

The contribution of audio recording using portable digital voice recorders to the development of reflective practice with trainee teachers in a Further Education setting

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Abstract

Developing reflective skills and habits during initial teacher education and progressing to deeper and more critical reflection are challenges for trainee teachers. This small-scale action research study investigates how two structured tasks using Digital Voice Recorders (DVRs) initiated, sustained and improved reflection and reflective practice. Trainee teachers reported benefits in increased understanding of reflection, development of reflective skills, deepening of reflection and improvements in practice through joint reflection with Teacher Educators on specific aspects of teaching and learning. The structuring of the tasks with prompts and dialogue clearly contributed to the positive outcomes. The study suggests that use of the small, convenient and relatively low cost DVR technology has a place in learning to reflect.

Key words

Reflection; Reflective Practice; Initial Teacher Education; Digital Voice Recorder.

Introduction

As the professional standards for teachers in the Lifelong Learning Sector (LLUK, 2007) assert, reflective practice remains a fundamental aspect of Initial Teacher Education (ITE) and Continuing Professional Development (CPD) as a value that underpins practice; a skill that teachers use to improve teaching and a concept that teachers should understand. Its importance is highlighted as a driver and process of accounting for CPD. The standards state: *'Teachers... are committed to lifelong learning and professional development and strive for continuous improvement through reflective practice'* (LLUK, 2007: p. 2).

Teacher Educators continue to ask how to help trainee teachers gain skills of reflection and develop as reflective practitioners (Samuels and Betts, 2007). The challenges are conceptual, requiring understanding of what reflection is and they are practical, requiring time and space to reflect. Challenges are attitudinal, requiring the development of a critical and sustainable practice, and skills-based, requiring practice and feedback to move beyond description to personal recognition, evaluation, application and reframing.

The context in which trainee teachers are working and learning to become effective practitioners presents its own challenges. While sector standards (LLUK, 2007) uphold the importance of reflective practice, the nature of what reflective practice is and whether it has value is contested (Bradbury et al, 2010). Differences are evident between the theory of what reflective practice is, the way it is evidenced and the value of the outcomes for teachers and learners.

Trainees' reflections may lack depth, describing what happened and suggesting a change, but without critical analysis of why or how. Day (1993) suggests that critical reflection can challenge us to recognise areas for change within our own practice. However, this involves a high level of self-awareness. Without challenge and confrontation from others' perspectives, reflection may not lead to new ways of thinking and acting (Brookfield, 1995).

Schön's (1983) model of reflective practice, where practitioners make their own decisions on how to act in uncertain and changing contexts through reflection-in and on-action suggests that practitioners can be autonomous. However the notion that reflective teachers can be autonomous, self-directing practitioners has been questioned in a sector that is increasingly regulated (Frost, 2010).

It is in this context that professional standards uphold the place of reflective practice as a key aspect of ITE and teachers' practice. Evidence of reflection is needed to achieve teaching qualifications and to demonstrate continuing professional learning and development. There is an argument therefore for the development of reflective habits and approaches during initial teacher education. The challenge is to support trainees as they start to reflect without prescribing how it should be done or constraining development with given approaches (Boud, 2010). If teachers are going to devote time to reflection it should have an outcome that is useful and valued (Kreber, 2004) and be a sustainable practice in a pressured working environment.

The purpose of this small-scale action research project was to support trainees in getting started and in trying new ways to maintain and enhance reflection. Cox (2005: p. 460) suggests that *'regular use of a reflective practice tool or model makes learning from experience more reliable'*. The project therefore investigated whether audio recording using portable digital voice recorders (DVRs) could help trainee teachers develop reflective skills and habits, find sustainable ways to reflect, capture those reflections and engage in reflective discussion with others.

Review of literature

Audio and video recording as a tool for facilitating reflection in teacher education features positively in literature related to educational technology (Chinnery, 2006; Jensen, 1994). Whitehead and Fitzgerald (2006) used video recordings of classroom practice to enhance school-based mentoring. Young (2003) used audio recordings of classroom discussions to develop trainee teachers' sociocultural awareness. Lockhart (1994) claims that recording obtains the fullest account of taught lessons to develop the teacher's self-reflective competence. Analysis of literature shows that audio and video recordings can support trainees' development and practice of reflection in practical ways and through deepening reflection, promoting critical reflection and facilitating dialogue with others.

Practically, it can be a time-saving measure for trainees who find it easier to record their reflections than to write them (Clarke, 2009). Writing may slow or interrupt reflective thinking and block spontaneity (Aitken and Deaker, 2007). Ease of storing and sharing recordings is an advantage (Rhine and Bryant, 2007), although technology may be a barrier for some trainees in setting up equipment effectively. Self-consciousness about appearing on video or hearing one's voice is an issue for some.

Advantages include promoting deeper reflection. Clarke (2009) reports that, in some cases, trainees' reflection captured on video was more spontaneous and honest, with more emotion evident in facial expression. Rhine and Bryant (2007) and Lee and Wu (2006), also using video-based recording, identify that reflection is enhanced as it is based on the recording of what happened rather than relying on recall. What happened can be clearly and specifically defined, providing richer and more accurate material for reflection. There are opportunities to revisit incidents and reflections, an advantage identified in other studies (Samuels and Betts, 2007) and highlighted by Rhine and Bryant (2007), who identify that it provides time to think further and expand initial views. Lee and Wu (2006) also note the opportunity to see improvements over time through revisiting recordings.

Brookfield (1995) highlights the importance of gaining others' perspectives through feedback and dialogue to encourage critical reflection. Loughran (1996) used video recordings of teaching practice as the subject for review and dialogue with trainees. In recent studies the advantages for facilitating dialogue and feedback through recording are identified by Lee and Wu (2006), in particular that feedback can be related to specific incidents captured in the recording, and by Rhine and Bryant (2007) who note that teachers can identify and discuss their reflection-in-action through observing their teaching.

Aitken and Deaker explore the significance of language and thinking in the use of tape recordings for reflection. Drawing on the work of Vygotsky, they highlight that language is not only a way of expressing thinking and knowledge but also an act of thinking and acquiring knowledge, stating: *'the act of talking is the act of thinking and learning'* (2007: p. 1). Making a tape recording of one's reflections is a form of dialogue with the self, which may result in new thinking and insight. They identify five benefits from keeping a tape-recorded reflective journal: immediacy, creativity, sincerity, effective communication and thinking through talking.

Where it may not always be possible to reflect with someone to challenge and extend reflections, studies have identified that prompts can provide support early in the learning process and encourage further development (Bean and Stevens, 2002; Cox, 2005). Prompts can indicate what is meant by reflective thinking and writing, stimulate analysis and questioning, and engage the reflector in dialogue. In a study by Samuels and Betts (2007: p. 278) one participant progresses to develop her own prompts to remind her to reflect further. She states:

"I think you said to me – have I really got to the core of it? – so I put myself a question - have I really, you know, am I really saying why this is important to me? And once I had got that, it was good. It was almost like someone sitting there. I know what question they are going to ask me next so I am really going to think this through.

But as soon as I had my little boxes, which prompted me to think about different things, it was fantastic because I read the format. I set that up. I knew what I was going to ask myself each time. It was like a person there saying what have you learnt from it?"

Two forms of support were incorporated into the project reported here, a set of optional prompt questions (see Appendix 1) to consider when reflecting alone and a dialogue with the Teacher Educator.

The action research project

This small-scale research was carried out within a consortium of Initial Teacher Education (ITE) providers to investigate how digital voice recorders can be used to aid reflection and develop reflective practice. Eight volunteer trainees each evaluated two different ways of using audio recording to support and develop their reflection over two months.

Video recording of trainee teachers' lessons has been widely used and researched. Whitehead and Fitzgerald (2006) carried out a successful mentoring project where video recordings of not only trainee teachers' but also their mentors' classroom practice were used to stimulate reflective dialogue. There is however little reported about the use of audio recording. The particular contribution of this project is its specific focus on audio recording using a digital voice recorder, which also functions as a Universal Serial Bus (USB) device. The DVR was chosen for its affordability, quality of recordings, small size, unobtrusiveness, ease of use and the facility to share files digitally.

Making a recording for any kind of educational purpose inevitably raises the question of ethics, which were considered carefully before the research project was set up. The Principal's formal consent to carry out the research tasks was secured. The volunteer trainee teachers carried out two different tasks using the DVR. The purpose of task 1 was to record post-lesson reflections on five different occasions, as a 'talking journal'. It is important to emphasise that there was a confidentiality agreement before the recordings were made to assure the trainees that the researcher would not hear these raw talking journal reflections. This was intended to allow the trainees to reflect 'freely'. Therefore trainees reflected alone without any Teacher Educator involvement. The only external help given was a list of optional prompt questions for support, intended mainly for the initial stages to 'get started'.

Task 2 required trainees to make a recording of an activity from a lesson. This included recordings of live class activities including students' voices. Trainees obtained the permission of their students and explained the purpose of the recordings and how they would be used. Recordings aimed to capture data to support a two-way, reflective discussion with the Teacher Educator based on the evidence captured by the DVR. It was agreed by trainees and participating students that although their voices would be heard on the tapes, students' identities would not be revealed to the Teacher Educator.

Questionnaires were used to gather data on trainees' experiences of both tasks and their evaluation of the DVR as a tool to support reflection. Further data was gathered in the feedback discussions held with each volunteer trainee for task 2.

The eight trainees were self-selected, from Years 1 and 2 of the ITE programme, with five out of eight in Year 1, with less than two years' teaching experience. Trainees taught in five different subject areas (Business, IT, Health and Social Care, Leisure and Tourism, ESOL) and included five female and three male teachers. The sample was limited although it represents a reasonable cross-section for a small-scale project.

Findings

Overall, trainees agreed that participation in the two tasks helped them to reflect on their practice and resulted in tangible developments in their teaching, including:

- extending and varying activities used in lessons (6 trainees)
- increased planning (3)
- dealing with a specific learner issue (1)
- taking a more learner centred approach (2)
- dealing with behavioural issues (2)
- improved communication (2)
- improved questioning, including probing (2)
- clearer setting up of and explaining tasks (1)
- evaluating more thoroughly, including considering why (3)
- using new assessment practices (2).

All trainees reported that they had made changes to their practice as a result of the reflective tasks. The discipline and opportunity the tasks created, the ease of use of the DVRs and the prompt questions were significant factors in supporting their reflection. Lack of time and quiet space to use the DVRs at work were barriers. Almost 50 per cent of all the recordings for the 'talking journal' task were made at home.

Analysis of the data reveals that the benefits trainee teachers experienced from engaging in tasks 1 and 2 fall into two categories: outcomes resulting from reflection and development in the process, and skills of reflection.

Interestingly the outcomes are different from tasks 1 and 2. For task 2, where trainees recorded part of a lesson and reflected on this with the Teacher Educator, the perceived outcomes were improvements in teaching and learning that were "concrete" (T3), addressed specific problems (T2, 7) and centred on planning and using teaching strategies (all). The dialogue with the Teacher Educator was a significant factor, leading to improvement through generation of ideas, advice and guidance, recognising aspects of the situation that had not been previously noticed and focusing on the "actual" lesson (T4) from trainee teachers' and learners' perspectives.

In task 1 the outcomes for trainees from keeping a talking journal were recognition of the development of their reflection over time and the ability to verbalise strengths and weaknesses.

In developing reflective processes and skills, the benefits are again different for tasks 1 and 2. Trainees reported that engaging in task 1 allowed them to "vent" feelings (T2, 6) and "... to say things [I] would not say in front of others" (T7). They were able to verbalise what happened and as a result "... think about reasons" (T4, 5). Trainees reported on four other aspects of their process of reflection that improved as a result of task 1: an enhanced "process of reflection", reflecting in a new way, reflecting in more detail, reviewing and comparing reflections over time. Three trainees identified that the prompts for the 'talking journal' task gave them a clearer understanding of what they should be reflecting about and how.

Engaging in task 2 also resulted in development in reflective processes and skills. The developments might be described as demonstrating a higher level of reflection through “*deepening analysis*”, taking a more objective stance and becoming aware of one’s own process of reflection.

Overall task 1 led to greater development of reflective skills and processes, and task 2 to more improvements in practice, accompanied by greater analysis and objectivity that was facilitated by having recorded evidence of lessons and support and challenge from the Teacher Educator.

A further interesting finding is that two trainees identified, separately, that using the DVR enabled them to take control.

“I felt that as I had the recorder, I was in control”

“This has given me some ideas of how I can check my own progress (quite early) at my own pace and continually find ways to develop and improve my teaching”

This aspect was not explicitly explored in the research but may be worth further investigation. Research has shown (Samuels, 2008) that some trainees respond negatively to situations where they are not able to choose their own approaches to reflection and select their own goals. Aitken and Deaker (2007) associate autonomy with reflective practice and higher levels of learning, and this is evidenced here in trainees reporting taking responsibility for assessing their own development and practice.

Discussion

The significance of prompts and dialogue resonate with other studies. They provided a secure starting point when talking into the recorder. In terms of gaining understanding of the concepts of reflection and reflective practice, prompts provided guidance about the content and process of reflection. One trainee reported: “*Gave me an idea as to what aspects I should be reflecting on*” These findings reflect those of Bean and Stevens (2002) and Cox (2005). Further the prompts stimulated changes to practice leading to tangible outcomes from the reflection. One trainee reported: “*... the questions [prompts] put the whole context of the lesson into perspective*” This resulted in in-depth exploration of teaching style and delivery, taking a more student focused approach and using more student activities in the lesson. Some trainees commented that they became more selective about which prompts to use according to which areas were important to their needs. This suggests greater self-awareness and deeper reflection.

Dialogue was significant in two ways. Discussion of recorded sessions with the Teacher Educator highlighted the importance of looking from different perspectives, noticing and taking a more objective, distanced stance. This may have been responsible for higher levels of reflection evidenced through deeper analysis and taking a more objective stance. There are indications that it was the combination of dialogue with access to the recording that resulted in increased levels of reflection. Five trainees refer to this in different ways:

“It allows me to reflect in detail”

“I have been able to observe my own approach”

“Wonderful self-analysis”

“Able to reflect on a section of the actual lesson with both mine and the students’ uncensored input”

“... helped me to... reflect upon feelings, emotion and what actually was going on during class”

These benefits have been identified in previous studies with the use of video recorded lessons (Lee and Wu, 2006; Rhine and Bryant, 2007).

Dialogue also arose where trainees used the DVR as a talking journal. Aitken and Deaker identify this in their study:

“The dialogic nature of recorded journals also enabled students to see the experience as a form of interrogation. The notion of audience and interaction was implicit in the ways in which individuals positioned themselves as active participants in a dynamic process: “...it was like having a conversation” (Respondent G).”

(2007: p. 4)

They refer to a ‘*notional respondent*’ (ibid) who provides challenge in a similar way to the Teacher Educator. One trainee in this study describes speaking into the DVR as “*... like a conversation*”. Aitken and Deaker (2007) attribute importance to the act of talking into the recorder, not only because the recording captures the thinking that trainees may have already done, but because talking facilitates new thinking and reflecting. The articulation encourages clarity and organisation, which in turn helps the trainee to internalise their thoughts. Two trainees expressed this:

“I could then think about reasons why ...”

“I was able to verbalise strengths and this helps to reinforce these for future planning, same for weaknesses?”

In terms of the conceptual, attitudinal, practical and skills-based challenges faced when starting to reflect, engaging in the tasks developed understanding; challenged trainees to look at experiences in new ways; raised awareness and enhanced reflective skills and processes. Time and space to reflect immediately after teaching was not easier to find with the DVR. The length of time trainees spent recording varied from 2 minutes 50 seconds to 23 minutes 30 seconds, with the average time being 6 minutes. Two trainees took longer than 7 minutes for all their recordings. It is not possible to tell how long it would have taken these trainees to write equivalent reflections.

In relation to Aitken and Deaker’s (2007) benefits from keeping a tape-recorded reflective journal, all the benefits can be identified in this study. Immediacy was experienced when listening to recordings and gave trainees a sense of revisiting the actual lesson. Creativity is evident where trainees spoke of the recording giving freedom of expression and enabling them to do things in new ways. Trainees identified opportunities to “*vent*”, to express emotions and to say things they would not say in front of others, indicating a willingness to be honest and sincere in their reflection. Communication and thinking through talking have already been discussed.

Conclusion

This study identifies benefits from using a DVR to enhance reflection but it cannot provide evidence that these benefits would necessarily be found across a wider cohort or in a different context. The trainees’ evaluations indicate the positive impact of the use of the voice recorders. The research tasks resulted in two noticeable achievements, which contributed to the professional development of each individual: some degree of change in practice and a raised level of awareness of their own strengths and weaknesses. By completing the tasks and reflecting on them, the trainees engaged in creative experimentation and reflective investigation as a model of professionalism and continuing professional development.

Trainees’ and Teacher Educators’ reflections identified these ways to develop the use of DVRs further:

- recording different types of activities and groups for comparison
- making a series of recordings to follow up areas for development identified in formal observations of teaching
- introducing different models of reflection through prompt questions
- designing reflective tasks to relate course learning and practice
- using recordings in addition to formal observations.

In the wider context of educational technology the biggest advantage of using DVRs is that they are small, light, portable and straightforward to use. In comparison with alternative technology, they are easier to carry, to set up and to move around in a classroom than video cameras, laptops with built-in video cameras/voice recorders and audio software programmes, such as Audacity (2009).

One trainee highlighted the highly individual nature of reflection and the essential value of the project:

“It allowed me to stop and think about how and what I am teaching. How I feel (as a teacher) and how and why the learners are responding to learning. Overall... it gave me a sense of awareness”.

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Appendix 1

Prompt questions for reflection

1. What are your immediate thoughts and feelings about the lesson?
2. How much did the learners learn/achieve?
3. What was their learning experience like?
4. Were there any problems for the learners? What problems? Why?
5. Were there any critical moments for you? What kind of moments? Why?
6. How would you teach the lesson if you had to do it again?

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