multimodal assessment planning activities can be encouraged and supported in peer-reviewed and research-informed ways across FE College and Industry-Based VET learning contexts.

For example, one of our case participants (pseudonym Mirt) a Head of Construction in a large FE College, raises the challenging question,

“ Why are we asking VET learners to exhibit *that* [practical] knowledge, in *that* way? ”
[original emphasis]

In addition, sector participants in the study repeatedly point to how coherent and integrated curriculum planning and multimodal assessment, require considerably more expertise, time, practical workspaces and opportunities for collaboration and detailed discussion than are currently available. They also repeatedly refer to how the practicalities, expertise, time and resources required for joint curriculum planning and collaborative multimodal assessment involve much more than just FE College and Industry Placement tutors simply rewriting existing schemes of work on their own or in short-term collaboration with each other.

The opening up of significant amounts of dedicated time, practical working spaces and programmes of CPD support, where FE College and Industry Placement tutors can engage in joint curriculum planning and collaborative multimodal assessment in practical ways are consistently seen by practitioners to be paramount to the successful implementation of VET policy. On the basis of this, it is plausible therefore to infer that it may be helpful to explore the usefulness of programmes of CPD for teachers of vocational education, with responsibility for the realisation of integrated curriculum design and multimodal assessment with time, opportunities and scaffolded support to deliberate collaborate and share their achievements and the problems they encounter in practice in ways that are both informed by peer-reviewed empirical research, pragmatic and attuned to context.

VET practitioners in the study also report that more creative multimodal assessment strategies are likely to involve the close and careful observation of practice and the processes surrounding practice. In addition, sector practitioners are clearly mindful that new approaches to assessment in VET will also need to encourage critical and creative dialogues which invite learners to provide verbal explanations and justifications for the decisions they make in

practice while they are making them followed by critical reflection and dialogue regarding the ways in which current levels of individual/group vocational practice could be improved. .

Practitioners in our study frequently return to how coherent and engaging curriculum design and assessment regimes, capable of encouraging and enabling the development of good judgement in vocational practice, require more flexible, creative and multimodal approaches to assessment. The development of more creative and multimodal approaches to assessment, we argue, will need to draw upon a wider range of technologies and experiences from the creative industries than at present. The potential of film, digital media, video games, music arts and other forms of aesthetic experience and in real time accounts of experiences alongside practical activities such as, the repair of actual artefacts and live demonstrations, are identified by sector practitioners as being possible ways of taking assessment in VET contexts forward in the future.

In another Case Study, set in a large FE College, the Digital Skills/STEM tutors decided to implement a curriculum within a holistic project-based learning process. The curriculum specification was broken down into smaller project components against a holistic overview of a STEM centre. Students worked on a range of projects linked to this STEM Centre, such as building a network, programming the locks for the doors of the Centre (and so on). This provided an overarching view of the curriculum. Within this, the team of tutors broke down the modules into what knowledge was required for the project and the assessment activities that were ‘technically’ appropriate. There was a summative assessment activity that aligned with the final core paper or Employer-Set Project. As part of the project, it was then discussed in the planning stage of the curriculum that there was a need to provide a multimodal assessment activity to develop students' knowledge and provide effective feedback. This led to a discussion about whether the core papers curtail and limit the students' application of deeper technical craft, reducing the knowledge required to recall only. Their concern is that this, in turn, could curtail the student's ability to contribute fully to their industry placement.

Data from extracts of this small scale study of PRP participants suggest that although the language of problem-based learning and project-based learning is widely used across the T Level policy and practice community, the pedagogical principles and purposes underpinning these approaches to learning are not always meaningfully shared or sufficiently well understood and so VET tutors need considerably more time and support mechanisms in developing approaches to problem and project-based learning in VET in England than are currently available.

4. Conclusion, Implications and Recommendations

Concepts of knowledge, skills and competence in the English system of VET take the view that to possess a “skill” simply requires mastering a technique for carrying out a type of task within a particular job situation. However, as argued above, this is not enough. It is possible to master a technique without knowing how to use it competently in the complex and unfolding pressures of a work situation. Accreditation of qualifications simply through pen and paper tests and/or one off demonstrations of performance of a task in a single/limited number of contexts and situations is not and can never be a demonstration of competence in the workplace. The reason for a work-based component in VET is that it is possible to master a technique or successfully complete a pen-and-paper description of a technique based upon mainly upon recall and

individual responses to examination questions does not mean that the person has the know-how to put that technique and the rules and procedural knowledge which underpin it into practice in the workplace in competent ways.

While the introduction of the NVQ in the English system of VET was intended, at least in part, to address this problem, the decision that different forms of knowledge and their assessment could simply be dispensed with and all that is needed for a person to be able to be ‘competent’ is to be able successfully perform the “skill” (at worst) only once (at best) in a narrow range of circumstances and contexts, was to say the least, unfortunate. A consequence of this was that it consolidated and proliferated a restricted English concept of competence, irrespective of the contexts and conditions in which it was demonstrated and how it was assessed. This neglect of practical and productive knowledge and the range of methods and media through which these and other forms of knowledge are assessed reveal the deep and growing fault lines currently separating the understanding and assessment of concepts of knowledge, “skills” and competence in vocational education systems operating in England, France and Germany. These problems are further compounded by a lack of coherence and integration in curriculum planning and assessment between FE and VET tutors in Industry Placements and Training Providers in England in comparison to their counterparts in Continental European countries. While in France and Germany, concepts of competence (although expressed in different linguistic terms, in essence they share much common ground in that they are capable of admitting the existence of different forms of knowledge and their role in the dynamics of the development of qualities of mind and character in the pursuit and achievement of vocational competence). On the other hand, the English VET system rests to a large extent upon the assumption that it is possible to dispense with all forms of knowledge beyond technique, rule-following, superficial cognition and recall in the demonstration of the achievement of competence in VET contexts. This paper argues that this is where the more profound problems of the English VET system reside.

Implications and Recommendations

The implications of problematic levels of incoherence in integrated curriculum design coupled with troubling levels of inauthenticity in VET assessment regimes, discussed above, signal that deeply flawed assessment regimes and curriculum models are now pervasive across VET in England and that these may widen even further.

In addition, the absence of an agreed set of coherent organising principles, concepts of knowledge, “skills” and competence are serving to compound the problem and continue to confound sector professionals

Moreover, the lack of supporting infrastructure in which employers, Further Higher Education, workplace professionals and trade union representatives can collaborate and cooperate is only serving to exacerbate the situation even more.

Addressing the above issues will necessitate mutual engagement in joint curriculum planning and the collaborative development of more authentic assessment of multimodal forms of knowledge in VET in contexts in England.

Coherent concepts of knowledge and the spaces and conditions for their realisation in practice appear to be central to the acquisition, development and embodiment of knowledge, “skill” and vocational competence in any system of VET worthy of the name.

Recommendation 1: If the VET system in England is to move beyond shallow preoccupations with notions of “skills” to embrace the development of qualities of mind and character that encourage, dispose and enable a person to find self-fulfilment and the aesthetic reward involved in doing a job well for its own sake, then the English system will require substantial structural change. This means that teachers and tutors working across the VET sector in England will need funding and access to meaningful and research-informed CPD activities and support.

Recommendation 2: The knowledge, skills, vocational competence and the values, virtues and rewards that accompany doing good work across the lifespan are currently missing from the English system of VET. Clearer guiding principles and older and more coherent concepts of knowledge, skills and competence closer to those currently operating in Continental Europe need to be restored to the VET system in England. These could take the form of collaborative, research informed and supported spaces in which sector practitioners can work together to share and jointly address problems surrounding the realisation of coherent, integrated curriculum design and multimodal assessment in vocational education contexts as they face them in practice. This will require the negotiation and structural reconfiguration of teaching, learning and assessment in workplace contexts in England which acknowledge and accept that theory and practice develop in symbiosis ... hand in hand and eye to eye. It will also require the development of more flexible, coherent and integrated curriculum planning and curriculum design, supported by authentic, research informed, aligned and multimodal measures of assessment.

Acknowledgment

This paper is, in part, an output from funding received from The Education and Training Foundation (ETF).

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