Mediated Authentic Video: A Flexible Tool Supporting a Developmental Approach to Teacher Education

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Abstract: You Tube now has more searches than Google, indicating that video is a motivating and, potentially, powerful learning tool. This paper investigates how we can embrace video to support improvements in teacher education. It will draw on innovative approaches to teacher education, developed by the Open University UK, in order to explore in more depth the potential of video. It will use case studies from three continents, and draw on research from different sources, in order to highlight the successes and the challenges. Looking across the examples presented, the paper will describe models of teacher learning and video use, and demonstrate that video can add value to teacher development activities provided that appropriate support and mediation, consistent with the pedagogy that is being promoted, is in place. Sustainable Development Goal 4 emphasizes the importance of improving the quality of the experiences that children have in school. This requires new models for teacher education, and has become an urgent issue. Video could be a significant part of the solution.

Keywords: Teacher Learning, Professional Development, Video, Educational Technology, Developmental

Introduction

The EFA Global Monitoring Report UNESCO (2015) highlights the continuing shortage of trained teachers across the developing world despite the focus on universal primary education. In an attempt to meet the demand, teacher quality has sometimes been compromised with many unqualified or under-qualified teachers being employed (Education International, 2007); teacher education is therefore under scrutiny, with concerns about both the quantity and quality of teachers available.

National policy frameworks (e.g., India (2005), Kenya (2012), Zambia (2013)) emphasise classroom pedagogy as a way of improving the quality of education and highlight the importance of learners being actively involved in lessons. 'Learner-centred education' (LCE) is a popular policy aspiration, yet remains a contested term (Schweisfurth, 2013) and needs to be examined from different cultural perspectives (O'Sullivan, M., 2004; Vavrus, 2009). Teacher education courses (both pre-service and inservice) are often not fit for purpose: they are too long, they don't model participatory pedagogy and are highly theoretical (O'Sullivan, 2010), and they fail to address important questions about the 'how' of LCE in a particular cultural context. New models of teacher education are required, which operate at scale, are consistent with policy aspirations and reflect current social trends, such as available and affordable mobile technologies. The current emphasis on quality in SDG 4 means that developing new



models of teacher education and understanding the potential of mobile technologies to support teacher learning and professional development, has become an urgent issue.

The Open University (OU) has a strong record in developing appropriate, professional learning programmes for teachers and teacher educators. These programmes use accessible and affordable mobile technologies to deliver high quality, culturally appropriate, resources, which show teachers and teacher educators how to implement learner centred approaches to teaching and learning. In collaboration with teachers and teacher educators all over the world the OU has developed written, audio and video material to support teacher learning. The Internet is used to deliver high quality Open Educational Resources (OER) and learning opportunities; content is supplied on SD cards, on memory sticks and on CDs as well as in print form if required. Networked computer labs, tablet computers, mobile phones and online learning platforms all provide access to resources. The resources are designed to support teacher learning and a significant component of this work is the use of video.

This paper presents four case studies from India, Bangladesh, Peru, and Africa, specifically looking at the use of video and the balance between technology and support in delivering change in teaching practice. The case studies illustrate the successes and opportunities presented by video as a learning tool, alongside some of the challenges and difficulties. They explore mobile phones as a delivery mechanism, the production of authentic video, the importance of mediation, the use of professionally produced films and the use of 'home-made' video by teachers in their own classrooms. We will start by highlighting what is known about teacher learning in order to demonstrate the particular benefits that video can bring.

Teacher Learning

Learning to be a teacher is a complex and often haphazard process (Leach, Moon 2008). It involves learning to make many rapid decisions in a short period of time (McIntyre 2002). There are many frameworks for analysing teacher learning and developing teacher education programmes (e.g., Putnam, Borko 2000, Malderez et al. 2007, Mutton, Burn & Hagger 2008) but a model that we have found to be particularly helpful comes from Shulman and Shulman (2007). They suggest that teacher learning involves:

- building a **vision** of the sort of teacher that it is possible to become;
- being **willing and motivated** to learn, which means that teachers' learning experiences need to be relevant and authentic;
- being able possessing the knowledge, and understanding required to be an effective teacher, including subject knowledge, pedagogical content knowledge and (increasingly) technological, pedagogical content knowledge;
- being able possessing the **practical skills** required, recognizing that practice is complex and develops over time.

At the core of their model is **reflection and collaboration.** Teacher learning is complex, but is perhaps best conceptualised as being situated in practice (Putnam & Borko, 2000). This means that teachers need to experience, test and analyse practice in order to move into a deeper understanding of what it means to be an effective teacher.

The implications for teacher education programmes are that they should provide the opportunity for teachers to develop in all of qualities listed above; they should include significant practical elements and opportunities for collaboration and reflection. Teachers should have the chance to experience the sort of pedagogy being promoted in policy documents and recently developed curricula.

It is widely accepted that pre-service teacher training courses in many developing countries are too theoretical and do not involve enough time in school (EFA GMR team 2013, SEIA 2007). They are not what Dyer terms 'ecologically valid' (Dyer et al. 2004) which means that courses do not reflect the culture and conditions of the contexts in which teachers work (Polly, Hannafin 2011, Manteau 2012). Teacher education programmes fail to model participatory pedagogy with the result that schools remain dominated by teachers talking at large numbers of passive students. Teacher educators often have a deficit model of teachers (Dyer et al. 2004) blaming them for failing to implement the sort of learner-centred practices embedded in many national policy frameworks, rather than examining their own practice. Murphy and Wolfenden (2013) suggest that institutional structures and ways of working still position teachers as 'passive enactors of pedagogic strategies' resulting in a misalignment between policy and practice. Teacher educators are often not familiar with the reality of schools (O'Sullivan, 2010), yet very little professional development specifically targets this professional group. Teacher educators need support in understanding the practicalities of classroom teaching so that they can effectively support teachers in developing the vision, knowledge, skills and understanding required for the 21st Century classroom. Video resources are very helpful in this respect; our case studies will show that they can support both teacher and teacher educator professional development.

The poor quality of initial teacher education has created a demand for continuous professional development. A number of models of teacher development have become universally accepted, as described by Woodward and Solly (2017):

Occasional Workshop Training with Expert Teachers

Such training can be difficult to arrange, particularly in countries where travelling is difficult and sometimes unsafe. While potentially imparting information and perhaps demonstrating some effective methodologies during the workshop, sustained practice and improvement within the classroom cannot be guaranteed. It may also be difficult to find an adequate number of trainers with the capabilities needed. Despite these difficulties, the removal of teachers to a central location to attend lectures remains a common form of professional development.

Cascade Training

In this model an 'expert' trains the trainers, who train the teachers. Several layers of trainers might be involved. It is very difficult to know how much relationship the final training bears to the top layer of training. 'The cascade is more often reduced to a trickle by the time it reaches the classroom teacher, on whom the success of the curricular change depends' Hayes (2000:135).

Intensive Overseas Immersion

This is expensive; individuals are flown to a host country, accommodated and trained and the knowledge gained tends to remain with the individual practitioner and is not necessarily shared with colleagues on their return.

The core disadvantages of these prevailing models of teacher development can be overcome if training is centred in in teachers' own schools or teacher educators' own institutions, and is linked to the curriculum and current practices (Moon, 2010). Such training is potentially more sustainable and promotes collaborative learning amongst teachers and teacher educators. Support in the form of peer-support, mentoring and coaching is important and can contribute to capacity building by strengthening existing systems. This is the model that is at the heart of the OU's international teacher development projects. Video is an important component of that model.

Use of Video in Teacher Education

Over recent years digital video use has become more prevalent in teacher education as an important resource for enabling teachers to examine what is happening in a classroom (Sherin 2004; Sherin & Van Es 2009; Rich & Calandra 2010; Gaudin & Chalies, 2015). Its use has been shown to lead to heightened motivation, optimised cognition and improved classroom practices, thus enhancing teacher learning (Gaudin & Chalies, 2015).

Development in the use of video has moved it from being simply a means of exposing teachers to practices that can be copied, to a tool in the development of teachers' professional judgment. Gaudin & Chalies describe this as a shift from 'normative' modalities (with a focus on what to do in the classroom) to 'developmentalist' ones (the building of knowledge about how to interpret and reflect on classroom teaching). The implication therefore is that video, by promoting discussion and reflection about teaching and learning, has the potential to support the professional development of both teachers and teacher educators. Broadly speaking, two main types of classroom video have been developed for teacher professional development. Type 1 features other teachers – practitioners who are generally unknown to the learner. Usually the product of professional filming and editing, and involving some form of thematic organisation and viewer guidance, these are generally intended to be distributed to a large number of end-users. Type 2 videos (or participatory video) are made by the teachers themselves and serve primarily as prompts for personal reflection and trainer or peer feedback, require intensive face to face mediation and are not intended for wider viewing.

In the early days, Type 1 video was not designed for any specific country or region but was used as an exemplar of the type of classroom practice that ideally would be adopted across a range of environments and was generally filmed using non-local teachers and classrooms. However, by adapting the concept and filming authentic video in local conditions the video becomes a tailored learning tool. We have also used Type 2 video in projects with teacher educators and with school-based-mentors. The case studies that follow will argue that all effective video for teacher development is in fact premised on a developmental approach and will draw on evidence we have of the potential of video to support the professional development of teachers and teacher educators, alongside the challenges that we have encountered.

Case Studies

Case study 1 describes the challenge of producing authentic video; case study 2 describes how locally produced video has been effectively distributed and mediated in Bangladesh; case study 3 highlights some of the challenges in using video with teacher educators and case study 4 provides two examples of using Type 2 video material.

Case Study 1: The Production of Authentic Video in India

In Teacher Education through school-based support in India (TESS-India), video clips were produced as part of an extensive bank of OER to support teachers in developing more participatory approaches.

Producing authentic material across a range of subjects and levels proved to be challenging, as the skills and approaches that we were trying to capture, were not in widely in use. Selected schools were given examples of TESS-India classroom resources and teachers were filmed using them. The results were disappointing and it was clear that teachers needed more preparation. A new plan was conceived.

Fourteen teachers (elementary and secondary) and nine teacher educators (mainly from District Institutes for Education and Training - DIETs) were chosen by state officials in Uttar Pradesh and Madhya Pradesh and invited to a workshop. All the teachers and teacher educators had at least five years of experience of teaching in schools, and most had considerably more. All the teacher educators were involved in developing teachers' subject knowledge but involvement in other activities such as giving feedback on teaching, supporting planning and demonstrating teaching skills varied considerably.

During the workshop they were introduced to the TESS-India OER (www.tess-india.edu.in) and ten Key Resources, which explain the approaches to teaching and learning that the project is promoting. Each teacher was assigned a teacher educator to work with them in school. The teacher educators were given a tablet computer pre-loaded with the TESS-India OER, capable of taking video and photographs, and trained how to use it. Each pair worked together intensively for two weeks, focussing on selected 'key resources' – aspects of practice that the teacher wanted to improve. The teacher educators visited every day to observe lessons (using the tablet to record parts of the lesson), which the pair discussed afterwards, and to support planning for the next day. At the end of two or three weeks, a professional film crew visited the schools and collected footage. The footage was edited to produce 55 short clips, illustrating the ten Key Resources in a range of subjects and settings, and the academic team added a commentary. All the classroom dialogue is in Hindi, with commentaries in English, Hindi and four other Indian languages. The result is a powerful resource; teachers and teacher educators across subjects and phases have access to examples of practice in authentic settings (https://www.youtube.com/channel/UCL9j8y4mGFyIQLvH-PvkghA). The clips illustrate the possibilities for teachers and the commentary encourages them to reflect on how they could adapt the ideas introduced to their own practice.

A few weeks after the footage was complete, members of the academic team visited Utter Pradesh and had the opportunity to interview the teacher educators about the experience. All provided very positive accounts and were able to give examples of the impact on their practice. At the end of the day, one of the teachers who had been involved arrived at the DIET where the interviews had been taking place. He had come because he was very keen to share his experience. He told us about his teaching career and how he was considered to be an 'expert' teacher. After the workshop and during the training period, he came realise that he actually had a great deal to learn. 'I thought I was the best teacher in the world and I realised that I was the worst'. He is very proud of the changes that he has made to his practice, as a result of working closely with the teacher educator and the key resources.

The films produced are not intended to show 'perfect' lessons. Rather they show real teachers in their own settings, making an effort (with some success) to adopt participatory approaches to learning. This experience highlighted the effort required to obtain authentic video and demonstrated the potential of the process to support professional development.

Case Study 2: Using Professionally Made Video in Bangladesh - EIA

In the English In Action (EIA) project in Bangladesh, the Open University used a professional local film crew to film teachers in their own classes teaching with the national English course-book "English for Today" (EfT). However, as Miller and Zhou (2007) point out, observation of classroom practice does not necessarily lead to learning. Some kind of reflective and supportive input is essential to mediate the classroom video. Through mediating this authentic classroom practice with a video narrator and face-to-face supportive workshops, both of which provide pedagogic context, deconstruction and encourage reflection, EIA has produced what Power (2014) refers to as a 'peer-supported, mobile enhanced school based' approach to teacher professional development.

Access to the Internet cannot be relied on across rural Bangladesh so the project has developed video and audio resources delivered offline on SD cards that teachers can insert into their own mobile phones. The delivery of mediated video through teachers' own mobile phones offers an intimacy and immediacy of impact together with a degree of flexibility that much conventional training-room based, trainer-led and time-bound input often cannot match (Woodward, Griffiths & Solly, 2014). These videos of classroom practice take teachers into other Bangladeshi teachers' classrooms to see examples of good practice in a recognizable and relevant environment (helping them to build a 'vision' of good teaching). The teachers in the videos are by no means the 'best' teachers in Bangladesh; rather they demonstrate elements of good practice that the viewer feels able to also try out. The focus on a particular subject (English language teaching) means that it is possible for teachers to view video of teaching techniques and approaches that they can then adapt to their own classroom needs.

On the outskirts of Rajshahi in the northwest of Bangladesh is an *upazilla* (education district) with 20 primary schools and ten secondary schools involved in the project. M is an English teacher at one of the high schools. He has been teaching for 13 years, seven of them at this school, and has been involved in other teacher professional development initiatives, funded by the Asia Development Bank, and UK-Aid. In both these initiatives, M went on block training courses as the sole teacher from his school and was away from the classroom for extended periods of time. On returning to his school he reported that he had found it difficult to apply the techniques he had learned to his own classroom. He said that they demonstrated techniques, but it was 'only face to face and it didn't stay with us'.

In the English In Action project the focus is on his classroom. Over a 16-month period together with another English teacher in his school, he has worked through a set of materials delivered on an SD card in his basic Nokia phone, together with some print support. As well as discussing issues that have arisen with his peer teacher, he has also attended regular meetings with other EIA teachers in his local area or upazilla. He stated several times that working in this way has been a 'radical transformation'.

A is a young, relatively inexperienced teacher who during her first teaching appointment was paired with another more experienced EIA teacher. A was very specific in how useful it was for her to be

working with a more experienced teacher. The programme encouraged them to meet once a week to discuss and reflect upon what they have been doing in their teaching, and they were provided with a teacher journal in which to reflect and report back on their classroom practice. EIA also works with the head teachers and encourages them to develop a learning community within their school, carving out some time for teachers to sit and reflect together.

Both teachers felt that EIA had brought positive changes to their classroom teaching; the students were very aware of these changes and are now much more engaged in learning. A number of the teachers in the project say that their teaching is now far more activity-based and participatory. M described how in the past the students rarely talked or even raised their hands: 'Before I used to lecture the students and they were afraid of me; now they love the classes and speak actively.'

The aim of the EIA videos is to provide a toolkit of techniques that teachers can view and adapt to fit their own students' ages, abilities and lessons. The classroom videos are mediated by a video narrator who guides the viewing teachers' attention to key elements of the video and encourages them to reflect on what they have seen and think about how they can use similar techniques in their own classes. However, teachers do not always focus on the intended elements of the captured film (Woodward, Griffiths & Solly, 2014). Even with the video narrator's mediation, teachers can get distracted by minor details such as classroom layout, pronunciation, and the teacher's clothing, and miss the core point of a video clip. Case study 3 demonstrates this further, highlighting the importance of 'selective attention' (noticing) before teachers can use video effectively to develop their professional knowledge (Gaudin & Chiles, 2015).

Case Study 3: Introducing the TESS-India Videos to Head teachers and Cluster Co-ordinators

During a one-day workshop in India, a group of Head teachers and cluster co-ordinators were introduced to the TESS-India OER, including the videos. One of the TESS-India OER for school leaders, focused on how to bring about improvements in teaching and learning in a school and the aim of the workshop was to encourage Head teachers to take responsibility for the quality of teaching in their school, and to provide them with tools to support them in this endeavour. During the workshop, they were shown one of the TESS-India videos. After their initial response, the idea was to show it again, asking them to focus on particular aspects and finally to discuss how they could use the resource with teachers.

The video chosen was one that has been used in many workshops because it was felt to be authentic and shows effective teaching and learning. A single teacher has 90 children in a multi-grade class. He organises a range of activities that involve children working in groups and includes some peer-teaching. He makes good use of the textbook and a range of local resources. The Head teachers were not Hindi speakers so they were shown the version of the video in which the commentary was in their own language.

The response to the video was surprising. In the first instance the Head teachers and cluster coordinators were highly critical of the teacher. Classroom management was deemed to be defective, the seating arrangements were criticised and they commented on the lack of a lesson plan. When asked what the teacher could have done to improve, they listed things that were beyond his control (such as the amount of space available) or, in terms of teacher learning, things that are of less importance (for example, what he was wearing). On reflection we realised how difficult it is to see past the conditions in the classroom if they do not match the context exactly. The responses of the children, the level of their engagement and enjoyment was an important feature of the clip, and a discussion about what the teacher was doing to elicit those sorts of responses could have been very helpful. The Head teachers however, were focused on the teacher and the physical conditions. No lesson plan was evident in the film, but the evidence from the activities and resources was that it was a very well-planned lesson.

This experience highlights an important component of teacher expertise, namely the ability to identify and interpret classroom events and to make decisions based on those events. The group had no experience of interpreting the classroom in terms of childrens' learning; such discussions are not part of the prevailing culture and have to be introduced carefully. This highlights the importance of mediation and professional development for trainers, particularly when the audience are expecting the video to be very close to the context in which they work.

Through working with teachers and teacher educators, the team have now developed a repertoire of ways of working with video. This includes watching from different perspectives (e.g., focus on the learners, focus on the teacher, focus on the resources): stopping the video to pose questions and highlight a particular aspect of practice, identifying questions they would want to ask of the teacher in the film and then discussing how the teacher might answer them, and discussing alternative courses of action. All of this helps the teachers and teacher educators to build a vision for effective teaching, alongside knowledge of practical steps about how that vision might be achieved.

Case Study 4: Teacher's Making their Own Video in Peru and Ghana

Type 2 video (i.e., video made by individual teachers for their own professional development) is currently being trialled in Peru as an offshoot of the Foreign & Commonwealth Office's Prosperity Fund project being carried out by the OU; and used in Ghana as part of a research project based on OER from the Teacher Education in Sub-Saharan Africa (TESSA) project.

In Peru, a small group of in-service teachers in secondary schools are involved in a pilot where they use their own mobile phones together with a small external microphone to film their classes and use the footage for detailed reflection with their peers and mentors, supporting them in improving their classroom practice. This work has only recently commenced but initial responses are encouraging. Teachers are surprised, sometimes pleased, and occasionally alarmed at the practices that the video reveals. "I didn't realise I spent so much time speaking" said one experienced teacher. "Being able to view the video with my partner teacher has enabled me to reflect on my practice and pinpoint elements that I'm happy with and other areas that I need to work on". A teacher highlighted how crucial the mentor/mentee relationship is in supporting this kind of reflective practice. "I think if I felt threatened by my mentor I would not be so happy in sharing my successes and challenges".

The impact of video on developing professional relationships has become evident in a project in Ghana in which the focus is teaching practice supervisors (TPS), rather than the student teachers. In this project (Wolfenden et al., 2015), TPS have been provided with a tablet, pre-loaded with TESSA OER including the 'Teaching Practice Supervisors Toolkit'. During routine visits to students, TPS have been using the tablet to capture evidence from the classroom – video, audio and photographs – which provides a focus for the post-lesson discussion. Findings so far indicate that there is a greater focus on practice during these discussions, with more formative feedback and a shift away from normally

dominant summative judgements. A more democratic and productive relationship has developed between the tutor and the student, benefiting both parties, and TPS are learning how to support students in interpreting classroom events.

Hence, from these examples, it is clear that Type 2 video has the potential to support student teachers, providing the opportunity to analyze and improve their teaching practice, (Rich & Calandra 2010; Rook & McDonald 2012). It also provides professional development opportunities for mentors and teacher educators, and therefore has the potential to make teaching practice a more productive learning experience. It does however require intensive personal support and allocated time for reflection.

Conclusion

The situated nature of teacher learning (Putnam & Borko, 2000) and the model suggested by Shulman and Shulman (2007), suggest that teacher learning should be grounded in practice. It is not simply a matter of teaching general principles and then how to apply these in the classroom; the situated perspective recognises that general principles are 'actually intertwined collections of more specific patterns that hold across a variety of situations' (Putnam & Borko, 2007, p. 12). Such patterns can be surfaced through discussion and reflection, centred on shared experiences. We have learnt that, while Type 1 video (professionally produced for large-scale distribution) can offer exemplars of classroom practices for teachers, the essential pairing of video with both online and face-to-face mediation is essential if the core benefits of reflective practice are to be realised; watching videos from the perspective of learning as well as teaching can provide a powerful shared experience. The response of the Indian head teachers and cluster co-ordinators suggests, perhaps, that a better shared understanding of learner-centred education and what it looks like in this context is required so that they are able to interpret classrooms from a learning perspective.

We have also learnt that, using Type 2 video material requires high levels of trust between mentor and mentee, and peer teachers, and the real benefit comes from the discussion and analysis rather than from simply watching the videos. We have shown that if this trust is present, the learning can extend to all parties.

Without meaningful mediation, there is a danger that teachers will not be able to unpick the patterns in the practices they are observing and will simply adopt the 'form' of learner-centred pedagogy (the pedagogy being promoted in national policy documents) without understanding the 'substance' (Brodie, Lelliott & Davis 2002) — the underlying principles without which the strategies cannot be effectively implemented. Mediation does not have to be labour intensive and expensive. In the various approaches to the use of video that we have demonstrated in the case studies, there is a wide range of mediation strategies that can be intrinsic to the digital resources: video narrator setting pre-watching questions; overlaid commentary pointing out key elements; reflective activities including listening to practicing teachers talking about teaching and being encouraged to try similar activities adapted to the teachers' own specific classrooms; meta-tagging of video to subjects and themes. The face-to-face mediations, which are described in the case studies, are also achievable at scale as they are very much premised on school and local education offices. They can include peer support in schools, larger cluster meetings of teachers in local centres, and involvement of head teachers and education officers. The sort of mediation advocated has the potential to strengthen the role of the head teachers as well as

systems and processes that are already in place across the globe. Through discussion of authentic video, not only will teachers and the people they are working with learn to interpret classroom activity; they will develop a shared understanding of LCE in their context and begin to own the policy at a school and classroom level.

Without extensive mediation, we would suggest that video is simply an entertainment – teachers may copy certain elements that they see but are unlikely to have any deep understanding of how the techniques viewed can impact on their own teaching. We would therefore argue that mediation ensures that the use of video can be developmental and that normative video is in fact a false distinction.

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