

Video-based learning helps pre-service teachers prepare for practicum: An Australian university's findings

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To boost pre-service teachers' (PSTs) classroom readiness and equip them with necessary tools to thrive on practicum, it is vital to supplement traditional theoretical training with innovative pedagogical approaches (Brandenburg et al., 2016). Exploring the impacts of video-based learning (VBL) to prepare PSTs for their first school placement, our study surveyed 102 PSTs' perceptions of the usefulness of microteaching videos delivered by high-performing peers. The findings indicated that the videos were particularly beneficial for online students and those from regional and remote communities who had limited opportunities to participate in face-to-face teaching demonstrations. The respondents reported learning new teaching ideas from their peers and improving their ability to notice engagement techniques, their awareness of verbal and non-verbal language and their capacity to reflect on effective and ineffective pedagogical choices. Most importantly, the participants felt it was beneficial to see "other newbies' strengths and weaknesses", which confirms observations that PSTs tend to be intimidated by videos featuring experienced teachers but are keen to view case studies of practice presented by their peers.

Introduction

Pre-service teachers (PSTs) who are preparing for their professional experience placements often experience uncertainty about what effective teaching practice looks like in action (Du Plessis & Razmjooe, 2025; Ma & Cavanagh, 2018; Zhang et al., 2023). This is especially the case for postgraduate PSTs who may not have been in the classroom for many years, as well as international students who are not familiar with the Australian educational context (Barton et al., 2015).

Reviews of initial teacher education (ITE) often critique the perceived theoretical emphasis within ITE programs, and the limited links between theory and practice (Department of Education Skills and Employment, 2022; Du Plessis & Razmjooe, 2025). Attending workshops, engaging with academic texts, and completing assessments can be conducive to learning about teaching and learning, but often less adequate for learning the more practical components of the profession. PSTs often report that they learn more in their professional experience placements, where experiential, situated learning is predominant, than they do during the theoretical components of their degree (McGarr et al., 2017). A 2025 study conducted by Du Plessis and Razmjooe, in which 179 Australian PSTs were surveyed, found that many PSTs perceived insufficient connections between their theoretical units and their placement experiences. Participants reported a lack of preparation for helping them to effectively engage students in real classroom settings, and some stated that they were limited in their ability to meaningfully apply theoretical knowledge during their placements. These findings contribute to concerns about graduate readiness for the classroom (Department of Education Skills and Employment, 2022).

This theory-to-practice gap in ITE can be attributed to several structural and pedagogical challenges associated with the university teaching environment. For example, a core focus of ITE programs is to introduce PSTs to effective pedagogical strategies (Asare & Amo, 2023). However, teacher-educators may find it difficult to give context-specific modelling within the tertiary setting to bridge the theory-to-practice gap (Goodwin et al., 2014). Such challenges may be exacerbated by a lack of time, a lack of student attendance, and teaching PSTs across multiple disciplinary backgrounds. Beliefs about the role of the teacher-educator may play a part as well. For example, a South African study conducted by Phillips and Condy (2023) found that only 34% of teacher-educators placed importance on providing good modelling of effective teaching practices. In addition, the online learning environment can make it even more challenging to give authentic demonstrations that reflect the real-world classroom environment (Downing et al., 2019).

Due to the structural limitations of ITE programs, there is a need for the incorporation of innovative approaches that can provide more authentic and accessible learning experiences for PSTs (Brandenburg et al., 2016). The use of video-based learning (VBL) is one strategy that can address these challenges. This was explored within the context of a postgraduate secondary ITE course at Curtin University in Perth, Western Australia. Supported by a grant provided by the University, nine high-performing postgraduate PSTs were auditioned and selected to present engaging 'lesson hooks' for their major teaching areas (a 'hook' in this study refers to a brief activity at the start of a lesson that activates students' prior knowledge, promotes engagement, and builds a bridge between old and new learning experiences, Turville et al., 2013). These lesson hooks were recorded in a simulated teaching environment with peers acting as students to create VBL resources illustrating high-impact teaching strategies (or HITS, see Hattie & Clarke, 2018; Hattie & Zierer, 2019) for future PSTs in the course.

A survey was subsequently conducted to evaluate a group of postgraduate PSTs' perceptions about the usefulness of such digital teaching resources for their teaching practice. The study was guided by the following research questions:

1. To what extent were the VBL resources perceived to be useful by the participants?
2. How could these VBL resources be improved to meet the participants' needs?

Through examining these questions, this research aimed to better understand how VBL can enhance the preparation of PSTs and bridge the perceived theory-to-practice gap in ITE.

Literature review

Use of VBL in ITE

In exploring methods for bridging the theory-to-practice gap in ITE, research has shown that using VBL resources can be effective (Seidel et al., 2013; So et al., 2009; Sonmez & Hakverdi-Can, 2012). Videos can be employed to provide demonstrations of various teaching practices in either simulated or authentic classroom environments. A systematic

review and meta-analysis by Weng et al. (2023) found that PSTs exposed to VBL scenarios demonstrated more gains in terms of pedagogical and content knowledge, as well as problem-solving skills and reflection experiences than non-VBL control groups.

Furthermore, past studies have found that engaging with video-based resources provides PSTs with the opportunity to develop their observational and analytical capabilities – what researchers term ‘noticing’ skills (Sonmez & Hakverdi-Can, 2012; Telgmann & Müller, 2023; Van Es & Sherin, 2021). These skills are critical during their professional experience placements, where PSTs are required to observe their mentor teacher as an important component of their learning. The ability to notice and reflect on the teaching practices of others helps to bridge the theory-to-practice gap (Barnhart et al., 2024) and assists in PSTs obtaining the skills necessary to make well-informed decisions to optimise their student learning (Brandenburg et al., 2016).

In addition, some studies outside Australia have demonstrated that PSTs benefit from watching videos of their peers. So et al. (2009) reported that four Chinese PSTs, who were asked to share videos of their own teaching practice, formed a collaborative learning community, whereby they were actively involved in reflecting and providing feedback on each other’s teaching. According to the researchers, these activities enhanced the PSTs’ individual conceptual understanding of effective pedagogy, which improved their ability to distinguish between effective and ineffective teaching practices while enabling them to reflect on what strategies may suit their unique professional identities and teaching contexts. Similarly, Fadde and Sullivan (2013) also highlighted the benefits of viewing peer PSTs’ teaching videos. In this quasi-experimental study with 63 American PSTs, the researchers found that the PSTs who engaged with peer video viewing, annotation and discussion developed better reflective skills than those in the control group. The authors suggested that peer videos (or even ‘near peers’, i.e. those at similar stages of development) can be used as a powerful prompt for discussion, where each person’s observations can be compared and developed further, providing an opportunity to reflect on the links between theory and practice.

In Australia, VBL has the potential to improve online PSTs’ experience in the context of online teacher education having become increasingly popular, especially during and after Covid-19 (Carpendale et al., 2020; Walker et al., 2024). Interviewing teacher educators from 18 Australian universities, Downing et al. (2019) reported that many Australian PSTs living in rural or remote areas experience isolation and have limited opportunity to connect with peers or other teachers, besides what their placement provides them. Because of these difficulties, it is not surprising that online PSTs may not achieve the same teaching qualities and standards as face-to-face PSTs (Walker et al., 2024). In another study also about online teacher education in Australia, Carpendale et al. (2020) found that digital technologies such as Zoom and cloud campus have been employed to boost the learning experience of PSTs at three universities in Victoria but they tend to be used for low-level, teacher-centred tasks. A systematic review of studies into Australian teacher education by Dymont and Downing (2020) indicated that technological pedagogical innovations such as chat rooms, digital games and virtual laboratories have received increasing attention from Australian universities. However, it appears that limited

research has been conducted regarding the potential use of VBL to enrich the teaching repertoire of Australian PSTs; nor has there been much research that compares the usefulness of VBL for online PSTs and face-to-face counterparts. These are the gaps that the current study endeavoured to address.

Risks of over-reliance on VBL during ITE

Whilst video-based teaching resources have many potential benefits in preparing PSTs for their professional practice, there is also some research that highlights some potential risks or limitations in using videos, especially when there is an over-reliance on them as a primary instructional tool (e.g. Seidel et al., 2013). One limitation is the passive nature of watching videos, which are consumed as fixed content and do not allow much interactivity. If the videos are not used effectively within structured activities such as discussion and reflection, there is a likelihood that this degree of passivity may lead to superficial engagement (Gaudin & Chaliès, 2015). If PSTs do not critically reflect or engage with what they are learning, they may end up developing limited understandings of pedagogical strategies and may not properly consider if the strategy would be effective or suitable within their own contexts. It is also important that PSTs are given opportunities to rehearse or apply what they observe, so that the learning does not stagnate at the purely cognitive level but is able to evolve through an embodiment of the learning (Gaudin & Chaliès, 2015).

Another important consideration regarding the use of VBL is learning should be embedded in authentic contexts (Ndebele et al., 2023). Videos, particularly those that record simulated environments, and heavily edited, may not adequately represent the very complex nature of real classroom environments. They generally only represent one vantage point of the classroom, resulting in a “keyhole effect” (Gaudin & Chaliès, 2015). This may limit the ability of PSTs to gain a more comprehensive and nuanced understanding of the realities of the classroom.

In addition, it can sometimes be difficult to get a sense of how a teacher makes ‘on-the-spot’ decisions, as well as employ a high degree of emotional intelligence and physical presence through watching videos (Hegna & Ørbæk, 2024). As there is no real-time interaction with live students, PSTs do not experience the complex dynamics of the classroom. Therefore, due to this disembodied, superficial nature, watching videos may give PSTs a false sense of confidence, which can then impact them negatively if they are faced with a more demanding or complicated scenario whilst on their placement, which they do not have the skills to effectively navigate (Dassa & Nichols, 2019). This could cause disillusionment or negatively impact self-efficacy.

Finally, videos may reflect certain cultural or pedagogical biases, which may have the effect of prioritising certain practices or ‘ways of knowing’ over others, potentially marginalising specific individuals or groups of students (Henrikson & Lau, 2022). Therefore, teacher-educators need to ensure that they are considering strategies for promoting culturally responsive teaching practices through the video content that they are selecting, and the activities that are designed around it (Henrikson & Lau, 2022).

Method

Context of the study

The study was conducted in a professional experience unit (*Professional Experience 1*) at Curtin University to prepare postgraduate PSTs for their first school placement. Supported by a University grant, the researchers auditioned and recruited high-performing PSTs enrolled in the Graduate Diploma in Education and the Master of Teaching courses, who were taught together in the same *Professional Experience 1* unit, to design and deliver a lesson hook in a simulated classroom setting. The first phase of the project produced nine digital artefacts as summarised in Table 1.

Table 1: Nine video artefacts

Lesson hook	Teaching area	Teaching topic	Intended students	High-impact teaching strategies (HITS)	Video length min:sec	Video views
1	Drama	Introduction to drama: Giants, wizards and heroes	Year 7	Acting and competitive learning	5:19	52
2	English	Creative writing	Year 9	“Show, don’t tell” technique	5:59	67
3	English	Persuasive speech	Year 9	Value line	12:23	38
4	Humanities & Soc. Sci. (HASS)	Ancient Rome: marketplace simulation	Year 7	Role-playing	5:56	57
5	Maths	Constant, variable and coefficient	Year 7	Role-playing	6:18	41
6	Maths	Area of triangles and rectangles	Year 7	Contextualised problem-solving and competitive learning	6:38	30
7	Maths	Probability	Year 7	Real-life examples	5:07	39
8	Media arts	<i>Photoshop</i> and editing	Year 12	Inductive teaching and real-life examples	9:12	35
9	Science	Phenotype and genotype	Year 10	Physical response and group discussion	8:10	62

Notes: See Hattie and Clarke (2018) and Hattie and Zierer (2019) for explanations of the HITS in the fifth column. The video views in the last column were recorded after the videos were shared with the survey participants for two weeks.

The videos were uploaded to the university’s online platform called *Echo360* and circulated to 115 postgraduate PSTs enrolled in the subsequent iteration of *Professional Experience 1* to provide them with additional resources to prepare them for live classroom observations and teaching during their first practicum.

The second phase of the project was to survey the viewers’ perceptions of the usefulness of these VBL resources for their teaching development. Figure 1 illustrates one of the creative hooks delivered by the high-performing PSTs.

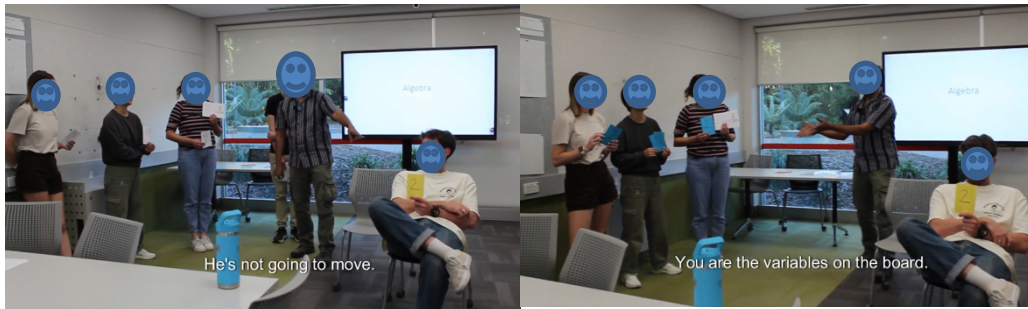


Figure 1: The mathematics hook *Constant, variable and coefficient*, in which the 'teacher' employed role-playing to engage target year 7 students

Survey participants

To be in this ITE course, the PSTs had already completed at least a bachelor degree and were training for one year (Graduate Diploma in Education) or two years (Master of Teaching) to become a secondary teacher, qualified to teach students aged 12 to 18 years (AITSL, 2023). They came from a wide range of teaching areas and were not streamed according to disciplines. Of 115 PSTs (aged 25 to 46), 72 were enrolled as online students due to family and work commitments and geographic locations (Open Universities Australia, 2025) while 43 were enrolled in face-to-face classes. The former had limited access to live teaching demonstrations due to their mode of enrolment. Their pattern of tuition included one 60-minute real-time collaborative session per week for ten weeks, in which their unit coordinator presented theoretical content about lesson planning and high-impact teaching strategies ('HITS'; see Hattie & Clarke, 2018; Hattie & Zierer, 2019).

There were some interactive learning tasks such as break-out group discussion, debating and screensharing, similar to other synchronous video conferencing teaching programs reported in the literature (e.g. Dymont & Downing, 2020; Grammens et al., 2022). Despite the availability of live lessons, most online PSTs in this class tended to listen to the recorded sessions in their own time due to their other commitments (also referred to as *asynchronous online learning*, Lehtinen et al., 2023). The face-to-face students, on the other hand, attended on-campus workshops for 120 minutes per week, also for ten weeks, where they not only learned theoretical content but also actively participated in micro-teaching and demonstrations.

Professional experience is a stressful, high stakes assessment (Mansfield, 2020; Squires et al., 2022). Therefore, it was necessary to supplement the prescribed syllabus with additional resources to set the PSTs up for success. With that purpose, the VBL artefacts in Table 1 were shared during the fifth week of the teaching period, after the PSTs had been equipped with some knowledge about effective lesson planning and HITS. After fourteen days, a survey was conducted anonymously to evaluate the viewers' perceptions of the usefulness of these video resources. Students had ten days to complete the survey (from 14 July 2025 to 25 July 2025). It is worth noting the survey participants were not in the same cohort as those who delivered the hooks, although both groups were in the respective first semester of their postgraduate ITE course, with a six-month gap between

the cohorts (they would fit Fadde and Sullivan’s (2013) concept of ‘near peers’). Therefore, it could be assumed the results of the survey were not influenced by any partiality due to known connections. Moreover, anonymity ensured that the respondents were not coerced into providing positive answers to please the researchers. This design thus encouraged honest feedback and optimised the reliability of the findings (Kennedy, 2008; Ruel, 2019).

Data collection and analysis

The online survey sent to the participants (Appendix) included quantitative questions (Q1 and Q2) to allow for identification of trends and patterns (Jimenez & Zepeda, 2017) and open-ended questions to encourage the respondents to elaborate on their quantitative choices (Q3, Q4 and Q5). Although the instrument was disseminated to 115 enrolled class members, there were only 102 PSTs who actively engaged with the unit, demonstrated by their participation in online and face-to-face learning activities and their submission of assessments (indicated as “actual engagement with the unit” in Table 2). 13 students did not view Collaborate recordings, submit assessments nor go on placement. It is worth noting that viewing peer-teaching videos was not compulsory to pass the unit. Those were only used as supplementary materials for the course.

As can be seen in Table 2, there was a marked disparity in the response rate of the two groups. About 43% of the online PSTs responded while only about 12% of the on-campus counterparts participated in the study. According to a meta-analysis of educational research by Wu et al. (2022), the average response rate to online surveys is 44% while according to Poynton et al. (2019), the average response rate is 34%, ranging from 0.4% to 100% depending on sample sizes, research topics and availability of incentives (e.g. cash or lotteries). Our number was slightly lower than Wu et al.’s (2022) reported average as we refrained from offering the participants any incentives, to promote honest feedback. However, the average response rate of this study was still within the acceptable range (Poynton et al., 2019; Wu et al., 2022) to achieve a meaningful understanding of the research objectives, especially when there were a significant number of qualitative responses to complement the quantitative data.

Table 2: Response rates of online versus face-to-face students

	Online students	Face-to-face students	Total
Enrolment	72	43	115
Actual engagement with the unit	61	41	102
Responded to the survey	26	5	31
Response rate	42.6%	12.2%	30.4%

Microsoft *Excel* was used to design visual representations of the quantitative responses while the qualitative responses were inputted into *NVivo* (Lumivero, 2025) to code according to our research questions, namely:

1. To what extent were the VBL resources perceived to be useful by the participants?
2. How could these VBL resources be improved to meet the participants' needs?

To ensure a high level of inter-rater reliability and optimise the replicability of the findings, the researchers provided clear definitions for each category and independently coded the data as advised by Jimenez and Zepeda (2017). The straightforward nature of the research questions also made it easy to code the responses, resulting in a high agreement percentage (over 90%, calculated using the formula suggested by Roaché, 2017). The small number of discrepancies was discussed until both researchers reached a consensus. Figure 2 provides a screenshot of the codebook with the parent-codes and child-codes that emerged from the data.

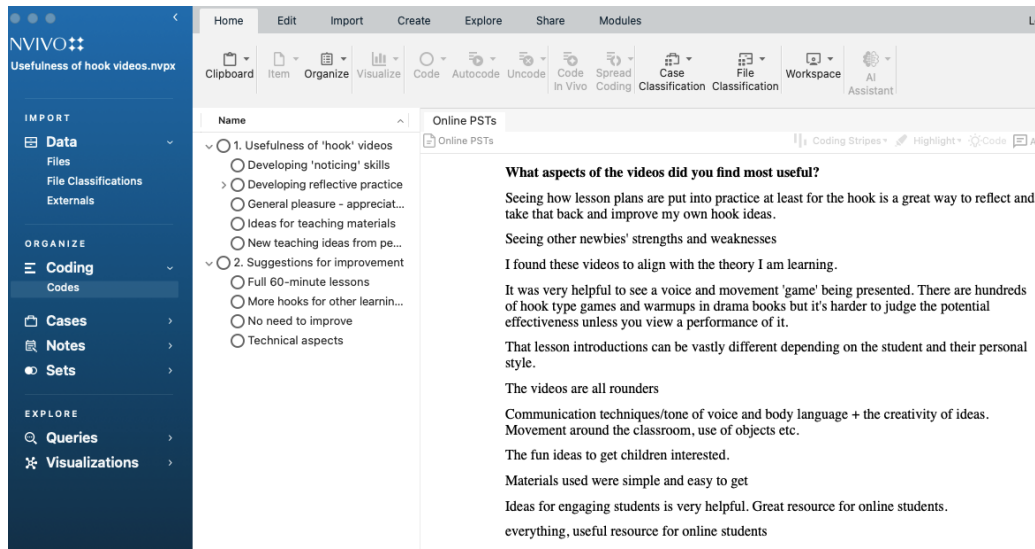


Figure 2: *NVivo* codebook to code qualitative responses (use web or PDF reader 'zoom in' function to read)

Results

Perceived usefulness of VBL resources

Table 3 illustrates the respondents' opinions about the usefulness of the digital artefacts. It can be observed that the VBL resources were perceived to be more beneficial by online PSTs, with 85% choosing the 'very useful' response as opposed to only 20% of the face-to-face participants (visualised in Figure 3).

Table 3: Online and face-to-face PSTs' perceptions of the usefulness of the videos

Participants	Very useful	Useful	Somewhat useful	Not useful	Not useful at all	Total
Online PSTs	22	3	1	0	0	26
Face-to-face PSTs	1	4	0	0	0	5

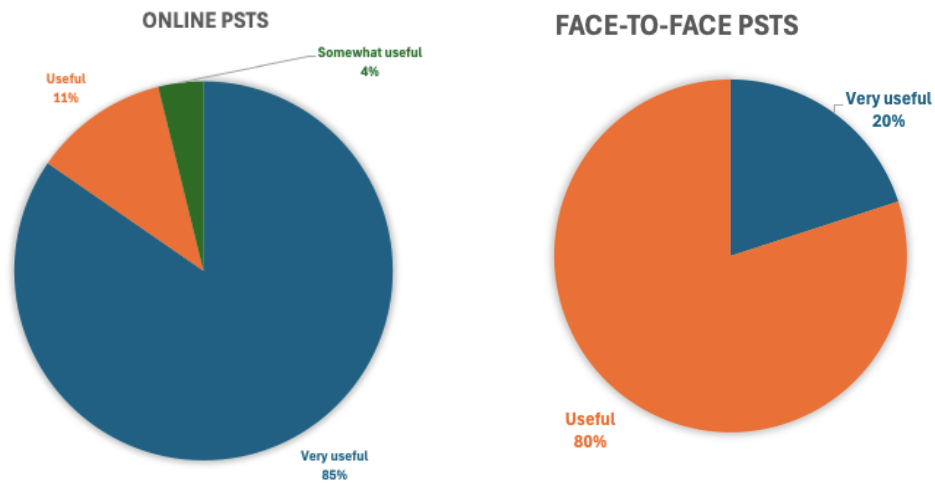


Figure 3: Respondents' perceptions of the usefulness of the VBL resources

Figures 4 and 5 demonstrate the specific benefits that the respondents felt they gained from the videos. The most noteworthy are learning new teaching ideas, development of the capacity to engage in reflective practice, and development of 'noticing' and self-awareness.

As illustrated in Figures 4 and 5, both groups reported the biggest benefit gained from the videos was learning new teaching ideas from their peers (85% of the online respondents and 100% of the face-to-face counterparts).



Figure 4: Benefits of the videos perceived by online respondents

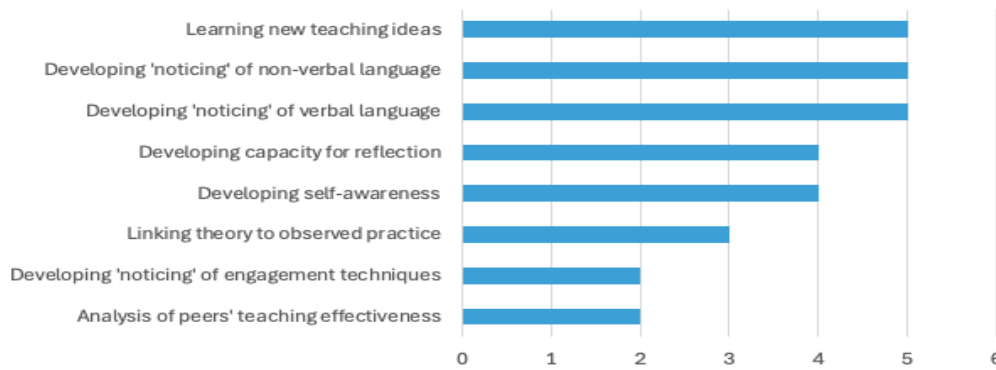


Figure 5: Benefits of the videos perceived by face-to-face respondents

The most common comments were:

- (1) Seeing how lesson plans are put into practice at least for the hook is a great way to reflect and take that back and improve my own hook ideas. (online PST)
- (2) After watching these videos, I would like to introduce more hands-on hooks to engage the students. (online PST)
- (3) The fun ideas to get children interested. (online PST)
- (4) Ideas for engaging students is [sic] very helpful. Great resource for online students. (online PTS)
- (5) Even across a range of subjects I was able to find tips, skills and ideas that are relevant to my own learning area. (face-to-face PST)

Another significant benefit of the videos highlighted by both groups was the development of their capacity for reflection (46% of the online respondents and 80% of the face-to-face counterparts, Figures 4 and 5). While reflection plays a crucial role to promote professional growth (Fadde & Sullivan, 2013; So et al., 2009; Yuan & Mak, 2018), PSTs often find reflective practice abstract, elusive and detached from classroom teaching, due to a lack of real experience (Yuan et al., 2022). However, the PSTs in the study indicated they became more cognisant of their own verbal and non-verbal language after viewing their peers deliver the teaching hooks, accentuating the usefulness of video technology in promoting self-awareness in ITE. Below are some remarks on aspects of their practice the PSTs wanted to improve, all of which came from online respondents:

- (1) I think I'll need to tailor my words and make myself clear of the instructions to make.
- (2) I want to develop clearer speech and more coherent instruction.
- (3) I will like [sic] to work on effective/clear instruction and confidence whilst speaking.
- (4) I'd like to work on my body language to be more confident.
- (5) I'd like to work on projecting my voice more strongly and more clearly while maintaining my natural tone. I also want to build the habit of thorough preparation, which helps me feel more confident. Most importantly, I hope to stand firmly both physically and emotionally, and trust that what I'm saying is valuable and worth hearing.

Confidence and clarity of speech appeared to be two notable goals that the respondents felt they needed to pay attention to. Contrary to the commonly reported concern that PSTs are unable to pinpoint the precise areas of limitation to work on (e.g. Lee, 2010; Yuan et al., 2022), the participants in this study could identify specific, actionable aspects of their teaching that were in want of refining. In addition to the perceived weaknesses above, two PSTs reflected on their English after viewing their peers' deliveries.

- (1) The part of the video where Sandy [pseudonym] talks about the Aussie accent made me realise that the Aussie accent like my own needs a lot of refining. I can work on this. (online PST)
- (2) I should practise better pronunciation of non-English words and verbally admit to my students that I am not an expert in languages other than the ones I know, which in the teaching context is only English. (face-to-face PST)

Some PSTs provided a critical analysis of the hooks they watched, illustrating their ability to observe, reflect and evaluate their peers' teaching effectiveness. The following comments demonstrated the viewers' development of the capability to 'notice' elements that constitute good teaching such as clarity of instruction, deep professional knowledge of the subject matter and even engagement of all students to support their full participation. As discussed in the literature review, by observing videos of classroom interactions, PSTs can sharpen their 'noticing' skills, which makes them become more responsive to students' needs (Barnhart et al., 2024; Sonmez & Hakverdi-Can, 2012; Telgmann & Müller, 2023).

- (1) At the end of one Maths hook, the teacher appeared to rush through transitions and didn't get the instructions fully across, which may limit some students' ability to fully engage with the clarity. (online PST)
- (2) The teacher in the maths hook video should engage all students more evenly. I feel some year 7 students would be unsure what was going on at that speed. They should mention all relevant algebraic terms including 'substitution'. The students may understand the teacher's instructions, but the teacher did not utter the term while rushing through, at the end of the Hook session. (face-to-face PST)
- (3) In the Media Arts hook I can see the importance of paying attention to how an activity rolls out and moves on till its conclusion. It could mean managing enthusiasm in students or perhaps disruption. (online PST)
- (4) I think the way the English hook (*Value Line*) was done was more appropriate for a drama class than an English class. I know that there is some cross over in two areas but think the 'teacher' focused too much on performance techniques such as voice, tone and body language. (face-to-face PST)

The PSTs' analyses of the Maths and Media Arts hooks above (examples 1, 2 and 3) indicate that the viewers put themselves in the target students' shoes to consider alternative ways to improve practice. The critique of the English hook (example 4), on the other hand, examined the teacher's effectiveness from the professional knowledge lens. They represent two important aspects of teacher noticing: attending (identifying features worth focusing on) and interpreting (connecting observed practice to principles of effective teaching; van Es & Sherin, 2021). These observations were rather insightful,

given that the PSTs in the study were not provided with any structured guiding questions to facilitate their critique and analysis.

There were also comments on the materials used by the ‘teachers’ in the videos, which contained some squishy plush toys (the “*Show, don’t tell*” English hook, Figure 6), chocolate coins used as money (the *Ancient Rome marketplace* HASS hook, Figure 7), an assortment of sweets (the *probability* Maths hook), markers and paper in other hooks. The respondents seemed delighted that effective teaching did not require exotic realia and that ordinary everyday items could be turned into useful teaching aids to optimise learning.

- (1) Materials used were simple and easy to get. I believe I can do that too. (online PST)
- (2) I like the use of toys and food items to engage students' interest. (online PST)

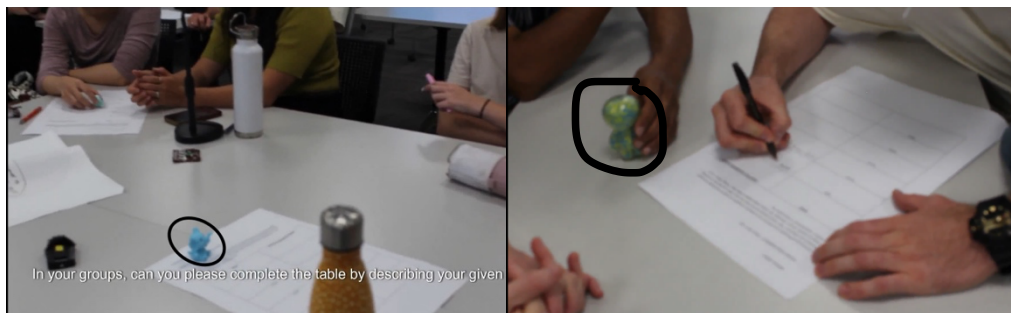


Figure 6: Squishy plush toys used in the *Show, don’t tell* English hook

Overall, the respondents expressed their general pleasure at watching peer PSTs, who were also in training as themselves, deliver the hook activities. This finding aligns with Fadde and Sullivan (2013) and Lehtinen et al. (2023), and also confirms Towers and Rapke’s (2011) observation that PSTs tend to be intimidated by teaching videos delivered by accomplished teachers but are fascinated by those presented by their peers.

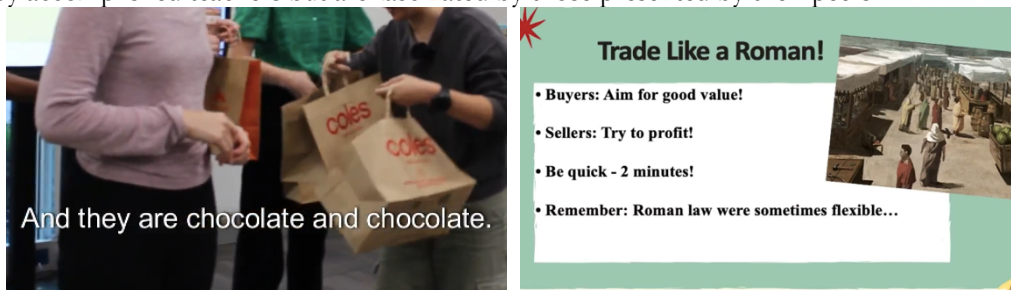


Figure 7: Chocolate coins used as money in the *Ancient Rome marketplace* HASS hook

- (1) They are fantastic and so inspirational! I'd love to have an opportunity to get involved too. (face-to-face PST)
- (2) It's great to see other newbies' strengths and weaknesses. (online PST)
- (3) I thought the one's [sic] I watched were fantastic, especially the first one for drama, Giants, Wizards and Heroes [Figure 8]! This 'hook' to learn is so important to

capture student interest from the start. I'm sure other students will find these videos very helpful as well as being very entertaining. (online PST)

- (4) It was very helpful to see a voice and movement 'game' being presented. There are hundreds of hook type games and warmups in drama books but it's harder to judge the potential effectiveness unless you view a performance of it. (online PST)

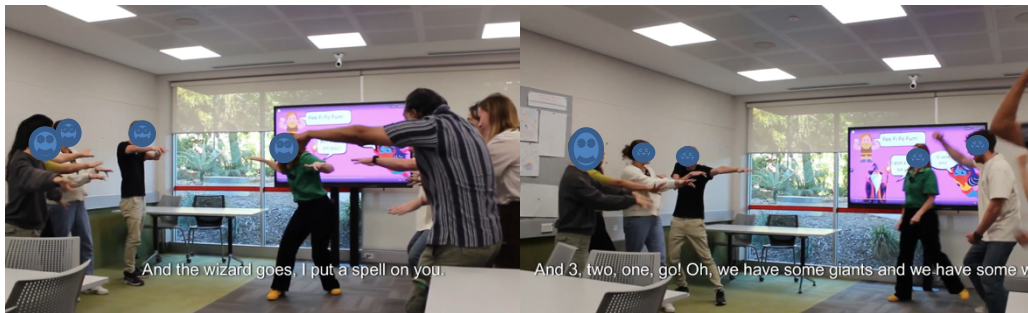


Figure 8: The drama hook, *Giants, Wizards and Heroes*, which delighted many PSTs

How the VBL resources could be improved to meet PSTs' needs

There were several suggestions for expanding the project to include more videos of other teaching areas, all of which came from online students. Dressed as 'suggestions', these requests for expansion were a compliment for the usefulness of the VBL resources.

- (1) Would love one for The Arts (Visual Arts). Great one for Media; I've watched a couple for English also.
- (2) More HASS related ones! (I'm biased)
- (3) Have more resources for HASS, please.
- (4) Loved these videos, more examples of good practice please.
- (5) I'd love to see a full 60-minute lesson showing a lesson plan in practice!
- (6) Maybe some more from each subject area.
- (7) I'd like to see a 10 min conclusion.

A few online PSTs pointed out the need to mimic what would happen in a real classroom situation. The comments below underscore a limitation of the project: not accurately capturing authentic school students' responses to the teacher's questions and directives, for the actors were all adults.

- (1) Maybe a role-play of a hook going badly and how a teacher responds in the moment.
- (2) Would be good to get "students" to try and simulate younger student responses – misconceptions etc so that we can watch how to use this as a learning opportunity. It looks "easier" than it might be perhaps as the adult students have a greater understanding of the task. (I watched the science video)
- (3) The 'students' in the biology hook knew everything about phenotype and genotype. Please make it more realistic.

This lack of authenticity, which other studies about simulated microteaching have also reported (e.g. Yuan et al., 2022), may limit viewers' understanding of how complex classroom interactions are (Dassa & Nichols, 2019; Hegna & Ørbæk, 2024; Ndebele et al.,

2023). Apart from some suggestions for the contents of future videos, there were some comments on the technicalities of the videos or the PowerPoint slides used by the student-teachers. These deficiencies would be attended to in the next phase of the project.

- (1) The videos would benefit from better preparation of camera position, shots, sound recording and classroom layout. (online PST)
- (2) Perhaps use less background music because it's distracting. (face-to-face PST)
- (3) Some 'teachers' should take better care of their spelling on the slides. (face-to-face PST)

In addition, although VBL offers useful visual and auditory information (Mayer, 2021; 2024; Mayer & Moreno, 2003), heavily edited artefacts may lead to a distortion of classroom interactions or offer a limited view of the complexity of teaching, as moments deemed unnecessary or redundant may have been removed by the editor, resulting in a "keyhole effect" (Gaudin & Chaliès, 2015). There is a possibility of PSTs being compelled to watch videos of practice unconsciously shaped and filtered by the editor's perspective. These are important points that the researchers must keep in mind when creating future VBL resources. Despite the above limitations, there were some encouraging comments from some PSTs in the suggestion section.

- (1) I would not add too much to the video which is a stand-alone clip that speaks for itself. This would be exactly the type of thing I would love to do in my first drama class. Thank you for the resources! (online PST)
- (2) It was already a beautifully designed and inspiring project, so I don't have major suggestions (face-to-face PST)

Discussion: Implications for teacher education

The findings of this study suggest that microteaching videos in a simulated classroom setting are powerful instruments to enrich PSTs' teaching repertoire and develop their critical thinking, reflective practice and noticing skills, enabling them to connect observed practice to principles of effective teaching. Given that the *Professional Experience* unit in which the PSTs were enrolled was not designed to cater for a specific teaching discipline, the pedagogical strategies and lesson hook activities demonstrated in the video collection were particularly useful in providing the PSTs with new ideas for teaching their specific subject area. In fact, 85% of the online respondents and 100% of the face-to-face counterparts reported this as the biggest gain from the videos (Figures 3, 4 and 5).

Although VBL was appreciated by both online and face-to-face respondents, this innovative approach appeared to be much more beneficial for online PSTs, as evidenced by a significantly higher survey response rate from this group (Table 3). This is not surprising since asynchronous online learning has been contended to lack the advantages of an instructor's role in face-to-face settings such as modelling, ad hoc interventions and explanations of pedagogical choices during demonstrations and microteaching (Hegna & Ørbæk, 2024). As explained previously, the main mode of learning for the online PSTs in this study was text-based reading and video conferencing, the latter of which offers some useful real-time communicative features such as eye contact, body language, voice projection, discussion, debating and screensharing, as often reported in the literature

about synchronous online classes (Grammens et al., 2022). However, many of these benefits are lost if students are only listening to recordings, and it also does not offer an opportunity to perform microteaching in a simulated classroom environment. Learning to teach requires a 'hands-on' approach that online PSTs do not have the luxury of being exposed to until their placements (Downing et al., 2019), which explains their apparent appreciation of the digital artefacts in the findings.

Another noticeable gain VBL offered the respondents in this study was "a window into practice" (Barnhart et al., 2024, p. 59) that facilitated deepened analytical and critical thinking. This is a distinct benefit that has also been observed in other studies about VBL outside Australia (e.g. Chan, 2023; Prilop et al., 2020). Capturing classroom interactions in its richness, video technology is an effective tool for systematic, evidence-based reflection (Yuan et al., 2022). In this study, it was observed that VBL helped to transform abstract notions of reflective practice into "disciplined noticing" (Barnhart et al., 2024, p. 58) of concrete, tangible aspects of teaching that could be further ameliorated. This is because observers of teaching videos can not only view the teaching once, but they may pause and replay selected segments to examine and analyse to engage in deep reflection (Chan, 2023; Kleinknecht & Schneider, 2013; Prilop et al., 2020). As presented in the findings, the teaching hook videos stimulated PSTs' insightful reflection on their peers' in-situ pedagogical choices and on their own areas of weakness regarding clarity of instruction, English language use, confidence and non-verbal communication.

Although VBL offers a strong stimulus for noticing and reflection, it has some potential constraints as discussed in the literature review. In particular, there is a danger of creating passivity in learning when over-relying on video technology (Gaudin & Chaliès, 2015). To make VBL even more useful for PSTs, structured activities should be designed to guide self-reflection, peer-reflection and the development of teacher noticing (Barnhart et al., 2024). PSTs would benefit from collective practice of analysing teaching videos as a class, whether it be online or face-to-face, to re-evaluate their values and beliefs in the light of others' opinions (Fadde & Sullivan, 2013; So et al., 2009; Yuan & Mak, 2018). In line with social constructivist principles, comparing different points of view is more effective to facilitate self-regulation than just one PST analysing a teaching video in isolation (Magnoler & Pentucci, 2017). Apart from viewing and critiquing videos of others, PSTs can also be encouraged to record their own microteaching lessons to analyse to promote reflective practice and professional growth, a method that has been found to strengthen the connection between theory and practice in ITE courses and prepare PSTs effectively for their professional experience in a school context (Rossi & Fedeli, 2017).

Limitations and conclusion

The significance of this study's findings should be considered within the context of its limitations. The unique situation of this university in which postgraduate PSTs were neither streamed according to their disciplines nor their degrees means that the findings may not be generalisable to other contexts. In addition, future research should employ longitudinal methodologies across multiple cohorts to strengthen the understanding of VBL's impact on PSTs' learning.

Despite these limitations, these findings offer important implications for ITE programs in Australia. Whilst VBL has become increasingly popular in ITE elsewhere (Barnhart et al.; 2024; Luna & Selmer, 2021; Prilop et al., 2020), the use of VBL in Australian teacher education is still in its infancy and remains under-researched (Carpendale et al., 2020; Dymont & Downing, 2020). Most videos used to demonstrate practice come from the Australian Institute for Teaching and School Leadership (AITSL, 2017) and predominantly feature highly accomplished practitioners. The findings from this research suggest that PSTs would derive increased value from observing their peers' microteaching videos, which authentically capture both strengths and areas for improvement.

Overall, the strategic and thoughtful utilisation of video-based resources in ITE demonstrates considerable potential for increasing pedagogical visibility and accessibility for PSTs who are learning their craft. When implemented effectively, these resources can foster richer, more collaborative and inclusive learning experiences. VBL serves as a powerful strategy for overcoming the theory-to-practice gap and is a critical component in developing reflective and adaptive teachers who are better prepared for the complex challenges of the classroom.

Declaration

The researchers declare that there are no known conflicts of interest. The project was approved by the University's Human Research Ethics Committee to collect data from the university's students.

References

- AITSL (Australian Institute for Teaching and School Leadership) (2017). *Explore all our tools and resources*. <https://www.aitsl.edu.au/tools-resources>
- AITSL (Australian Institute for Teaching and School Leadership) (2023). *Teacher migration services and support: Applicant checklist*. https://www.aitsl.edu.au/docs/default-source/assessment-for-migration-forms/afm-checklists/october2023/tmss_secondary_checklist.pdf
- Asare, P. Y. & Amo, S. K. (2023). Developing preservice teachers' teaching engagement efficacy: A classroom managerial implication. *Cogent Education*, 10(1), article 2170122. <https://doi.org/10.1080/2331186X.2023.2170122>
- Barnhart, T., Johnson, H. J. & Tekkumru-Kisa, M. (2025). Pre-service teachers notice student thinking: Then what? *Journal of Teacher Education*, 76(1), 57-70. <https://doi.org/10.1177/00224871231220604>
- Barton, G. M., Hartwig, K. A. & Cain, M. (2015). International students' experience of practicum in teacher education: An exploration through internationalisation and professional socialisation. *The Australian Journal of Teacher Education*, 40(8), 149-163. <https://doi.org/10.14221/ajte.2015v40n8.9>
- Brandenburg, R., McDonough, S., Burke, J. & White, S. (2016). *Teacher education: Innovation, intervention and impact*. Springer Nature Singapore. <https://doi.org/10.1007/978-981-10-0785-9>

- Carpendale, J., Delaney, S. & Rochette, E. (2020). Modeling meaningful chemistry teacher education online: Reflections from chemistry preservice teacher educators in Australia. *Journal of Chemical Education*, 97(9), 2534-2543.
<https://doi.org/10.1021/acs.jchemed.0c00718>
- Chan, K. K. H. (2023). Using classroom video-based instruments to characterise pre-service science teachers' incoming usable knowledge for teaching science. *Research in Science & Technological Education*, 41(1), 147-169.
<https://doi.org/10.1080/02635143.2021.1872517>
- Dassa, L. & Nichols, B. (2019). Self-efficacy or overconfidence? Comparing preservice teacher self-perceptions of their content knowledge and teaching abilities to the perceptions of their supervisors. *The New Educator*, 15(2), 156-174.
<https://doi.org/10.1080/1547688X.2019.1578447>
- Department of Education Skills and Employment (2022). *Next steps: Report of the Quality Initial Teacher Education Review*. <https://www.education.gov.au/quality-initial-teacher-education-review/resources/next-steps-report-quality-initial-teacher-education-review>
- Downing, J. J., Dymont, J. E. & Stone, C. (2019). Online initial teacher education in Australia: Affordances for pedagogy, practice and outcomes. *The Australian Journal of Teacher Education*, 44(5), 57-78. <https://doi.org/10.14221/ajte.2018v44n5.4>
- Du Plessis, A. & Razmjooe, M. (2025). The promise of a strong beginning and the reality of pre-service teachers' professional experience learning: Understanding the lived experiences of pre-service teachers preparing for teaching. *Teachers and Teaching*, 1-20.
<https://doi.org/10.1080/13540602.2025.2512101>
- Dymont, J. E. & Downing, J. J. (2020). Online initial teacher education: A systematic review of the literature. *Asia-Pacific Journal of Teacher Education*, 48(3), 316-333.
<https://doi.org/10.1080/1359866X.2019.1631254>
- Fadde, P. & Sullivan, P. (2013). Using interactive video to develop preservice teachers' classroom awareness. *Contemporary Issues in Technology and Teacher Education*, 13(2).
<https://citejournal.org/volume-13/issue-2-13/general/using-interactive-video-to-develop-preservice-teachers-classroom-awareness>
- Gaudin, C. & Chaliès, S. (2015). Video viewing in teacher education and professional development: A literature review. *Educational Research Review*, 16(16), 41-67.
<https://doi.org/10.1016/j.edurev.2015.06.001>
- Goodwin, A. L., Smith, L., Souto-Manning, M., Cheruvu, R., Tan, M. Y., Reed, R. & Taveras, L. (2014). What should teacher educators know and be able to do? Perspectives from practicing teacher educators. *Journal of Teacher Education*, 65(4), 284-302. <https://doi.org/10.1177/0022487114535266>
- Grammens, M., Voet, M., Vanderlinde, R., Declercq, L. & De Wever, B. (2022). A systematic review of teacher roles and competences for teaching synchronously online through videoconferencing technology. *Educational Research Review*, 37, article 100461.
<https://doi.org/10.1016/j.edurev.2022.100461>
- Hattie, J. & Clarke, S. (2018). *Visible learning: Feedback*. Routledge.
<https://www.routledge.com/Visible-Learning-Feedback/Hattie-Clarke/p/book/9781138599895>
- Hattie, J. & Zierer, K. (2019). *Visible learning insights*. Routledge.
<https://doi.org/10.4324/9781351002226>

- Hegna, H. M. & Ørbæk, T. (2024). Traces of embodied teaching and learning: A review of empirical studies in higher education. *Teaching in Higher Education*, 29(2), 420-441. <https://doi.org/10.1080/13562517.2021.1989582>
- Henrikson, R. & Lau, W. S. (2022). Celebrating diversity in every classroom: Culturally responsive perspectives on video analysis for teacher development. *International Dialogues on Education*, 9(2), 46-70. <https://doi.org/10.53308/ide.v9i2.270>
- Jimenez, A. M. & Zepeda, S. J. (2017). *Building the plane in flight: Establishing post hoc inter-rater reliability coefficients in an educational context*. SAGE Publications. <https://doi.org/10.4135/9781473958050>
- Kennedy, J. (2008). Anonymity. *Encyclopedia of survey research methods*. <https://doi.org/10.4135/9781412963947.n19>
- Kleinknecht, M. & Schneider, J. (2013). What do teachers think and feel when analyzing videos of themselves and other teachers teaching? *Teaching and Teacher Education*, 33, 13-23. <https://doi.org/10.1016/j.tate.2013.02.002>
- Lee, I. (2010). Writing teacher education and teacher learning: Testimonies of four EFL teachers. *Journal of Second Language Writing*, 19(3), 143-157. <https://doi.org/10.1016/j.jslw.2010.05.001>
- Lehtinen, A., Kostiaainen, E. & Näykki, P. (2023). Co-construction of knowledge and socioemotional interaction in pre-service teachers' video-based online collaborative learning. *Teaching and Teacher Education*, 133, article 104299. <https://doi.org/10.1016/j.tate.2023.104299>
- Lumivero (2025). *NVivo 15 - the most trusted qualitative analysis software (QDA) is even better*. Lumivero. <https://lumivero.com/products/nvivo/>
- Luna, M. & Selmer, S. (2021). Examining the responding component of teacher noticing: A case of one teacher's pedagogical responses to students' thinking in classroom artefacts. *Journal of Teacher Education*, 72(5), 579-593. <https://doi.org/10.1177/002248712111015980>
- Ma, K. & Cavanagh, M. S. (2018). Classroom ready? Pre-service teachers' self-efficacy for their first professional experience placement. *The Australian Journal of Teacher Education*, 43(7), 134-151. <https://doi.org/10.14221/ajte.2018v43n7.8>
- Magnoler, P. & Pentucci, M. (2017). Videos in teacher training. In P. G. Rossi & L. Fedeli (Eds.), *Integrating video into pre-service and in-service teacher training* (pp. 146-167). IGI Global. <https://doi.org/10.4018/978-1-5225-0711-6.ch008>
- Mansfield, C. F. (Ed.) (2020). *Cultivating teacher resilience: International approaches, applications and impact*. Springer. <https://doi.org/10.1007/978-981-15-5963-1>
- Mayer, R. E. (2021). *Multimedia learning* (3rd ed.). Cambridge University Press. <https://www.cambridge.org/highereducation/books/multimedia-learning/FB7E79A165D24D47CEACEB4D2C426ECD#overview>
- Mayer, R. E. (2024). The past, present, and future of the cognitive theory of multimedia learning. *Educational Psychology Review*, 36, article 8. <https://doi.org/10.1007/s10648-023-09842-1>
- Mayer, R. E. & Moreno, R. (2003). Nine ways to reduce cognitive load in multimedia learning. *Educational Psychologist*, 38(1), 43-52. https://doi.org/10.1207/S15326985EP3801_6

- McGarr, O., O'Grady, E. & Guilfoyle, L. (2017). Exploring the theory-practice gap in initial teacher education: Moving beyond questions of relevance to issues of power and authority. *Journal of Education for Teaching*, 43(1), 48-60. <https://doi.org/10.1080/02607476.2017.1256040>
- Ndebele, C., Legg-Jack, D. W. & Tabe, H. T. (2023). Understanding preservice teachers' perspectives on challenges experienced during work integrated learning. *EUREKA: Social and Humanities*, 4, 48-58. <https://doi.org/10.21303/2504-5571.2023.002858>
- Open Universities Australia (2025). *Curtin University*. Open Universities Australia. <https://www.open.edu.au/universities/curtin-university>
- Phillips, H. N. & Condy, J. (2023). Pedagogical dilemma in teacher education: Bridging the theory practice gap. *South African Journal of Higher Education*, 37(2), 201-217. <https://doi.org/10.20853/37-2-4610>
- Poynton, T. A., DeFouw, E. R. & Morizio, L. J. (2019). A systematic review of online response rates in four counseling journals. *Journal of Counseling & Development*, 97(1), 33-42. <https://doi.org/10.1002/jcad.12233>
- Prilop, C. N., Weber, K. E. & Kleinknecht, M. (2020). Effects of digital video-based feedback environments on pre-service teachers' feedback competence. *Computers in Human Behavior*, 102, 120-131. <https://doi.org/10.1016/j.chb.2019.08.011>
- Roaché, D. J. (2017). Intercoder reliability techniques: Percent agreement. In M. Allen (Ed.), *The Sage encyclopedia of communication research methods* (pp. 752-752). SAGE Publications. <https://doi.org/10.4135/9781483381411.n260>
- Rossi, P. G. & Fedeli, L. (2017). *Integrating video into pre-service and in-service teacher training*. IGI Global. <https://doi.org/10.4018/978-1-5225-0711-6>
- Ruel, E. E. (2019). *100 questions (and answers) about survey research*. SAGE Publications. <https://doi.org/10.4135/9781506348803>
- Seidel, T., Blomberg, G. & Renkl, A. (2013). Instructional strategies for using video in teacher education. *Teaching and Teacher Education*, 34, 56-65. <https://doi.org/10.1016/j.tate.2013.03.004>
- So, W. W.-M., Pow, J. W.-C. & Hung, V. H.-K. (2009). The interactive use of a video database in teacher education: Creating a knowledge base for teaching through a learning community. *Computers & Education*, 53(3), 775-786. <https://doi.org/10.1016/j.compedu.2009.04.018>
- Sonmez, D. & Hakverdi-Can, M. (2012). Videos as an instructional tool in pre-service science teacher education. *Eurasian Journal of Educational Research*, (46), 141-158. <https://files.eric.ed.gov/fulltext/EJ1057307.pdf>
- Squires, V., Walker, K. & Spurr, S. (2022). Understanding self-perceptions of wellbeing and resilience of preservice teachers. *Teaching and Teacher Education*, 118, article 103828. <https://doi.org/10.1016/j.tate.2022.103828>
- Telgmann, L. & Müller, K. (2023). Training & prompting pre-service teachers' noticing in a standardized classroom simulation – a mobile eye-tracking study. *Frontiers in Education (Lausanne)*, 8, article 1266800. <https://doi.org/10.3389/feduc.2023.1266800>
- Towers, J. & Rapke, T. (2011). Preservice teachers' learning from an online, video-based, mathematics professional development resource. *International Electronic Journal of Mathematics Education*, 6(1), 5-26. <https://doi.org/10.29333/iejme/258>

- Turville, J., Allen, L. G. & Nickelsen, L. M. (2013). *Differentiating by readiness: Strategies and lesson plans for tiered instruction, Grades K-8*. Routledge.
<https://www.routledge.com/Differentiating-By-Readiness-Strategies-and-Lesson-Plans-for-Tiered-In/Allen-Turville/p/book/9781596671379>
- Van Es, E. A. & Sherin, M. G. (2021). Expanding on prior conceptualizations of teacher noticing. *ZDM Mathematics Education*, 53, 17-27. <https://doi.org/10.1007/s11858-020-01211-4>
- Walker, R., Morey, V., Dobson, M. & Green, A. (2024). Pathways towards equity: Achievements by online initial teacher education graduates across Australia. *Issues in Educational Research*, 34(4), 1638-1658. <https://www.iier.org.au/iier34/walker-r.pdf>
- Weng, X., Ng, O.-L. & Chiu, T. K. F. (2023). Competency development of pre-service teachers during video-based learning: A systematic literature review and meta-analysis. *Computers & Education*, 199, article 104790.
<https://doi.org/10.1016/j.compedu.2023.104790>
- Wu, M.-J., Zhao, K. & Fils-Aime, F. (2022). Response rates of online surveys in published research: A meta-analysis. *Computers in Human Behavior Reports*, 7, article 100206.
<https://doi.org/10.1016/j.chbr.2022.100206>
- Yuan, R. & Mak, P. (2018). Reflective learning and identity construction in practice, discourse and activity: Experiences of pre-service language teachers in Hong Kong. *Teaching and Teacher Education*, 74, 205-214. <https://doi.org/10.1016/j.tate.2018.05.009>
- Yuan, R., Mak, P. & Yang, M. (2022). 'We teach, we record, we edit, and we reflect': Engaging pre-service language teachers in video-based reflective practice. *Language Teaching Research*, 26(3), 552-571. <https://doi.org/10.1177/1362168820906281>
- Zhang, J., Cabrera, J., Niu, C., Zippay, C. & Dietrich, S. (2023). Pre-service teachers' perceived preparedness in clinically oriented and traditional teacher preparation programs. *Journal of Education*, 203(3), 639-650.
<https://doi.org/10.1177/002205742111053581>

Appendix: Survey

The PSTs were sent two links, one for online students and one for face-to-face students.

This project has been approved by the University's Human Research Ethics Committee.

I have received information regarding this research and had an opportunity to ask questions. I believe I understand the purpose, extent and possible risks of my involvement in this project, and I voluntarily consent to take part.

1. How useful are videos like these to promote the professional learning of pre-service teachers?
 - a. Very useful
 - b. Useful
 - c. Somewhat useful
 - d. Not useful
 - e. Not useful at all

2. Is there anything you've gained from watching the hook videos? Please tick one or more boxes.
- Learning new teaching ideas
 - Developing self-awareness
 - Developing capacity for reflection
 - Linking theory to observed classroom practice in a video form
 - Developing 'noticing' of verbal language
 - Developing 'noticing' of non-verbal language
 - Developing 'noticing' of engagement techniques
- Comments: _____
3. What aspects of the videos did you find most useful? Why?

4. What improvements would you suggest for future video resources?

5. Is there anything else you'd like to comment on? You can use this space to elaborate on your responses to the previous questions.

THANK YOU FOR YOUR TIME!

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