Using video technology to support micro-teaching and reflection in Initial Teacher Education

Nerys Defis, Alison Glover, Carys Jennings, Sarah Stewart, Rachel Wallis, Ben Craggs, Ceris Hay, Beth Linton, Thomas Powell, Amanda Williams
The Open University

Abstract

School placements are a crucial element of all teacher training programmes, however, student teachers' opportunities to experience the benefits of direct school experience were impacted by school closures during the Covid-19 pandemic and the move to online teaching. This case study presents a successful example of the introduction of a virtual school experience, which included micro-teaching and school-led workshops. These activities ensured that student teachers continued to develop their professional skills and attributes in a collaborative way despite the pandemic. A rationale for the micro-teach activity, which used video technology to support peer assessment and reflective practice, is presented. Student teachers reflect on the value of the activities, and implications for future delivery are discussed.

Introduction

In September 2020, the Open University (OU) Partnership in Wales launched a new flexible route into teaching. On the course, student teachers study over two years for a work-based PGCE qualification, either via a part-time or salaried route. The PGCE is available to students based anywhere in Wales, as the qualification is delivered using a blended distance pedagogy. These flexible routes allow those who may have previously experienced barriers to teacher education, such as those with other family and/or work commitments, the opportunity to enter the teaching profession. Time spent in schools on placement is critical for student teachers' learning, but as schools increasingly moved to online learning during the Covid-19 pandemic, student teachers' opportunities to benefit from a direct school experience were affected.

In an attempt to improve opportunities for student teachers, the OU partnership developed a virtual school experience. This included a group micro-teaching activity and school-led workshops which enabled student teachers to continue to collaboratively develop their professional skills. Student teachers' use of video technology also supported peer assessment and reflective practice.

The use of video technology in Initial Teacher Education

Over the last two decades, there has been a growing body of literature celebrating the use of video technology to support teacher education. Indeed, there is strong consensus that video technology can support critical reflection and self-evaluation (Harford, MacRuairc and McCartan, 2010; Osipova *et al.*, 2011). Video technology has typically been used to record, review and reflect on teaching and learning episodes, with growing evidence to suggest it

facilitates more accurate recall and deeper analysis of teachers' actions within lessons, supporting deeper reflection (Charteris and Smardon, 2013). Jordan (2012) argues video technology frees its users from restraints of time and space, providing flexibility in terms of timing and location of feedback. With video technology becoming increasingly accessible, efficient and collaborative, its wider use to support student teacher development is not surprising. For the participants being recorded, there are several benefits. There may be increased attention to words and actions, both during the recording, and afterwards (Charteris and Smardon, 2013). The opportunity to recall and review practice supports the processing of reflections (Jordan, 2012). Furthermore, the act of viewing themselves in action can increase self-confidence (Charteris and Smardon, 2013).

Yet the use of video technology need not support only the student teacher being recorded; it can also support the reflective collaborators. Though referring to in-service teachers, Charteris and Smardon (2013) and Osipova *et al.* (2011) suggest those involved in reviewing and reflecting on the practice of others can also improve reflection of their own practice. Because peer discussion can be focused on elements of practice that can be viewed and referenced by everyone involved, pedagogy can be examined and viewed differently, with ideas generated for pedagogic responses. Danielowich (2014) argues that video focused reflective discussion diversifies and expands participants' reflections, both in content and through providing opportunity for developmental thinking.

Furthermore, peer reflection reflects a social constructivist approach; knowledge, feedback, reflection and solutions are socially facilitated and constructed (Christ, Arya and Ming Chiu, 2014; Falter and Barnes, 2020). Christ, Arya and Ming Chiu (2014) argue that the social constructivist approach used in video-supported peer reflection mirrors experiential learning, problem-based or inquiry learning. Consequently, the application of such approaches into practice is encouraged and peer collaboration can induce greater commitment to implementing changes in practice.

Falter and Barnes (2020) suggest that the emotions of student teachers should not be ignored when considering reflection. They argue that moving from individual reflection to collaborative reflection can create fear for student teachers, and induce a range of emotions. Through investigating the use of structured peer video analysis with student teachers, they argue that non-evaluative (non-graded) video analysis sessions, with pre-established relationships and where student teachers are not pushed out of a 'comfort zone', are the most likely to support reflection. Of course, as Falter and Barnes (2020) note, emotions within collaborative spaces may change in different circumstances and 'comfort zones' themselves may evolve and change over time. Furthermore, group rapport may be affected by aspects such as cultural and social backgrounds.

What seems clear from the literature is that video technology can *facilitate* reflection; its use can support recall, focus and promote shared analysis and dialogic discussion. Yet it seems the use of video technology itself is not the main factor for supporting reflection; rather it facilitates the development of supportive peer environments with a shared focus, in which reflection and pedagogy can be socially explored and developed. It is the *social construction* of reflection and developmental thinking, facilitated through video technology, that can impact reflection and change, rather than the technology itself (Christ, Arya and Ming Chiu, 2014; Danielowich, 2014).

Context

The OU Partnership in Wales PGCE is a work-based learning programme. The programme team has had to work in a very responsive and agile manner to support student teachers during a period of severe restrictions on the provision of face-to-face school education. This impacted the learning model where students are required to undertake in-school practice learning placements to support their knowledge, skills and experience of teaching and integration of theory and practice. It also led to the cancellation of the (usually compulsory) second school experience for students on the salaried route.

The virtual school experience

The virtual school experience comprised of a peer-led micro-teach activity using a digital lesson recording platform (IRIS Connect) and school-led workshops. The micro-teach activity involved student teachers working online in small, cross-phase (mixture of primary and secondary) and cross-discipline groups. The activity was peer-led, so whilst initial guidance was provided, students led their own learning experience thereafter. Firstly, students met online in their groups to undertake collaborative lesson planning focused on one pedagogical aspect of practice, and to share ideas and suggestions. Secondly, they planned their own individual lesson and resources, before recording a 'rehearsal' or micro-teach of a small segment of their lesson, such as an exposition or modelling of concept. This was completed and shared with their group using the digital lesson recording platform. Subsequently, students observed each other's micro-teach activity providing feedback for each other using a model they had created during their first group meeting.
Responding to peer feedback, the students re-recorded their micro-teach, before meeting with their group for a final time. This provided the opportunity for further feedback and for reflection on what they had learnt about their selected pedagogical practice. Finally, each group summarised their pedagogical focus and key learning points resulting from the activity. A creative output, such as short reflective video account or an infographic was developed. Students shared these outputs, along with their lesson plans and resources with the rest of their cohort.

The whole activity was scaffolded by the PGCE team with video guidance, a supporting booklet and drop-in tutorial sessions. A module-wide forum also ran throughout the activity. Additionally, a small-scale scholarship project was conducted, which involved students completing pre-/post- reflective surveys about their experience and learning.

The school-led workshops involved 12 partner schools and one Regional Education Consortia (part of the regional school improvement process in Wales) creating school-led asynchronous online workshops. These were designed to support student teachers to progress in aspects of the professional standards for teaching and leadership (Welsh Government, 2019), which were particularly difficult for students to achieve during their school learning experiences throughout the pandemic.

Impact

This virtual school experience meant student teachers were able to complete a second school experience which forms a statutory part of the programme. The activity enabled student teachers to collaborate with other students across Wales and outside of their usual tutor groups, enabling a broader perspective and dialogue about their own teaching practices. The activity was designed to be peer-led, supporting student teachers to develop skills relating to collaboration, innovation, leadership and reflective practice. The organisation of a range of meetings (using formal and typical meeting structures) also developed employability skills.

The advantages of using video technology were articulated as a prominent feature, both as a professional development tool for the student teachers and also, due to the implication of the Covid-19 pandemic, as an integral part of the programme. Receiving peer feedback was beneficial for student teachers. For example, one student teacher (S1) commented that, as they are beginning teachers, no one had a set way of working or felt they had the 'right' answer, and instead they shared examples from their own experience, which often included examples of things that *didn't* work.

> *"This promoted a very authentic discussion, and different experiences were pieced together as participants all contributed and responded to ideas and examples. Receiving feedback from peers offered a different take on my practice, shifting the focus away from 'correcting' my teaching to fit an established way of working, towards a more exploratory process of shared discovery."* (S1)

Such discussions prompted further work on lesson planning, with the dialogic nature of the feedback 'rich and creative'. Instead of simply responding to mentor suggestions, which may just replicate how they teach, this peer development resulted in more 'open-ended adaptations'. Other student teachers agreed with the usefulness of the peer feedback. Undertaking a lesson study approach meant that 'after each teaching episode, each member of the group watched video clips of the lessons and gave feedback on the strengths and suggestions for improvement' (S2). This aspect supported the student teachers to revisit and reflect on their first attempts to improve. Receiving peer suggestions focused on different learning methods and activities in the classroom was also beneficial. One student teacher noted that the most significant change to their thinking had been the use of reflection through assessment for learning.

> *"This sharing of knowledge through feedback enables not just children, but us as practitioners to move forward and understand our learning, which promotes productivity, gives extra thinking time, ability to learn from one another and act upon the feedback given. Furthermore Berry (2008) states that this formative assessment promotes active engagement, where we learn where we have gone wrong and look at ways to improve."* (S5)

Exploring and having exposure to different pedagogies was also a positive outcome of the activity as many students were in mixed primary and secondary groups. They believed that the activity contributed to the development of their personal bank of experiences and

understanding, even though the researching of concepts, ideas and skills was reported to be time consuming it was 'rewarding' (S5). Other student teachers agreed with this, as one group discussion focussed on 'the things that were good within our teaching and suggestions for improvement'.

> *"Seeing other people teach other subjects and also other Key Stages gave me new ideas. I learned how different Key Stages are taught and why. This was a good experience to be able to compare teaching at Early Years or Key Stage 1 to teaching at Key Stage 3 and Key Stage 4."* (S2)

Another recognised that the micro-teach sessions took them out of their comfort zone, 'I had to research and develop many areas of learning during the process, which gave an interesting insight into my own teaching style' (S5). Even though mentor feedback is critical, providing opportunities to discuss with trainee teachers on different routes during the year could be a valuable experience for all student teachers, particularly as 'pedagogic approaches were not just suggested but were actively shaped and reworked through dialogue' (S1).

The impact of the school-led workshops on student teacher's practice was also evident:

> [The workshops were] *"engaging and provided an opportunity for me to reflect on good practice. I found myself setting various targets which I have started to implement. For example, I have been trying out new strategies for helping EAL [English as an Additional Language] pupils to access literacy tasks."* (S4)

Observing different pedagogies was invaluable and it provided a focus on particular areas of pedagogy. Consequently, one student teacher delivered the micro-teach lesson for their last formal observation 'because I felt more confident in the level of preparation and reflection that I had put into it' (S4). The project helped student teachers to look at different areas of pedagogy in more detail due to being given the opportunity to work collaboratively.

Developing reflective practice and oral rehearsals as a strategy were also important outcomes for the student teachers. Being able to collaborate with others inspired reflection on practice, particularly increasing a drive 'to ignite excitement and engage and motivate students to a new way of thinking and learning' (S5). Using the video technology to support reflection enabled a 'deepening learning, and chance to facilitate the transfer of skills, which gives children and practitioners time for reflection (Kerry, 2015)' (S5).

> *"In fact, I wished that my peers had been more critical so I could find more ways to improve. Watching myself taught me the most from the project. Once you get over the initial dislike of seeing yourself on camera, I enjoyed looking to check my body language and to be able to see all the pupils whilst I was talking to one of them."* (S3)

Oral rehearsal to improve delivery was found to be a useful tool, with this used for the first time by some.

> *"I wanted to have an idea of how it sounded. Usually, I would just run it through in my head but saying it out loud helped me to think about how my explanation sounded and if I could phrase it in a better way as a result, I was very prepared for this lesson and felt confident in what I was going to say."* (S3)

Ultimately the positive responses from the student teachers clearly conveyed the benefits of using video technology as a means to facilitate their knowledge and understanding of many aspects related to teaching and learning.

Conclusion

In summary, the use of video technology was a useful vehicle for the enhancement of student teacher learning, which itself was rooted in social-constructivist approaches and consistent with findings by Christ, Arya and Ming Chiu (2014) and Danielowich (2014). Video technology provided multiple ways for the student teachers to reflect critically both on their own and with others. Watching a recording of their own practice enabled student teachers to focus on a range of both pedagogical and practical considerations (such as the use of body language), viewing their teaching from different perspectives. Increased levels of confidence and preparedness in their own planning were reported as a result of the activity, supporting earlier findings by Charteris and Smardon (2013).

Feedback from student teachers noted that the group meetings promoted rich, collaborative reflections. This enabled wide, open-ended and creative exploration of pedagogical approaches, supported by the cross-phase/discipline nature of the groups, allowing students the freedom to explore new approaches. The peer-led nature of the activities was also highlighted as a strength of the approach by student teachers, echoing the notion of freedom from usual constraints (as may be sensed from mentors or university tutors with whom there is a power differential). Student teachers indicated that reviewing and reflecting on the practice of others improved their reflections, as suggested by Charteris and Smardon (2013) and Osipova *et al.* (2011). However, it is not within the scope of this research to evaluate the quality of the reflections made by student teachers, and whether the quality of reflections made during peer-led sessions are comparable to reflective dialogue held with a mentor or tutor, for example. This could be a potential line of enquiry for future research.

Whilst creative freedom was considered a positive aspect, some students noted that the peer-led, collaborative nature of the task led them out of their comfort zone. Falter and Barnes (2020) emphasise that the range of emotions students may have should not be ignored and, moving forward, further consideration could be given to the nature of collaborative groups. The cross-phase/discipline groups in this case study resulted in student teachers working with less familiar peers, therefore the benefits of working within more familiar tutorial groups may be considered in future micro-teaching events. Notwithstanding the make-up of peer groupings, overall this case study highlights many benefits to using video technology as a tool to facilitate reflection on micro-teaching examples, supporting peer-feedback and discussion between student teachers.

Reference list

Berry, R. (2008) *Assessment for Learning.* Hong Kong: Hong Kong University Press.

Charteris, J. and Smardon, D. (2013) Second look - second think: A fresh look at video to support dialogic feedback in peer coaching, *Professional Development in Education*, 39(2), 168–185. Available at: https://doi.org/10.1080/19415257.2012.753931 (Accessed 29 October 2021).

Case studies

Christ, T., Arya, P. and Ming Chiu, M. (2014) Teachers' reports of learning and application to pedagogy based on engagement in collaborative peer video analysis, *Teaching Education*. Routledge, 25(4), 349–374. Available at: https://doi.org/10.1080/10476210.2014.920001 (Accessed 29 October 2021).

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*. Routledge, 20(3), 264–288. Available at: https://doi.org/10.1080/13540602.2013.848522 (Accessed 29 October 2021).

Falter, M.M. and 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.* Available at: https://files.eric.ed.gov/fulltext/EJ1249357.pdf (Accessed 29 October 2021).

Harford, J., MacRuairc, G. and McCartan, D. (2010) "Lights, camera, reflection": Using peer video to promote reflective dialogue among student teachers, *Teacher Development*, 14(1), 57–68. Available at: https://doi.org/10.1080/13664531003696592 (Accessed 29 October 2021).

Kerry, T. (2015) *Cross curricular teaching in the primary school: Planning and facilitating imaginative lessons.* London: Routledge.

Osipova, A. Prichard, B., Boardman, A.G., Kiely, M.T. and Carroll, P.E. (2011) Refocusing the Lens: Enhancing Elementary Special Education Reading Instruction Through Video Self-Reflection, *Learning Disabilities Research and Practice*, 26(3), 158–171. Available at: https://doi.org/10.1111/j.1540-5826.2011.00335.x (Accessed 29 October 2021).

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