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Participants' perceptions of video-enhanced dialogic assessment as reflective practice in international teacher education

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Participants' perceptions of video-enhanced dialogic assessment as reflective practice in international teacher education

Initial teacher education in England is characterised by lesson observation and assessment of teaching evidence against criterion-referenced teachers' standards. In UK-based international teacher training, these situated practices are more challenging because of staff and trainees working different time zones. In 2020, Covid-19 travel restrictions prevented assessors visiting trainees in international schools. Assessment therefore moved to a video-enhanced dialogic assessment process (VEDA), incorporating video-enhanced lesson observation and feedback, along with a dialogic online interview and evaluation of a digital portfolio of evidence. A first cycle of action research carried out in parallel to the change in provision gathered participants' perceptions from recordings. These are themed around the way that technology supported reflection during assessment, and the holistic nature of this approach. Findings suggest that video-enhanced dialogic assessment allows for a deep and authentic assessment experience, and is a better fit as a reflective pedagogy for assessing teachers than the pre-pandemic approach.

Keywords: international teacher education, video-enhanced observation; feedback, reflective practice; dialogic assessment

Introduction

Initial teacher education in England is provided through various routes, all with practical school-based experience at the core (Department for Education 2022). One common option is the Postgraduate Certificate of Education, typically a one-year university-led programme of initial teacher training with academic study to complement school-based placements. Given the requirement for school-based teaching experience, a typical approach is that of a university tutor providing the link between university and trainee, with school-based mentors working directly with the trainee on placements, in a tripartite support model. The university-led academic teaching and support being delivered through a predominantly distance learning model of provision has meant that PGCE programmes offered from England for teachers in international schools are a popular choice for those already teaching in some capacity, or who can secure placements in approved schools overseas.

Initial teacher education in England is arguably characterised by the signature pedagogies (Shulman 2005) of lesson observation and assessment of teaching evidence portfolios that demonstrate how far a trainee's practice meets the government's criterion-referenced teachers' standards (DfE 2011). Lesson observation typically involves at least one observer being present to observe, evaluate and provide feedback, which in turn contributes to the trainee's portfolio. On an international distance learning teacher education programme these situated practices are rendered more challenging as UK and overseas staff may work locally, remotely or asynchronously with trainees across different time zones. However, digital infrastructure and flexible working practices underpin the tripartite support model and university staff visits to international schools ensure quality assurance.

In 2020 Covid-19 travel restrictions prevented assessors visiting international trainees to carry out lesson observations. Against this context and where permissible within different teacher registration authorities' regulations, the international teacher

training team at the focus institution moved to a video-enhanced dialogic assessment process (VEDA), incorporating video-enhanced lesson observation and feedback, along with a dialogic interview and assessment of a digital portfolio of evidence. Video-enhanced lesson observation and dialogic assessment as distinct approaches in teacher education are arguably familiar, if not fully embedded across the sector, but the combination of the two into a quality-assured formative and summative assessment process represented an innovation with potentially transformative impact on the landscape of national and international teacher training.

Rationale for the research

VEDA was piloted in 2020, gaining ethical approval for action research undertaken by academics in parallel to the change in provision. This article is based on data collected from a sample of four completed AOR-QTS assessments from within the larger population of candidates assessed between 2020 and 2021. The guiding research question has been to ask participants what their perceptions of the use of video-enhanced dialogic assessment were, in order to reflect on and develop this alternative model of assessment in international initial teacher education for the post-pandemic era. In this paper, first-cycle participants' perceptions of the process are reported on, giving a sense of how it was received in the early stages of implementation.

This study attempts to turn a reflective lens on a change in practice and explore participants' perceptions of this mode of assessment. In the busy world of pedagogical practice in higher education, and especially on short postgraduate professional teacher education programmes, there is a tendency for evaluation of innovations to be limited to internal institutional review only, without dissemination for consideration by the wider professional and academic field. Where practice is, as in this case, underpinned by a conceptual framework and can be captured and shared as developmental cycles, it will contribute to the discussion on the value and impact of technology-enhanced approaches to hybrid and remote assessment in teacher education.

Conceptual framework: developing reflective teachers through video-enhanced dialogic assessment

The overarching conceptual lens through which this study can be interpreted is that of developing the reflective teacher. From the seminal work of Stenhouse (1975) on teacher-researchers to Schon's (1987) reflective teachers who can reflect both *in* action and *on* action, this approach to educating teachers involves creating reflective professionals who actively seek to develop their own practice. Many scholars of teacher education have taken an interest since then, focusing on reflective practice about teaching (Mann and Walsh 2017; Griffin 2003; Brandt 2008; Körkkö, Kyrö-Ämmälä, and Turunen 2016) and learning to reflect with others (Hammersley-Fletcher and Orsmond 2005; Cosh 1999; 1998; Bell 2001; Kullman 1998), with some looking at reflection using technologies (la Velle et al. 2020; Powell 2005; Reitano 2006; Parkes, Dredger, and Hicks 2013; Newhouse and Lane 2007). Arguably, less attention is given to the specific critical incidents during teaching practice that can demonstrate trainees' summative knowledge and skills (Griffin 2003; Wilson and I'Anson 2006). Wilson and I'Anson's (2006) study of trainee teachers viewing recordings of their own teaching during placement resonates with the current study as it links tutor, trainee, teaching and dialogic reflection together in a holistic model of teacher education, although without the summative assessment aspect. While Mann and Walsh's (2017) study also links

trainees, video and reflective practice, its outcome was improved practice by making reflection ‘doable’, rather than assessable at the end point. Having introduced various linked concepts integral to this study, the following section will look at assessment.

Assessing the development of teachers’ professional knowledge

In England, the Core Curriculum Framework (CCF) for initial teacher training (DFE 2019) specifies knowledge and practice across five core areas – behaviour management, pedagogy, curriculum, assessment and professional behaviours. For assessment purposes these are mapped to the eight Teachers’ Standards (DfE 2011), plus Part Two which specifies behaviour and attitudes that must be demonstrated continuously. The standards cover ‘high expectations’, ‘good progress’, ‘subject and curriculum knowledge’, ‘plan and teach well-structured lessons’, ‘adapt teaching’, ‘accurate and productive use of assessment’, ‘manage behaviour effectively’ and ‘wider professional responsibilities’. On meeting the standards, Qualified Teacher Status (QTS) is recommended at the end of initial teacher training by the provider and awarded by the Teacher Regulation Agency (TRA). QTS is a legal requirement for teaching in government-maintained schools in England and required for many international schools overseas. Currently, the most common way to achieve QTS for teachers in the international sector is the Assessment-Only Route to QTS, on which this article is focused.

In order to conceptualise teacher knowledge so that it can be operationalised in a way that allows for its evaluation, it is useful to explore some of the premises on which its assessment is based. The CCF uses language such as ‘pedagogical and subject knowledge’ (DFE 2019, 29) and ‘content knowledge’ (DFE 2019, 17). It cites authors such as Ball, Thames and Phelps (2008) and their paper on content knowledge for teaching, which is built on Shulman’s (1986) notion of pedagogical content knowledge (PCK). Shulman’s development of pedagogical reasoning, of which PCK is one facet of teacher expertise developed as teachers transform knowledge into a form that can be taught, therefore provides an orientation towards exploring the knowledge and understanding underpinning teachers’ practice. Pedagogical reasoning can be understood from Shulman’s initial framing as a cycle of comprehension of ideas to be taught, transformed through planning into instructional practices, then evaluated and reflected upon. It has continued to receive attention in teacher education (Webb 2002; Achinstein and Fogo 2015; Loughran 2013; Starkey 2012), although a major focus over time has often been on the nuances of the PCK construct (Settlage 2013; Gunstone 2015; Park and Oliver 2008; Nilsson and Loughran 2012; Bertram and Loughran 2012; Mulhall, Berry, and Loughran 2003) in an attempt to understand how to measure and develop this ‘teachability’ (Shulman 1986, 9) factor, and less on the wider pedagogical reasoning process that encompasses it. Assessing PCK has been the focus of scholars interested in doing this through observation (Chan and Yung 2015; Park et al. 2010), lesson study (Nilsson 2014) or quantitative instruments (Maat and Zakaria 2014; Prescott, Bausch, and Bruder 2013). Relatively few studies have focused on summative assessment of professional knowledge in relation to QTS, but Tynan’s (2022) paper reviewing a body of research on trainee teachers’ knowledge critiques criterion-based approaches assessing against the teachers’ standards and highlights the need for further research into different assessment strategies in ITE programmes. Loughran’s pertinent point that teachers are not typically encouraged to ‘spend time talking about teaching in ways that are theoretically robust, or to unpack their teaching in order to show others what they know, how and why’ (2019, 7) points to an opportunity to encourage trainee

teachers to do exactly that in the context of this study. This section has provided a brief summary of literature relating to assessment of trainee teachers' knowledge. The next section explores lesson observation as a key opportunity for assessing trainee teachers' practical teaching skills.

Lesson observation and feedback

Lesson observation has a variety of methods and models (O'Leary 2012). While critiques of the performative aspects of lesson observation that sit uncomfortably within the profession when undertaken for grading or performance management purposes (O'Leary and Wood 2017; Edgington 2016; Cladingbowl 2014), lesson observation during teacher training, the process through which a novice teacher is evaluated by an expert, has a developmental purpose, with the aim of extending the novice's understanding through written and/or verbal feedback (Puttick and Wynn 2021; Martinez, Taut, and Schaaf 2016; Gibson 2006). It is through observation and formal feedback that, according to Puttick and Wynn (2020), good teaching is constructed. While their study of written feedback on over 500 lesson observations confirmed the value of feedback in the process, they argue that there is scope to broaden the evidence considered. As well as teaching evaluation, there is an opportunity for dialogue when supporting trainees to reflect critically (Griffin 2003) and link practice back to theory or research to inform next steps (Husu, Toom, and Patrikainen 2008; Brandt 2008; Kärkkö, Kyrö-Ämmälä, and Turunen 2016; Puttick and Wynn 2020). This reflective element marks something of a shift for the novice as it requires engagement at a professional level: a 'framing and reframing' (Lofthouse and Wright 2012, 89) of actions, leading to professional development as an outcome of the process, a very different scenario to either grading, or assessment, and a move away from the more formal 'monologic' aspects of initial teacher training (Jones, Tones, and Foulkes 2018). While the consensus is that observation is vital pedagogically, there have been greater opportunities for dialogue where trainees have the opportunity to review their own teaching through video recordings, as will be discussed in the next section.

Video-enhanced lesson observation

As video technology has developed over time, it has become more widely used in education to record lessons. More recently, the provision of secure online platforms for hosting and collaboration has meant that review of recorded lesson videos is technologically feasible (Batlle Rodriguez 2016). Irrespective of the specific technologies and software used, the nature of video-enhanced lesson observation echoes that of physically co-present observation in that it seeks observable critical incidents or pedagogically interesting moments that provide insight into teaching. Concerns that 'observational measures provide at best poor approximations' for learning (Coe et al. 2014, 9), such as a quiet class equates to good learning, or lots of hands up shows engagement are as relevant in either approach to lesson observation, itself a 'contested practice of evaluating the quality of teaching and learning' (O'Leary and Wood 2016, 573). Considering video-enhanced lesson observation, however, the flexibility of video described by Jewitt (2012), whereby it is possible to move through the lesson recording in a non-linear way, pausing and replaying sections, allows time for thinking, reflection and the formulation of questions about what is happening in that part of the lesson. Moving away from a one-way observation of lessons and providing feedback, video-enhanced lesson observation opens up the subsequent collaborative possibilities through

dialogue. The evolution of video-based professional development has ranged from third-party discussions of recorded lessons (Koc, Peker, and Osmanoglu 2009) to video clubs (van Es 2012) and peer review (Hammersley-Fletcher and Orsmond 2005; Çelik, Baran, and Sert 2018). However, the ultimate benefit is in the combination of video-as-evidence, specifically facilitating recall, reflection and dialogue (Nind, Kilburn, and Wiles 2015) about what is happening in selected moments, requiring evidence-based reflection. Key to this approach in teacher education, endorsed by Walsh (2021), is the dialogic reflection opportunity, where video evidence can be seen as the catalyst for ‘a more systematic and focused professional dialogue’ (Walsh 2021, 168), giving teachers ‘something to reflect *on* and reflect *with*’ (2021, 167). The distance learning element of the current study’s context means that the video-recorded lesson provided these tools and techniques. While this section has aimed to briefly introduce lesson observation including video-enhanced lesson observation, its critiques and value in teacher education, a recurring theme has been that of dialogue, which, in terms of assessment i.e. dialogic assessment, is discussed next.

Authentic dialogic assessment via the digital viva

The final piece of this conceptual jigsaw is that of authentic dialogic assessment. Assessment can be understood in terms of formative or summative, with assessment *as* learning taking an important role in the lead-up to assessment *of* learning (Black and Wiliam 1998). However, summative assessment can also be formative, where feedback practices aim to move the learner forward (Hattie and Timperley 2016) rather than signalling a terminus. In terms of teacher education, there is an expectation that teachers will continue to meet the standards and improve as they move on into their early careers. There is no sense of a finished product, and so even summative assessment is therefore formative, and opens a dialogue. Ever since Wegerif’s (2007) pioneering work on dialogic education and technology, studies have proliferated on dialogic feedback (Yang and Carless 2013; Jones, Tones, and Foulkes 2018). However, relatively few focus on dialogic assessment in terms of assessing the outcomes of teacher development. Congreve’s (2015) study focused on creating a dialogic space where the observer and observee can ask challenging questions, and while this resulted in critical reflection on the lesson, it was without the benefit of a lesson recording, and was formative rather than summative in nature.

For trainee teachers to demonstrate that the required level has been achieved, insights must be displayed across the full range of teacher knowledge and its application during the practicum period. The practical vehicle for the assessment model under discussion is the assessment interview. This moves towards something more like a viva voce. Indeed, in Carless’ (2002) trial of the mini-viva, he describes this as his inspiration. The Covid-19 pandemic has seen the pragmatic shift to doctoral vivas via videoconferencing, but Scott and Unsworth’s (2018) pre-Covid digital viva as an authentic end of programme assessment method matching final programme assessment to employability resonates most strongly. In this study, authentic assessment is explored in terms of ‘fidelity to the task’ (p. 373) and applying understanding to contemporary and practical contexts. The aim in this health profession education study was specifically to access the candidates’ reflective, critical-thinking and metacognitive competencies. For the purposes of the current study, where the focus is on teachers applying their knowledge and understanding to the range of competencies represented by the teachers’ standards, authentic assessment is understood as being linked to day-to-

day practice in schools. While Scott and Unsworth's participants used their digital viva to record their response, it therefore precluded the interactive elements of the current study.

This conceptual framework section has briefly explored relevant literature in relation to the main areas of the current study. Multiple studies have explored lesson observation and e-portfolios as well-established signature pedagogies for developing teachers (O'Leary 2016; Lofthouse and Wright 2012; Gibson 2006; O'Leary 2012; Brading 2009; Parkes, Dredger, and Hicks 2013). Studies on dialogic assessment and feedback support reflective practice (Wegerif 2007; Yang and Carless 2013; Jones, Tones, and Foulkes 2018; Congreve 2015). While video-enhanced lesson observation and feedback (Calandra and Rich 2014; Marsh and Mitchell 2014; Marsh, Mitchell, and Adamczyk 2010; Kane et al. 2015; Crenshaw 2012; Jones, Tones, and Foulkes 2018) are also well documented and strengthen the utility of observation in developing reflection and dialogue, the conflation of these traditions and technologies opens up some new directions for summative assessment of trainee teachers (Tynan 2022) through and with technology, where there is a gap in current knowledge. With the inescapable necessity to adapt practice during Covid-19, the time is ripe for research into these changing practices. Expanding on these contributions to the research on teacher education, this study explores video-enhanced dialogic assessment for summative assessment of trainee teachers.

Methodology

The Covid-19 pandemic created the conditions for a 'natural experiment' in education because academics had no control over its impact and were required to adapt their practice. The immediacy of the global pivot to online teaching and learning as lockdowns and social distancing came into force in 2020 led to a dramatic upturn in the use of video conferencing (König, Jäger-Biela, and Glutsch 2020; OECD 2021; EEF 2020; Bond 2020). These tools were already well established in distance learning teacher education of the type described. What changed was the inescapable necessity for this technology to be embraced and accepted by those who were less familiar with what it could achieve in comparison to physically co-present modes, on the grounds that, as concluded by the EEF (2020), teaching quality is more important than the mode of delivery. Given that some trainees would or would not be eligible for the video-enhanced dialogic assessment process also because of circumstances beyond their control, a non-equivalent control group research design was possible. The aim of the implementation was not to cause a change in an outcome variable that might result in quantitatively higher attainment. Instead, because the change had to happen anyway, the research/teaching team sought to develop an assessment process that had better fidelity to the pedagogic principles underpinning their approach to initial teacher education. This required better constructive alignment between the training of reflexive practitioners and the mode of assessment against the standards. Assessors as well as candidates could provide feedback on VEDA, 'learning what seems to work best and what the barriers are, modifying the action for the next step in the cycle, and starting again' (Gorard 2013, 153). When exploring potential research designs, Saldaña's comment that 'action research envisions and works for a better future' (Miles, Huberman, and Saldaña 2014, 8) inspired an overarching action research approach to tie together the procedural and developmental requirements for implementing VEDA. In keeping with the pedagogy of the programme, where trainees are encouraged to use

action-reflection cycles (McNiff 2013) to identify and address developments in their own teaching, this action research would also follow the cyclical principles of ongoing planning, acting, observing and reflecting. McNiff references and credits Lewin's 1946 model as informing her own (p. 56) but recommends creating your own model to 'communicate metaphorically the way you live and learn' (McNiff 2013, 65). In terms of planning cycles of action research, the first cycle involved the initial small-group pilot of the process, in preparation for subsequent cycles intended to further develop and refine the VEDA process, represented in Figure 1, below. Contained within each step, the oval shape represents the need for continuous monitoring.

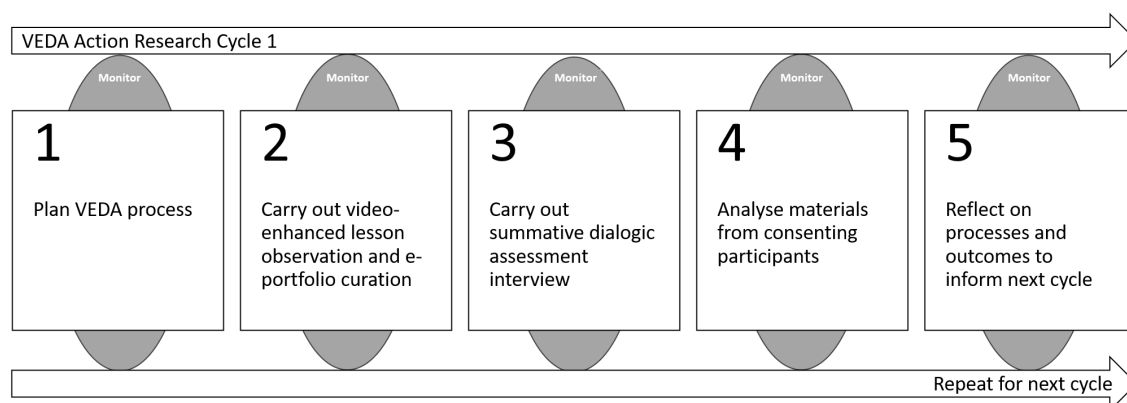


Figure 1: First cycle of video-enhanced dialogic assessment process

This paper reports on the findings from the first cycle, using the completed AOR-QTS assessments as research data, discussed in the section on materials and methods below.

The context of the study

International teacher education at the focus institution has an established, 30-year track record, starting out with a handful of trainees in the Middle East, resulting in PGCE programmes with two points of entry each year, training in the region of 600 trainees per year in over 60 countries and 500 schools around the world. In addition to primary, secondary and early years teaching international PGCE programmes, an assessment-only route to Qualified Teacher Status (AOR-QTS) is offered nationally and internationally, which provides a 12-week path to assessment against the teachers' standards for experienced candidates, but without the training element.

Carrying out video-enhanced lesson observations was already an integrated part of the working practices across the international team. Where in-country tutors or visiting academics were available and/or required by local teacher registration authorities, observations would be carried out in person, otherwise recorded lessons would be submitted to the university Virtual Learning Environment (VLE) via a secure upload and observations undertaken asynchronously by experienced assessors, leading to written developmental feedback. Alternatively, lessons could be live-streamed and recorded for synchronous observation through video-calling software. Practice in video-enhanced lesson observation within the team was informed by the outcomes of previous research (Hidson 2021; 2018). Written lesson observation feedback was stored in candidates' e-portfolios and incorporated into their written reflective record of standards document containing hyperlinks to the selection of material put forward as evidence of meeting each standard, with a written evaluation of how the cluster of evidence exemplified the standard. Summative assessment of the portfolio was undertaken by an

assessor confirming the selection of evidence, reviewing the written evaluation and providing a written final report and outcome. It is worth noting that another assessor may have undertaken the candidate's lesson observations under the pre-Covid approach.

To implement VEDA, two key changes were required. With regards to lesson observation, a key element of the process was to build in the opportunity for observer and observee to discuss the video recording of the lesson i.e. that the assessor would also have been the observer. This would involve the assessor identifying specific segments of the video to review and discuss, with the opportunity to shift to other parts of the video, as opposed to watching the video together in real time. In relation to the summative assessment, the final e-portfolio scrutiny process would be augmented with an online viva where candidates could elaborate on a point under discussion and offer supplementary evidence.

Ethical considerations

For moderation and quality assurance, all lesson observations and dialogic assessment interviews would be recorded, and all e-portfolios made available to the assessors. Ethical approval was granted for use of the meeting recordings, digital artefacts, and semi-structured interviews. Although the researchers were in a position of authority in relation to accreditation, in order to counteract the emotional impact of this in the research interview, candidates were only invited to consider participation in the research element once their assessment was complete. All candidates who were eligible for the full VEDA process were therefore assessed and only then asked whether they would consent to their data being used in the research, and to being interviewed about the experience.

Of particular interest to the ethics panel was the way in which lesson video recordings would be used in the research as they might contain footage of pupils. It was agreed that permission would be sought from the candidate's school gatekeeper (e.g. principal), for the researcher to view any lesson video clips used in the assessment interview. The fall-back position in case of permission difficulties was to carry out the research using only text-based transcriptions of the dialogue in the interview. In addition, the entire process of using video footage in the programmes was reviewed and approved through the university's data protection team to confirm to the ethics panel that it was covered under legitimate interests for the Data Protection Act 2018. This involved updating the information provided to schools about the use of video-recorded lessons and the intended purpose of providing feedback to the trainee, which was already in place as a pre-requisite for entry to the programme. An important point, and one also highlighted in Hidson (2019), was the need for schools to have their own policies in place for video-enhanced lesson observation in their schools.

The early years teaching PGCE and the AOR-QTS programmes piloted the use of VEDA in 2020, aiming to stagger the implementation by starting with small groups, potentially five AOR-QTS candidates and ten early years trainees before involving twenty primary and secondary trainees in a second cycle of development and expansion of the model. The assessment timeline meant that lesson observations would be carried out towards the end of the period of assessed teaching experience, when portfolios would be collated, and the interview would take place. The candidates were administratively grouped only inasmuch as they were on different routes to accreditation: each individual's assessment would be carried out at mutually agreed times.

The four participants, 3 female and one male, presented in this article were candidates on the AOR-QTS route assigned to one assessor. Two were UK-based and two were working in the Middle East. All were experienced secondary-school computing teachers who were now presenting themselves for UK Qualified Teacher Status. Their route allowed the opportunity to carry out video-enhanced lesson observation, development of their e-portfolio and the final summative assessment without the added pressure on them of writing assignments. As a 12-week programme, before Covid-19 they would previously have had a final in-person lesson observation and interview from the visiting assessor. Under Covid-19, this was to be fully replaced by VEDA.

Materials and methods

The materials and methods used for data collection and analysis are very strongly aligned with the nature of the VEDA implementation, ensuring close conceptual coherence (Braun and Clarke 2022). The video lesson observation, e-portfolio and final interview formed the implementation itself: these represent the aspects under discussion in the research interview. This online semi-structured interview was also recorded for analysis (see Appendix 1: Example interview questions – topics and prompts for discussion). The data actively collected for the research, as opposed to the assessment process were: the video recording of the VEDA interview; the video recording of the follow-up interviews and sight/sound of the documents and videos referred to or explored on screen during the process of the interviews i.e. the researcher may have viewed a video or document that was present on the video but did not require access to the artefact itself for the purposes of the research. In addition, the assessors each had to write a final report on the candidate and therefore their own reflective accounts were based on the same prompts used with the candidates in the research interview.

Prior to Covid-19, the online research methods community of practice was comparatively small, with Skype interviews representing something of a methodological frontier (Weller 2015). Researchers embraced approaches ranging from online interviews (Salmons 2014) to full digital ethnography (Pink et al. 2016). In the wake of Covid-19 came a wealth of new expertise around adapting research methods, such as the National Centre for Research Methods Wayfinder materials (Nind, Meckin, and Coverdale 2021). The current research, situated within a distance learning context, and already operating within the methodological heritage of video-based practice (Nind, Curtin, and Hall 2016), selected semi-structured video-stimulated interviews via video conferencing for continued alignment.

Four research interviews were carried out. Each interview was transcribed and structurally organised in the NVIVO 12 qualitative data analysis software. As the assessors as well as the candidates were speaking during the interviews, their comments were analysed as part of the corpus. Initial nodes (codes) were developed from the topics and interview prompts discussed in the interviews (see Appendix 1). Coding took a broadly reflexive thematic analysis approach (Braun and Clarke 2006), inductively identifying interesting aspects of the responses across the set of interviews and then building an interpretation of the experiences of the VEDA process into a set of themes providing insights for developing the model.

The conceptual underpinnings of the research – the idea that reflective practitioners can be developed and assessed through processes that honour the holistic nature of the teaching – are embraced in this reflective approach to interpretation. It is a situation whereby reflective practitioners develop the next generation of reflective

practitioners, and, as practitioner researchers, effectively ‘practice what they preach’ by also reflecting on the outcomes of process in order to understand it better.

Analysis and discussion

The analysis takes the form of a reflexive narrative that engages with the coded data and explains the interpretation of its meaning and significance. The aim is to spotlight the elements most important to answering the research question – that is, the insights from the candidates and assessors that are crucial to understanding and developing the assessment model further. Reflective thematic analysis following Braun and Clarke (2022) encourages a small number of rich, multifaceted themes to be reported as a coherent narrative. Figure 2 shows the project map of the nodes (codes) in NVivo 12, developed as a result of reflexive thematic analysis carried out by coding, recoding, organising and reorganising the semantic and implicit meanings from the corpus. These were based on responses to questions about the video-enhanced dialogic assessment process, so the research interest in participants’ experiences of a technology-driven assessment led to the interpretation and naming of the themes being reported. In keeping with Braun and Clarke, these two themes were developed as central organising concepts to make sense of the ‘story’ of the narrative and named to portray the essence of the interpretation.

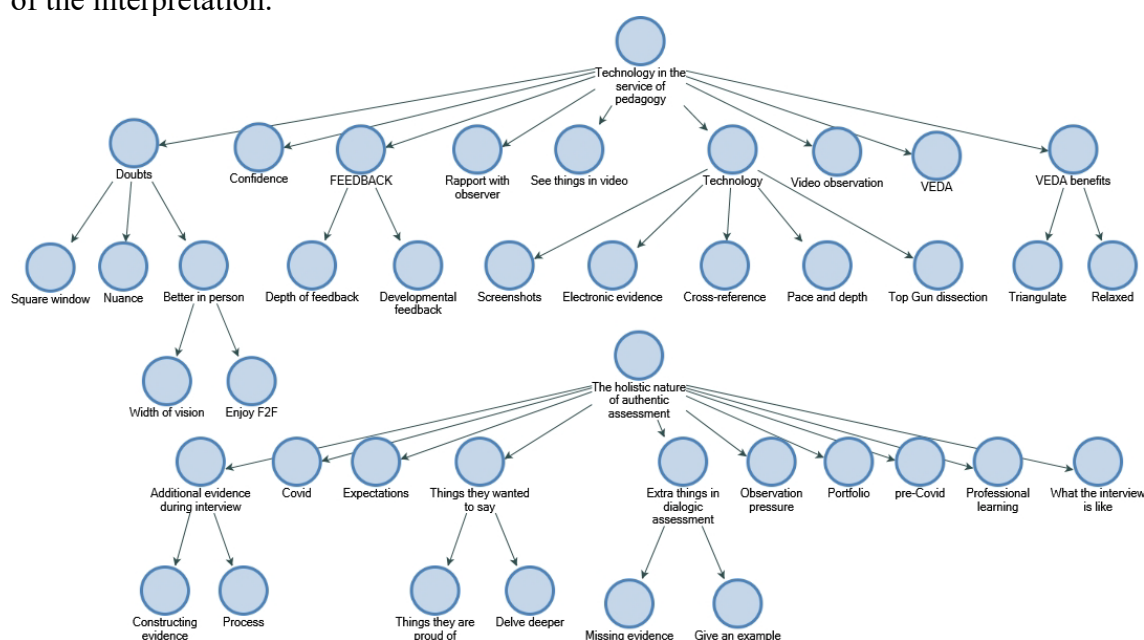


Figure 2: Project map of nodes in NVivo 12

Each theme reported below has a central and distinct concept, exemplified by data extracts. Participants are identified as *Candidate 1, 2, 3, 4* or *Assessor*. The two key themes explored in this paper are *technology in the service of pedagogy* and the *holistic nature of authentic assessment*.

Technology in the service of pedagogy

Given the nature of VEDA, the technology is a necessary focus, but it is the insights into the participants’ experience of and the impacts afforded by the technology that are most relevant. There were two separate elements involving technology – the video-

enhanced lesson observation, and the online interview drawing together all the digital evidence for assessment. Participants reflected on the video-enhanced lesson observation with an insight into what could be seen in the video: Candidate 1 was especially reflective about the way that the observer had taken still frames from the recorded video lesson to embed into the written feedback:

I was surprised by the screenshots that you've taken. To be honest, I've never seen screenshots embedded in any of my feedback, so the thought process of seeing screenshots was very useful...you've got the screenshot of exactly what was happening at that point in time so it's a lot easier for me to understand exactly what it is we're talking about (Candidate 1).

In the way that Jewitt (2012) described, being able to shuttle through the video, pause and focus on interesting moments came to the fore as the assessor selected points of interest (Mann and Walsh 2017) for further reflection. Candidates and assessor could locate the moment through the timestamp and revisit to recall, reflect and discuss in more depth – the specific recall from the moment enables the reflection and subsequent dialogue (Nind, Kilburn, and Wiles 2015). It is through the function of technology that the purpose of the lesson observation changes to invite and facilitate reflection. What Candidate 1 described as the 'thought process' was echoed in Candidate 3's comment 'I learned a lot from that video experience as well, in fact – watching it and talking about it' (Candidate 3). The identification of specific episodes is highlighted by candidates because they can see for themselves what was really happening (Walsh 2021) and discuss with their assessor. From the assessor's perspective, they are immersed in the process during a video observation:

I'm looking so hard, because, you know, I've got a screen rather than a room... I'm trying to bring everything to that experience... And I think that for me, sometimes that it compensates for the limitations of the screen. So whereas I can't just go and dip in like I would if I was in the classroom and I can't make you move the camera so all I can do is be as immersed in the process as possible (*Assessor*).

The hyper-focus depicted by the assessor is a feature of work with video that has been described in terms of professional 'noticing' (Rosaen et al. 2008; van Es and Sherin 2002; Sherin and van Es 2005) identified as adding to the theoretical understanding of the role of video in teacher education as part of video-based professional development. In articulating what is being noticed, the assessor is maximising the opportunities afforded by the technology to involve the candidate in reflection and dialogue that would previously have relied on both their memories of the lesson.

There were some critical reflections on video-enhanced lesson observation, however: from the assessor's comment about having a screen rather than a classroom to observe, to Candidate 1's comment that 'the one area where in-person inspection is better than the video is the width of vision that you have - that subtlety is what you don't get with a video inspection' (Candidate 1). While the assessor had commented on the depth, the candidate commented on the breadth. Coming through strongly, however, was the rapport that candidates felt that they had developed with the observer through the online feedback process, and even their enjoyment of the feedback process (Candidate 2), despite this taking place in online interview as opposed to physical co-presence. Three candidates expressed that they would have enjoyed a face to face process, that they 'would have liked it' (Candidate 3), notwithstanding that the online

interview ‘was like meeting a friend, just having a chat’ (Candidate 2). These themes were also described by Weller (2017), and support Lofthouse and Wright’s (2012) findings about the development of a collaborative and reciprocal professional relationship as observer and candidate focused on discovering insights into teaching from the video, as a crossing of real and metaphorical boundaries. While Weller’s interviews took place online, Lofthouse and Wright’s did not and it is interesting, despite the high stakes involved in an assessment process such as this, that the online interview component seems not to have precluded this approach as an authentic and dialogic experience. By looking in depth at participants’ experiences in this way, it seems that technology has not impeded the process, but that participants had actively embraced it.

The most compelling interview comment that contributed to the overarching theme of technology in the service of pedagogy was almost overlooked. Candidate 1 had asked the researcher whether they remembered the old *Top Gun* (*Top Gun* 1986) film, ‘when they’re in the room and they’re dissecting the aeroplane’s movements’ (Candidate 1). Following up later, the researcher watched the relevant clip approximately 51 minutes into the film where the ‘Tactical Aircrew Combat Training System’ was used to replay training performance on screen for analysis and evaluation by students and instructors. Reflecting on the scene and its pedagogical importance for pilot training was the clearest example of the candidate’s perception of the purpose of video-enhanced lesson observation and feedback. The analysis of performance in teaching, as with any other profession, develops the ‘habits of mind’ of the practitioner, what Shulman terms ‘the socialization into the practices and values of a field’ (2005, 59). It follows, then, that a significant impact of video-enhanced lesson observation is that it shows technology in the service of pedagogy, and that participants perceived it as such. The ways that the technology was useful were the most striking points being made. Given that these candidates were teachers of computing talking about teaching, it is perhaps unsurprising that pedagogy came to the fore, but what was unexpected as a finding was how little the change in technology seemed to be an issue, and the extent to which the participants accepted and moved beyond it, even though their subject specialism might have encouraged a deeper focus on the technology itself.

The holistic nature of authentic assessment

The complexity of teaching is widely recognised, with variations on what this looks like (Coe et al. 2014; Puttick and Wynn 2021) and how it might be evaluated (Griffin 2003; Scott and Unsworth 2018). Achieving QTS requires that the assessor is satisfied that, on the available evidence, the candidate is meeting the teachers’ standards at a level commensurate with a new entrant to the profession. Candidates reflected that the evidence requirements were similar, irrespective of the mode of assessment: ‘preparing the documentation would have probably been very similar... I’m quite rigorous anyway’ (Candidate 1). Being very familiar with online teaching by this point, none of the candidates were concerned by the idea of the video interview, they expected a constructive and professional experience, in line with the type of mentoring relationship embedded in initial teacher education (Jones, Tones, and Foulkes 2018) and that the assessor would not be trying to catch them out, but actively promoting reflective practice (Walsh 2021), which can be developed by scaffolding the support through effective dialogue (Mann and Walsh 2017).

What is most interesting about the assessment was the wide-ranging nature of the discussion. Anchored by the eight teachers' standards, the assessor felt able to explore, dependent on the discussion:

What we're doing is we are constructing the [evaluation] through our discussion... I've been through all of these and I have another list of things with about 20 questions under each standard, and I've been dipping in and out... typing as I've been going, a few things that I thought were interesting to mention (*Assessor*).

This was recognised by Candidate 1: 'I felt that it wasn't a frog-marching from A to B. I definitely felt like I was able to input from my side and I was able to sort of direct you immediately to evidence' (Candidate 1). While Tynan's (2022) concerns about criterion-based assessment are valid given that ultimately, the standards must be confirmed as met, it is possible to treat the assessment process in a more holistic way. Practice was described as 'integrated' by the assessor, as it consisted of various elements:

'You articulate your practice really clearly... You talk confidently, and you produce authentic situations where I can hear these things being applied and not applied just as one thing, but as integrated practice. How things, as they do at this stage of your teaching, can fit together (*Assessor*).

A perceived benefit of the dialogic assessment for the candidates was being able to introduce additional evidence, which also tended to integrate the teachers' standards. Candidates embraced being able to delve deeper: 'I just had so many things I've written down, just in case you were going to ask me - like a whole notebook full' (Candidate 4), to discuss things they were proud of: 'like SOLO taxonomy... or when [my mentor] was doing my assessment and she just thought it was good how we did the grouping where I, I now realise that' (Candidate 2). The candidates realising, at the end of their assessment period, just how extensive their experiences have been and how they have been able to embrace the opportunity to validate their practice is a powerful sub-theme, expressed clearly by Candidate 1:

'I know that this is not meant to be a 12-week instructional process, but I have learnt loads in doing it... and then I'm thinking, well, why aren't I thinking about these things all the time? And so, they become part of my practice' (Candidate 1).

Being able to look back and realise the authenticity of their examples and how past experience can be used as evidence of understanding is valuable. Holistic assessment such as this allows greater scope for showing authentic learning. It moves beyond quantitative tallying against numbered standards. As it will always be an expert who assesses the novice, the expectation is that the evidence will present a reflection on practice that the expert can interpret against the standards. Tynan (2022) reported on their study where self-evaluation and reflection addressed a need for candidates to be able to convince assessors of their knowledge and understanding as they competed for jobs. Moving to a dialogic assessment process therefore allows for a more forensic, and more professional exploration of practice that prepares candidates to meet the expectation of the teaching profession. Mann and Walsh (2017) reported on the difficulties of assessing reflective practice but concluded that 'the process of reflective articulation does not report pre-existing thought. It distils, clarifies or even reframes an

experience... and increases awareness' (Mann and Walsh 2017, 19). Candidates experiencing the video-enhanced dialogic assessment process were given the chance to develop and articulate their awareness of their own practice. The holistic self-awareness, much like Loughran's (2019) 'sense of knowing' uncovered and articulated through the dialogic assessment is arguably the capstone of the process.

The scope of this study was limited in terms of the number of assessments in the first cycle of the research and therefore restricted to the recordings of fully-completed assessment interviews (four) undertaken by one assessor at this point in the project, in one subject area (computing) on one pathway (the assessment-only route to QTS). While separate interviews were carried out with the candidates, only the original comments made by the assessor during the interview were included in the corpus as opposed to a separate interview with them. Since the VEDA project was in its infancy at that point, the practical evaluation was predominantly procedural i.e. to ensure fitness for purpose and that the assessments could be quality-assured. The research element was focused on gaining participants' insights with the dual purpose of feeding back into the development of the process as well as contributing to a nascent scholarly understanding of VEDA. It remains to be seen from analysis of later cycles whether these candidates' comfort levels with technology confounded the interpretation of the findings that suggest that the pedagogy was more important than the technology in this video-enhanced dialogic assessment process. However, the insights developed from this first cycle of action research allow for a number of conclusions to be drawn about participants' perceptions of the use of video-enhanced dialogic assessment of the evidence presented of meeting the teachers' standards.

Conclusions, next steps and implications for teacher education

While a small-scale first cycle of action research must necessarily constrain what can be concluded about the video-enhanced dialogic assessment process, it nonetheless served to distil insights from the participants in this study. As a pilot project, the next steps involved pooling findings with the early years teaching pilot of VEDA, refining the model and scaling up. From the reported themes in this first cycle, several key procedural actions were decided. Firstly, that the reflective nature of video-enhanced lesson observation and feedback process was promising enough that all trainees and candidates should experience it. For the second cycle every candidate would submit a recorded lesson for video-enhanced observation whether or not they were going to move to the full dialogic assessment. Training for a wider pool of assessors would focus on the quality of feedback around the CCF core concepts outlined earlier, which would still be required in written form. The perceived value of the dialogic assessment was also such that every trainee would be offered the opportunity to book a final dialogic assessment with their assessor. Collating and curating a portfolio of evidence with initial evaluations by the trainee would still be the starting point for the dialogic assessment.

The insights and analysis have led to several conclusions that advance our understanding of the VEDA process. Firstly, that technology was not the barrier that might be expected. While candidates were able to critique aspects of its use, it attracted minimal comments in contrast to perceptions of what was being enabled by the use of video and online interviewing. The technologies only appeared to have significance in relation to what use could be made of them, and this led to the overarching theme of technology being in the service of pedagogy. The pedagogy held primacy. Secondly, the dialogic assessment, where candidates were involved in an interactive discussion

about their own evidence led to a sense of authentic integration and contributed to theming the perceptions in relation to the holistic nature of VEDA. The wholeness of the process seemed to fit with the aim to develop reflective teachers; the formative pedagogy became a summative assessment tool and a good fit as a signature pedagogy in keeping with Shulman's (2005) tenets. Thirdly, while the shift to VEDA was initiated by the necessity of the pandemic, the promising nature of the quality of interaction suggests that this is a situation where a return to the original process would seem counterproductive. The temporary solution appears to be a better fit as a reflective pedagogy for assessing teachers than its predecessor.

Further research into video-enhanced dialogic assessment is needed so that a more complete picture of how it can be used most effectively and what further theoretical insights can be gained. As a general process in relation to summative assessment against criterion-referenced teachers' standards, it has promise. In teacher development it is often the subject-specific pedagogical content knowledge (PCK) that warrants most interest, and the video-enhanced dialogue as a formative assessment approach would be a fruitful topic for further investigation. It is the detail of the interactions that therefore may hold significant appeal: a granular exploration of how the formative use of the VEDA process might support pre-service teachers to develop, reflect on and evaluate their knowledge. If, as Mann and Walsh (2017) assert, the reflective process distils, clarifies and reframes experience, then a logical next step for research is to unpack the interactions within the dialogic space. It may then be possible to explore the extent to which the digital aspect is significant and whether offline, physically co-present approaches dilute or enhance the process. The evidence here suggests that video-enhanced dialogic assessment represents a promising way for teacher educators to connect assessment more purposefully with the pedagogy employed during the period of initial teacher training.

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Appendices

Appendix 1: Example interview questions – topics and prompts for discussion

Thank you for giving your time to have this interview. Our team has been developing the process that you have just been through and we are keen to understand how you have found the process. We want to continue to improve it as a way to assess your practical teaching and evidence in a way that encourages discussion and dialogue as part of the assessment.

Lesson observation questions (live streamed or video)

- (1) Can you describe the lesson? How did it go? What kind of feedback did you get?
- (2) How much did you get to contribute ideas and comments during the feedback?
- (3) How did you find this compared to in-person lesson observation?
- (4) Did you feel that the observer gave feedback compared to the kind of feedback you would usually receive in a lesson observation?
- (5) In how much depth did you discuss the lesson?
- (6) How far was this a discussion between you and the observer and how far was it a summary from the observer. Do you think that any of the comments you made were taken on board by the observer? What made you think this?

Review of evidence portfolio questions

- (1) Please describe the portfolio of evidence that you submitted.
- (2) Were you worried about this part of the process? What were you worried about?
- (3) Can you describe the assessment? How did it go? What kind of things did you discuss?
- (4) How much did you get to contribute ideas and comments during the process?
- (5) How did this process compare to what you expected?
- (6) Did you feel that the observer gave feedback compared to the kind of feedback you would usually receive in a lesson observation?
- (7) In how much depth did you discuss the lesson?
- (8) How far was this a discussion between you and the observer and how far was it a summary from the observer?
- (9) Do you think that any of the comments you made were taken on board by the assessor? What made you think this?
- (10) Did you discuss any new examples or evidence that you had not already presented?

Open questions and follow-up as necessary.