



# Initial Teacher Education and the use of video technology in Open University Partnership schools

The use of video technology for reflection on lessons was found to be inconsistent. There is a need to support embedding the use of video technology in student teacher reflection.

**Project lead:**

Alison Glover – [alison.glover@open.ac.uk](mailto:alison.glover@open.ac.uk)

Funded by: Praxis – WELS Centre for Scholarship and Innovation



# Praxis Scholarship Research Full Project Report

## 1. Project Details

|                            |  |                          |           |
|----------------------------|--|--------------------------|-----------|
| <b>Project title:</b>      | Initial Teacher Education and the use of video technology in Open University Partnership schools |                          |           |
| <b>Project number:</b>     | PRAXIS 2022/23 01 AG   |                          |           |
| <b>Project lead name:</b>  | Alison Glover  |                          |           |
| <b>Project start date:</b> | September 2022   | <b>Project end date:</b> | July 2023 |
| <b>Team Members</b>        | Matthew Jones, Catharine Bleasdale, Sarah Stewart, Angela Thomas, Trudi Rees-Davies.             |                          |           |

## Project Report

### 1. Abstract

The use of video technology in the classroom, for experienced, and student teachers has grown in recent years. The potential to use the technology to support critical reflective practice is becoming more recognised. This research involved student teachers studying a Postgraduate teaching course and those who support them. A questionnaire, and one-to-one and group discussions explored the benefits and challenges of using video technology for reflection. The findings are mixed, with the use of video technology reported to be inconsistent. Conversations with mentors and school colleagues are reported to be the most effective approach for reflecting on practice. The benefits of using video technology reported include supporting the identification of improvements and strengths, facilitating the observation of different

techniques and providing a basis for mentoring discussions. However, challenges experienced involve missing aspects of learning, safeguarding concerns, and feeling self-conscious while filming. There is a clear need to embed support to encourage effective use of video technology for it to have a positive impact. This research will inform the development of support mechanisms and resources to address the challenges, particularly as findings indicate clear benefits in respect of using video technology as a pedagogical tool to support teacher learning.

## 2. Literature review

### **Introduction**

Critical reflection is a key component of teacher education as student teachers develop the attributes required to incorporate theory into practice (Dewey, 1910; Schön, 1983). Alternative approaches to practice are considered by student teachers as they reflect on their knowledge, which contributes to their effectiveness as a teacher (Glover & Hutchinson, 2022; Hagger et al., 2008; Körkkö, 2021). Video technology gives student teachers opportunities to observe the typical classroom situation and offers examples of effective practice (Hamal & Viau-Guy, 2019; McCullagh, 2021). Video technology can also be used to focus on improvement in classroom management (Hamal & Viau-Guy, 2019; Weber et al., 2018).

This study focuses on the application of video technology to support reflection on lessons. There is wide consensus that using video technology can have a positive impact on reflective practice and self-evaluation (Gibbons & Farley, 2021; Göbel et al., 2022; Thorén Williams, 2020; Sablić, Mirosavljević & Škugor, 2021). Using recorded video of lessons to reflect on practice is described as being 'forward-looking' (Xiao & Tobin, 2018, p. 342).

A social constructivist approach is apparent during peer reflection, as knowledge, feedback and outcomes are facilitated and generated socially (Falter & Barnes, 2020).

It is also argued that the social constructivist approach apparent throughout video reflections is evidence of problem-based learning (Christ, Arya & Ming Chiu, 2014). By adopting the use of video reflection individual's reflective practice is broadened in terms of content and prospects for progressive ideas (Danielowich, 2014). Student teachers also benefit from developing an increased understanding of how to address challenging circumstances they encounter in their teaching practice (Thorén Williams, 2020). This paper is contributing to expanding knowledge and understanding of the use of video technology to support the student teacher reflection process more effectively.

## **The use of video technology in the classroom**

### **Practical impact**

The use of video-recording lessons or segments of a lesson is reported to be beneficial for teacher education. For instance, there can be practical benefits such as being able to support student teachers who are based in remote, rural areas by using video technology offers an advantage, both for the student teacher in such locations and those who are supporting them (Mac Mahon et al., 2021). It can simplify the organisation of lesson observations and result in cost savings (Gibbons & Farley, 2021; Murtagh, 2022). Sablić, Miroslavljević & Škugor (2021) comment that the activity offers opportunity to rewatch and study classes as many times as necessary, allowing the viewer to pause, rewind, and repeat the recording at their own pace. They also comment on the benefits of better accessibility and having the ability to watch at home, or in a comfortable and less disruptive environment means individuals are better able to concentrate on the detail of the content.

Others also note that video technology can support those student teachers who find it difficult to remember parts of lessons and offers more accurate evidence of what actually happened as opposed to relying solely on memory (McCoy & Lynam, 2021; Mann, Crichton & Edmett, 2020; Kriewaldt et al., 2021). Yet some conclude that student

teachers and teachers apply learning drawn equally from both video reflection and discussion (Christ, Arya & Ming Chiu, 2014).

However, it is important to highlight that for some there are challenges when using video reflection. Student teachers may need support to move beyond initial concerns of being recorded for evaluation purposes and support to see the benefits of formative feedback on practice (Gibbons & Farley, 2021). Concerns are raised regarding how pre-service teachers are taught to reflect on their practice; there can be differences in guidance among pre-service teachers' supervisors (Gibbons & Farley, 2021). The need for training for both student teachers and their supervisors is proposed to be required for video recording to be advantageous for reflective processes (Körkkö, Morales & Kyrö-Ämmälä, 2019; Kriewaldt et al., 2021; Körkkö, 2021). However, it is reported that filming can miss important elements of the classroom culture and environment (Körkkö, Morales & Kyrö-Ämmälä, 2019).

Having the time available to devote to video recording for self-reflection can also be a challenge for student teachers (McCoy & Lynam, 2021; Perry, Davies & Brady, 2020).

Some student teachers can report that they experience feelings of anxiety when being recorded (Näykki, Laitinen-Väänänen & Burns, 2022). This extends to people feeling embarrassed and inadequate when they record their own lessons (Boldrini, 2020), and reporting being nervous to share their video recordings with others (Murphy Odo, 2022). Therefore, it is suggested that it is necessary to ensure collaborative reflection using video technology takes place in a 'comfort zone' where individuals have mutual respect and an existing working relationship for the reflective process to be successful (Falter & Barnes, 2020, p. 82). Another concern raised by participants of video recording a lesson is a negative impact on the privacy of their classroom (Er, Toker & Yücelyiğit, 2022). Technical issues, such as poor sound quality are also raised by some as creating challenges for the use of video technology in initial teacher education (Mac Mahon et al., 2021).

## **Reflective practice**

The specific areas of classroom management, pedagogical growth, and student enrichment are outlined by Gibbons and Farley (2021) as benefits of video technology to support student teachers. In addition to this, student teachers can reflect on the group's dynamic and identify pupils who are struggling. Collaborative use of video reflection is also reported to seem to develop an individual's self-efficacy (Aslan, Erten & Dikilitaş, 2022; Gröschner et al., 2018). The quality of classroom discourse practices is also reported to improve following the application of a video reflection programme; with improvements in students responding and having opportunities to discuss during lessons (Kohen & Borko, 2022). Michalsky (2021) also found that those who reflect on both pupils' behaviours as well as teachers improve more than those who only reflect on the teacher's actions. Video reflection can also identify and contribute to improvements towards the 'embodied aspects of teaching' and the behaviours displayed by the teachers such as gesture, tone, position in the room, body language, and facial expressions (Deneme, 2020; McCoy & Lynam, 2021 p. 935; Murphy Odo, 2022).

## **Improving pedagogy**

By witnessing their own practice by using video reflection student teachers can critically evaluate learning in systematic ways. This can result in improved practice as a result of reading feedback, documenting advice, and preparing for mentor meetings (Gibbons & Farley, 2021; Coffey, 2014). Others share this opinion, and comment that 'by participating in online reflection, the teacher's desire for change increases'. (Sablić, Mirosavljević & Škugor, 2021, p. 1072).

Some student teachers report the experience of video recording their lessons as being 'empowering', with them able to understand how to support learners, the complexities of the learning process and how to interact with their learners (Näykki, Laitinen-Väänänen & Burns, 2022). Others also comment on the benefits that student teachers perceive of viewing their own practice from a unique perspective (Körkkö, 2021; Körkkö,

Morales & Kyrö-Ämmälä, 2019; Tripp & Rich, 2012). Video recording of lessons also helps to improve an individual's understanding of the quality of teaching skills, with an ability to self-evaluate when compared with written self-evaluation of practice (Deneme, 2020).

Reflecting collaboratively on teaching videos is also proposed to be beneficial for the development of reflection-related attitudes for student teachers and offers opportunities to challenge teaching and learning philosophies (Burns, 2020; Göbel et al., 2022). It is reported that observing others' videos of their teaching is more impactful than observing one's own as deeper reflection can result (Mann, Crichton & Edmett, 2020).

### **The research context**

Wide-ranging educational reform is ongoing in Wales. For example, all primary schools and some secondary schools began implementing the Curriculum for Wales in September 2022 (Welsh Government, 2022a; Welsh Parliament, 2022). One of the key features of the Curriculum for Wales is the autonomy awarded to teachers to take ownership of curriculum development. Initial Teacher Education has also undergone reform; as it shifts away from provision traditionally led by universities to universities working in partnership with schools (Welsh Government, 2018). A recent consultation to refresh the Initial Teacher Education accreditation criteria continues to place emphasis on the importance of teachers as reflective practitioners throughout their career (Welsh Government, 2022b). Reflective practice is frequently mentioned in the professional standards for teaching and leadership with the Professional Learning Passport supporting this (Welsh Government, 2019). The Professional Learning Passport is a bilingual, flexible online tool designed to support the capturing of, reflecting upon, sharing and planning of learning to improve practice (Education Workforce Council, 2023).

Student teachers' reflective skills have been noted by the education and training inspectorate in Wales (Estyn) to require improvement (Estyn, 2018). To develop as a learning organisation, schools in Wales are also encouraged to engage in critical reflection (Organisation for Economic Co-Operation & Development, 2018). Therefore, this research study contributes to the informing this practice further as it explores the potential benefits and challenges for teacher education regarding the use of video technology for reflection to improve teaching practice.

In 2021 the Open University Initial Teacher Education Partnership's student teachers engaged in a virtual second school experience and used video technology for a micro-teaching activity (Cole Jones et al., 2022; Defis et al., 2022). A driver for this activity stemmed from a need to mitigate against potential disruption to assessment of practice during possible Covid restrictions. However, it has become apparent that not all schools engage with the video technology to the same extent or with the same level of commitment and it is this that provided the impetus for this study, which aimed to address the following:

- To understand the benefits to schools and student teachers of using video technology to support practice.
- To develop examples of effective application and benefits of using video technology in Initial Teacher Education.
- To discover the barriers and challenges partner schools encounter in the use of video technology.

### 3. Methodology

A mixed methods approach was used to support a complete review of the potential for the application of video technology in teacher education. An online survey gathered views from student teachers and school-based staff. The survey questions explored experiences of training received to use video technology, approaches used to support

self-reflection, confidence to use video technology and the focus of applications for the use of video technology. Interviews and discussion groups provided opportunities to explore the benefits and challenges of using video technology in lessons as experienced by student teachers and school-based staff in more depth. To reduce complexity, descriptive statistics are used to support the discussion of the survey responses (Reale, 2014). Thematic analysis was employed for the interview and discussion group data; it is noted that although specific stages are expected within thematic analysis, flexibility is also evident (Braun & Clarke, 2022). Table 1 provides an overview of those who participated in the study. The Open University's Human Research Ethics Committee Ethical gave approval for this study.

Table 1. Research participants

| <b>Role</b>        | <b>Survey responses</b> | <b>Interview/discussion participants</b> |
|--------------------|-------------------------|--|
| Student            | 32                      | 5  |
| teachers           | 59                      | 15                                       |
| School-based staff |                         |  |
| <b>Total</b>       | <b>91</b>               | <b>20</b>                                |

#### 4. Discussion of findings

##### Reflecting on practice

Student teachers and school-based staff reported on the approaches they find to be the most effective to support their reflective practice. Conversations with mentors, school colleagues, other student teachers and with family/friends dominated the responses. For instance, 26 out of 31 (84%) student teachers report conversations with mentors as an effective approach, with 48 out of 56 (86%) school-based staff reporting finding conversations with school colleagues effective. Keeping a private reflective journal was also mentioned as being an effective approach, with 24 out of 56 (43%) school-based staff and 12 out of 31 (39%) of student teachers using this approach. However, when participants compared using video technology for reflective practice with their favourite approach half report it being 'about the same'. Yet, some commented on the benefit of being able to 'rewatch' their lesson:

*I feel that if I could also use video technology then I would be able to specify which part of a lesson went well or where the children struggled which I wouldn't necessarily see when I was teaching from the front. (School-based staff)*

*Video evidence would show/highlight things live on the class floor rather than waiting and discussing with others and relying on their comments. Watching things that come up could be easily discussed. (School-based staff)*

However, as one respondent commented even though they believe using video technology is more effective they 'do not have the time to set up a camera at the start of a lesson, then spend an hour watching it back'. A few other respondents reiterated with similar comments regarding video recording being 'time consuming' and that it can 'make people feel uncomfortable'. One respondent noted that a combination of using video reflections and conversations with colleagues is the ideal scenario to support reflection.

### **Using video technology to record lessons**

A variation in video recording lessons was reported. Even though all the student teacher respondents are required to record lessons, and share these recordings with the staff who support them, the majority reported that they did not record lessons often. Almost a third of the school-based staff reported that they never record their teaching. One member of school staff reflected that even though their setting has access to multiple recording kits they are predominantly only used by student teachers. Nevertheless, others reported that during the development of the Curriculum for Wales content they had found it useful to record and share effective practice with other schools. One school-based interviewee discussed how reflective practice is becoming more and more important for teachers and by frequently recording pupils will become familiar with the process, which would result in the recording being a true reflection of the classroom situation. However, several interviewees discussed being nervous and finding the filming experience 'quite stressful'. But in contrast to this there were some student teachers who reported filming frequently and that they 'enjoyed it'. One student teacher provided further context, commenting that they found the recorded lesson supported their mentor's observation notes well.

Survey responses and interview comments noted that the majority of participants had not completed any training to use the video recording programme. As training is delivered to the student teachers, some reported attending or watching a training session, but the numbers are relatively low (e.g. four out of 32 attended a training session, 10 out of 32 watched a recorded training session). As a consequence the confidence levels reported for using the video technology reflected this; with 21 out of 32 (66%) student teachers and 22 out of 59 (37%) school-based staff agreeing or strongly agreeing that they are confident to use video technology to support their practice. But as one school-based mentor commented the more embedded the technology is in a school then the less apprehensive both student teachers and staff will be:

*I think it's an ethos thing, maybe as with anything everybody is reluctant to do anything, and then when you engage with a few members of staff and they share the benefits of it and take away that fear that everybody has of new things. Then I think everybody else wants a piece of it. (Mentor)*

School-based staff also commented positively on the benefits of using the video technology to share 'good (and not so good) practice' as this can significantly improve teaching and learning. Some student teachers agreed with this perspective:

*It has been useful as a trainee teacher to watch back my own delivery of teaching and analyse and assess where I may be able to make improvements. At the time of the lesson, you may miss out on certain things so as a tool to reflect I think it's very useful. (Student teacher)*

The video technology includes a range of useful tools to support reflective practice. This includes 'in-ear' – where a teacher can receive feedback via an ear-piece while they are teaching; and 'time-stamp' annotation, which allows the viewer to add notes to the recording at specific points they select. A limited application of these features was reported by both student teachers and school-based staff. Some respondents

explained that they lack training regarding the use of the different tools, but that they would like to learn more.

### **The benefits of using video technology**

Both student teachers and school-based staff reported the most important benefit of using the video technology to be identifying aspects that need to be improved; with 23 out of 32 (72%) student teachers and 39 out of 56 (70%) school-based staff selecting this response. For example:

*Because when I watched myself back, I realised I was repeating something quite often and I thought 'well, is that effective'? (School-based staff)*

*At the start of my lesson I used to take too long standing there, talking to the children, not getting them engaged. (Student teacher)*

Many also responded that identifying the strengths of a lesson as being particularly important to them. Using video technology this way supports mentors to offer praise and build student teacher confidence in identifying aspects of practice that are developing well. Several interviewees reported that video technology supports their memory of the lesson, as explained here:

*It is hard to reflect in the moment and you miss the small things you've done that have been successful or unsuccessful... it is easier to show them [student teachers] this on the recording and this is more poignant for them. (Mentor)*

*It can be difficult to remember how things have gone, so the video is another 'thinking' device, as I can't take it all in in the moment. (Student teacher)*

This demonstrates that the video recordings can support the critical reflection process by bringing the mentor and student teacher together for a contextualised professional dialogue that supports feedback, enables mentors to question thought processes that lead to pedagogical decision making, and builds on teachers' reflective skills. Having differing perspectives of the same lesson can be positive and some interviewees reported valuing the video recording as a basis for mentoring discussions. Some other

aspects that the video recording supported for such discussions includes being able to focus on specific pupils and observing how the student teacher had missed their responses, also being able to analyse learner engagement was important for student teachers.

Another benefit of using video technology that both student teachers and school-based staff identify is it offers the opportunity to observe different teaching techniques. Benefits referred to less frequently include identifying non-verbal behaviours, identifying targets to achieve Qualified Teacher Status, and helping with the time management of lesson activities. It was also reported that using video technology is appropriate for all stages of a teacher's career, with it believed to be particularly useful for sharing practice and supporting whole school training. For example;

*Something that we did during our training was we had to do [video recording] with a focus on Assessment for Learning, and that was nice to see how different teachers use Assessment for Learning in different ways, and some of these techniques I wasn't aware that they were Assessment for Learning. (Student teacher)*

Another positive aspect mentioned during discussions is the benefit of using video technology to prepare student teachers for formal observations that they need to have for both internal and external quality assurance processes. However, even though respondents commented on the range of benefits noted above possible limitations were also raised and these could explain some of the inconsistencies in the use of video technology mentioned earlier.

### **The challenges of using video technology**

Survey responses highlighted that many of the challenges of using video technology are related to the practicalities of filming within a classroom context. All student teachers and just under half of the school-based staff raised their concern about technical challenges. These include problems in setting up the camera, capturing the learning effectively and difficulties experienced in uploading the recording to the online

platform. For example, student teachers were concerned about the battery failing, poor Wi-Fi connection and positioning recording equipment effectively to capture what they required. One student teacher commented; 'it was the technical side of initiating it that caused the worry'. Connected to the practicalities of filming learning experiences there is the added pressure of setting up the equipment before starting a lesson. Twice as many school-based staff as student teachers report this as a barrier hindering their use of the video technology.

Another concern raised by student teachers and school-based staff is safeguarding. Ensuring adherence to school policy and avoiding filming any pupils who are not permitted to be filmed is reported to be a barrier to using the video technology. One school-based respondent feels that 'ethically, there is a grey area' regarding 'what happens with that recording when there is a vulnerable pupil'. Whilst another school-based member of staff noted that extra care is required to ensure that due diligence is taken when filming particular groups of learners, e.g. looked after children. For two thirds of school-based staff, the lack of understanding of how to use the video technology is reported to be the barrier. For the student teachers, this is less of an issue, as they had received some training. One student teacher explained:

*We had a seminar at the start of last year that showed us how to use it. Afterwards, I explored the guidance myself, and bits that I found tricky I went back to the recorded seminar and looked at the guidance. (Student teacher)*

Some school-based staff are supported by their student teacher to use the technology, although some felt that they need to know more about the features that are available to support reflective practice effectively. Approximately two-thirds of student teachers and a third of school-based staff consider that filming could affect the response of the pupils during the lesson; with it suggested that individuals 'played up' when being filmed. One school-based respondent remarked that 'all my children think they're on stage as soon as the video goes on'. Some school-based staff also

recognise that, for some student teachers, the priority for the lesson could become the filming rather than the teaching and learning. As one school-based member of staff explained, student teachers can 'become more concerned about the quality of the recording than the quality of the lesson'. To counter this, it was notable that one student teacher recognised that the filming impacted on the support available to learners, as:

*It took a member of staff having to record for me, so it meant that then there was one less member of staff with the children. (Student teacher)*

Several school-based staff and student teachers report that there is a feeling that the video-recording of the learning experience misses important aspects of the essence of quality that they felt had been achieved within the lesson. One student teacher reported being disappointed that the film 'looks bad' because it does not show the complete learning environment, as 'you're not seeing the whole'. This sentiment was also noted by one school-based staff interviewee, who commented that the ability of the film to capture the 'impact on learners' depends on 'how good the person doing the filming is and what they choose to home in on'.

When considering the sharing of and viewing of filmed practice, three times as many school-based staff expressed their concern than student teachers. This suggests that those beginning their careers are more comfortable with observation and feedback than their more experienced colleagues. One respondent noted that unless there is a 'guide to support the watching of it', observing a film could be of little or no benefit. Several remarked on the initial 'fear of the unknown' when being filmed, feeling like 'big brother's watching me', and the discomfort of watching themselves teaching, which could be counterproductive from a reflective point of view. One school-based respondent also noted that student teachers found: 'it was a painful process to watch themselves. I'm not sure how much they [the student teacher] took on board as they didn't want to watch themselves on camera'.

A lack of time was recognised by some student teachers as a barrier to fully engage with the video technology to support teaching, citing that they only film one lesson per Practice Learning experience to comply with the course requirements, this was despite the fact that they thought it would be helpful to their practice if they video-recorded themselves teaching more regularly.

## 5. Conclusion

This study found that there are a number of approaches in which student teachers' critical reflection is supported; conversations with mentors and other colleagues, alongside written journals. However, using the more contemporary tool of video technology was less common for participants. This use of video technology was also inconsistent, and demonstrates a need for further support to embed the effective use of the tool to have a positive impact on the student teachers' reflective process. Whilst participants, including student teachers and their mentors, identify many benefits of using video technology to enrich critical reflection, practical shortcomings such as the time taken to re-watch and discuss video recordings of whole lessons, alongside technical issues, appear to inhibit its use despite the recognised benefits.

For instance, being able to watch themselves, and listen to instruction and pupil responses encourages mentors and student teachers to engage in dialogue that triggers critical thinking as to how any improvements can be addressed, the steps needed and what support would be required. Using video technology enables student teachers to appreciate their good habits and whether they have any distracting habits that could be avoided. The asynchronous function of reflection play-back allows student teachers to reflect on their teaching at a time convenient for them. Participants found it positive to be able to have this private reflection time; with student teachers encouraged to watch video-recordings of their teaching at home, in a safe environment to critique their own teaching. A consequence of this is that some of the

emotion is removed, which can result in student teachers being more open to feedback and to discuss areas for improvement.

The range of benefits for using video technology identified by participants to support their reflective process on their own practice indicates that the technology continues to be a valuable and effective tool beyond its use as a mitigation for Covid restrictions on the assessment of practice. However, whilst there are clear benefits identified, the possible drawbacks and limitations of specific approaches (such as the time-consuming nature of using video for the reflective process or unfamiliarity with new technologies) may explain some of the inconsistency in use. Personal anxiety or discomfort about the use of recordings can hamper engagement with the tool too. These findings contribute further to the literature in this area and indicate that the use of video technology does offer a range of benefits in respect of its use as a pedagogical tool to support student teacher learning, and that the majority of challenges or drawbacks identified are not related to the use of the tool for effective student teacher learning, but are practical or personal in nature. Therefore, it is important that both student teachers and those supporting them receive appropriate training to be able to access and use the video technology to its full potential. It is also vital that there is scaffolding in place to underpin the reflective process applied to the recorded lessons for both student teachers and their mentors. To address this, a bank of short video recordings and mini case studies will supplement the training Postgraduate student teachers receive. This will also be available to all partner schools and support both student teachers and school-based staff with the reflective process for using video recordings of teaching practice.

## 6. References

- Aslan, A. Erten, I.H. & Dikilitaş, K. (2022). In-Service EFL teachers' engagement in reflexive practice vis video enhanced observation. *Reflective Practice*, 23(3), 422–436.  
<https://doi.org/10.1080/14623943.2022.2042240>
- Boldrini, E. (2020). Video annotations to support feedback on teaching practice and teachers' reflective capacity, in E. Burns & M. Koskinen (Eds.), *Video-supported collaborative learning – Teacher's manual* (pp. 35–40). Finland: JAMK University of Applied Sciences.
- Braun, V. & Clarke, V. (2022). *Thematic Analysis: A practical guide*. London, UK: SAGE Publications Ltd.
- Burns, E. (2020). Video-recorded micro-teaching (VRMT), in E. Burns & M. Koskinen (Eds.), *Video-supported collaborative learning – Teacher's manual* (pp. 41–43). Finland: JAMK University of Applied Sciences.
- Christ, T., Arya, P. & Ming Chiu, M. (2017). Video use in teacher education: An international survey of practices. *Teaching and Teacher Education*, 63, 22–35.  
<https://doi.org/10.1016/j.tate.2016.12.005>
- Coffey, A.M. (2014). Using video to develop skills in reflection in teacher education students. *Australian Journal of Teacher Education*, 39(9), 86–97.  
<https://doi.org/10.14221/ajte.2014v39n9.7>
- Cole-Jones, N., Defis, N., Glover, A., Jones, M., Wallis, R. & Williams A. (2022). Exploring the impact of student teachers' online collaborative peer reflection, *Distance Education: A brave new world? Modalities, challenges, opportunities and prospects, Conference short papers*, 20 and 21 October 2022. Available at: [https://distance-2022.sciencesconf.org/data/pages/Short\\_paper\\_colloque\\_distance\\_2022\\_en\\_vdcommittees\\_dans\\_table\\_c.pdf](https://distance-2022.sciencesconf.org/data/pages/Short_paper_colloque_distance_2022_en_vdcommittees_dans_table_c.pdf)

Danielowich, R.M. (2014). Shifting the reflective focus: Encouraging student teacher learning in video-framed and peer-sharing contexts. *Teachers and Teaching: Theory and Practice*, 20(3), 264–288. <https://doi.org/10.1080/13540602.2013.848522>

Defis, N., Glover, A., Jennings, C., Stewart, S., Wallis, R., Craggs, B., Hay, C., Linton, B., Powell, T. & Williams, A. (2022). Using video technology to support micro-teaching and reflection in Initial Teacher Education. *Journal of Educational Innovation, Partnership and Change*, 8(1). Available at:

<https://journals.studentengagement.org.uk/index.php/studentchangeagents/article/view/1072>

Deneme, S. (2020). Teacher trainees' opinions regarding video-recorded microteaching sessions. *The Turkish Online Journal of Educational Technology*, 19(2), 24–33.

Dewey, J. (1910). *How we think*. USA: D.C Heath and Co Publishers.

Education Workforce Council (2023). *Professional Learning Passport (PLP)*. Available at: <https://www.ewc.wales/site/index.php/en/professional-development/professional-learning-passport>

Er, A., Toker, Z. & Yücelyiğit, S. (2022). In-service teachers' opinions about the use of video-based self-reflective thinking for pedagogical development. *Journal of Theoretical Educational Science*, 15(3), 639–660.

<https://doi.org/10.30831/akukeg.1039752>

Estyn (2018). *The professional continuum: mentoring in initial teacher education*.

Falter, M.M. & Barnes, M.E. (2020). The Importance of the “Comfort Zone” in Preservice Teachers’ Evaluation of Video Analysis Sessions as a Tool for Enhanced Reflection. *Teacher Education Quarterly* 47(2), 64–85.

Gibbons, S. & Farley, A.N. (2021). Learning to think like a teacher: effects of video reflection on preservice teachers' practice and pedagogy. *Action in Teacher Education*, 43(3), 250–267. <https://doi.org/10.1080/01626620.2020.1812131>

Glover, A. & Hutchinson, S. (2022). Delivering education reform in Wales: a flexible route into teaching. *Education Inquiry*. <https://doi.org/10.1080/20004508.2022.2051822>

Göbel, K., Bönnte, J., Gösch, A. & Neuber, K. (2022). The relevance of collegial video-based reflection on teaching for the development of reflection-related attitudes. *Teaching and Teacher Education*, 120. <https://doi.org/10.1016/j.tate.2022.103878>

Gröschner, A., Schindler A-K., Holzberger, D., Alles, M. & Seidel T. (2018). How systematic video reflection in teacher professional development regarding classroom discourse contributes to teacher and student self-efficacy. *International Journal of Educational Research*, 90, 223–233. <https://doi.org/10.1016/j.ijer.2018.02.003>

Hagger, H., Burn, K., Mutton, T. & Brindley, S. (2008). Practice makes perfect? Learning to learn as a teacher. *Oxford Review of Education*, 34(2), 159–78. <https://doi.org/10.1080/03054980701614978>

Hamel, C. & Viau-Guy, A. (2019). Using video technology to support teachers' reflective practice: A literature review. *Cogent Education*, 6(1), <https://doi.org/10.1080/2331186X.2019.1673689>

Kohen, Z. & Borko, H. (2022). Classroom discourse in mathematics lessons: the effect of a hybrid practice-based professional development program. *Professional Development in Education*, 48(4), 576–593. <https://doi.org/10.1080/19415257.2019.1706186>

Körkkö, M. (2021). Towards Meaningful Reflection and a Holistic Approach: Creating a Reflection Framework in Teacher Education. *Scandinavian Journal of Educational Research*, 65(2), 258–275. <https://doi.org/10.1080/00313831.2019.1676306>

Körkkö, M.K., Morales Rios, S. & Kyrö-Ämmälä, O. (2019). Using a video app as a tool for reflective practice. *Educational Research*, 61(1), 22–37. <https://doi.org/10.1080/00131881.2018.1562954>

Kriewaldt, J., Walker, R., Morey, V. & Morrison, C. (2021). Activating and reinforcing graduates' capabilities: early lessons learned from a Teaching Performance

Assessment. *The Australian Educational Researcher*, 48, 681–696.

<https://doi.org/10.1007/s13384-020-00418-4>

Mac Mahon, B., Ó Grádaigh, S., Ní Ghuidhir, S., Mac Gearailt, B. & Davitt, E. (2021). The Role of Remote Observation in the Professional Learning of Student Teacher and Novice Placement Tutors, in A. Marcus-Quinn and T. Hourigan (Eds.). *Handbook for Online Learning Contexts: Digital , Mobile and Open* (pp. 327–338). Cham, Switzerland: Springer,

Mann, S., Crichton, R. & Edmett, A. (2020). Evaluating the role of video in supporting reflection beyond INSET. *System*, 90. <https://doi.org/10.1016/j.system.2019.102195>

McCoy, S. & Lynam, A.M. (2021). Video-based self-reflection among pre-service teachers in Ireland: A qualitative study. *Education and Information Technologies*, 26, 921–944. <https://doi.org/10.1007/s10639-020-10299-w>

McCullagh, J. (2021). *Using Digital Video in Initial Teacher Education*. St Albans, UK: Critical Publishing Ltd.

Michalsky, T. (2021). Integrating video analysis of teacher and student behaviors to promote Preservice teachers' teaching meta-strategic knowledge. *Metacognition and Learning*, 16, 595–622. <https://doi.org/10.1007/s11409-020-09251-7>

Murphy Odo, D. (2022). An action research investigation of the impact of using online feedback videos to promote self-reflection on the microteaching of preservice EFL teachers. *Systemic Practice and Action Research*, 35, 327–343.

<https://doi.org/10.1007/s11213-021-09575-8>

Murtagh, L. (2022). Remote tutor visits to practicum settings and the changing dynamics between university tutors, school-based mentors and pre-service teachers. *Journal of Further and Higher Education*, 46(3), 354–367.

<https://doi.org/10.1080/0309877X.2021.1945557>

- Näykki, P., Laitinen-Väänänen, S. & Burns, E. (2022). Student teachers' video-assisted collaborative reflections of socio-emotional experiences during teaching practicum. *Frontiers in Education*, 7. <https://doi.org/10.3389/feduc.2022.846567>
- Organisation for Economic Co-Operation & Development (2018). *Implementing Education Policies. Developing schools as learning organisations in Wales*.
- Perry, T., Davies, P. & Brady, J. (2020). Using video clubs to develop teachers' thinking and practice in oral feedback and dialogic teaching. *Cambridge Journal of Education*, 50(5), 615–637. <https://doi.org/10.1080/0305764X.2020.1752619>
- Reale, E. (2014). Challenges in higher education research: the use of quantitative tools in comparative analyses. *Higher Education*, 67, 409–422. <https://doi.org/10.1007/s10734-013-9680-2>
- Sablić, M., Miroslavljević, A. & Škugor, A. (2021). Video-based learning (VBL) – Past, present and future: an overview of the research published from 2008 to 2019. *Technology, Knowledge and Learning*, 26, 1061–1077. <https://doi.org/10.1007/s10758-020-09455-5>
- Schön, D.A. (1983). *The Reflective Practitioner: How Professionals Think in Action*. USA: Basic Books Inc.
- Thorén Williams, A. (2020). Growing student teachers' reflective practice: explorations of an approach to video-stimulated reflection. *Reflective Practice*, 21(5), 699–711. <https://doi.org/10.1080/14623943.2020.1798917>
- Tripp, T.R. & Rich, P.J. (2012). The influence of video analysis on the process of teacher change. *Teaching and Teacher Education*, 28, 728–739. <https://doi.org/10.1016/j.tate.2012.01.011>
- Weber, K.E., Gold, B., Prilop, C.N. & Kleinknecht, M. (2018). Promoting pre-service teachers' professional vision of classroom management during practical school training: Effects of a structured online- and video-based self-reflection and feedback intervention. *Teaching and Teacher Education*, 76, 39–49. <https://doi.org/10.1016/j.tate.2018.08.008>

Welsh Government (2018). *Criteria for the accreditation of initial teacher education programmes in Wales. Teaching tomorrow's teachers.*

<https://gov.wales/sites/default/files/publications/2018-09/criteria-for-the-accreditation-of-initial-teacher-education-programmes-in-wales.pdf>

Welsh Government (2019). *Professional standards for teaching and leadership.*

<https://hwb.gov.wales/api/storage/19bc948b-8a3f-41e0-944a-7bf2cadf7d18/professional-standards-for-teaching-and-leadership-interactive-pdf-for-pc.pdf>

Welsh Government (2022a). *Curriculum for Wales: Implementation plan.*

<https://hwb.gov.wales/curriculum-for-wales/curriculum-for-wales-implementation-plan/>

Welsh Government (2022b). *Refresh of the criteria for the accreditation of initial teacher education in Wales. Teaching tomorrow's teachers.*

<https://gov.wales/sites/default/files/consultations/2022-11/refreshing-the-criteria-for-the-accreditation-of-initial-teacher-education-consultation-document.pdf>

Welsh Parliament (2022). *Education, Wales The Curriculum and Assessment (Wales) Act 2021 (Commencement No. 3 and Transitional Provision Order 2022.*

<https://business.senedd.wales/documents/s126069/SL6211%20-%20The%20Curriculum%20and%20Assessment%20Wales%20Act%202021%20Commencement%20No.%203%20and%20Transitional%20Provi.pdf>

Xiao, B. & Tobin, J. (2018). The use of video as a tool for reflection with preservice teachers. *Journal of Early Childhood Teacher Education*, 39(4), 328-345.