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In-service teachers' practice of learning to teach, the theory of practice architectures and further education-based teacher education classes in England

David Powell

School of Education and Professional Development, University of Huddersfield, Huddersfield, England

ABSTRACT

This paper uses the theories of practice architectures and learning to teach to study in-service teachers' practice of learning to teaching within a further education (FE)-based initial teacher education (ITE) classes at one further education college (FEC) in England. It seeks to answer two research questions: How do in-service teachers learn how to teach within a teacher education classes at a general FE college in England? What site-based factors shape the in-service teachers' practice of learning to teach? Using an action research methodology, the researcher, a university-based teacher educator, worked with a team of six FE-based teacher educators and their 35 in-service teachers to answer these questions. Drawing on data from six 'teacher talk' meetings with the teacher educators and three focus groups with the in-service teachers, the paper builds on and adds to international maps of existing research and knowledge of their practice of learning to teach.

Introduction

Research on student teachers' practice of learning to teach has focused on pre-service teachers preparing to teach in early years, primary, and secondary education settings (Dennis et al., 2016). This paper focuses on a different group: in-service teachers teaching in England's Further Education and Skill (FES) sector. These are teachers who are already employed to teach and are learning to teach 'on the job' (Thompson, 2014). The international literature normally uses the phrase student teachers to identify those who are learning to teach. Within this paper, I will use the term student teachers when that is the one used in the literature and in-service teachers when referring to the study or any particular studies on them.

This paper adds to the existing literature on how in-service teachers learn how to teach within FE-based initial teacher education (ITE) by, for example, Harkin et al. (2003), Orr and Simmons (2010), and Lahiff (2015). To do so, it uses the theories of learning to teach (Taylor, 2008) and practice architectures to identify how in-service teachers are learning to teach and what shapes the practice of learning to teach in FE-based teacher education classrooms. Drawing on data from a larger study, this paper seeks to answer two research

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CONTACT David Powell ✉ d.powell@hud.ac.uk School of Education and Professional Development, University of Huddersfield, England

questions: How do in-service teachers learn how to teach within teacher education classes as part of a university accredited ITE programme at a general further education college (FEC) in England? What site-based factors shape the in-service teachers' practice of learning to teach? To answer these questions, I, the researcher and the director of an ITE partnership between a university and the college in the study, adopted a second-person practice approach (Chandler & Torbert, 2003, p. 143), a form of participatory action research, to work with a newly formed team of teacher educators based at the FEC. This is the first site-based study of in-service teachers learning to teach in FE-based ITE classes in England.

FE in England and its FE-based in-service initial teacher education

England's FES sector is responsible for educating 16–18 year olds and adults. It offers academic and vocational courses from levels 0–7[1] at a range of different types of provider including general FECs, adult and community learning, and work-based learning. Of these, FECs are the largest providers of education and training. Internationally, their closest though not direct equivalent in Australia would be a technical and vocational further education institution, a community college in the United States, and Vocational Upper Secondary (MBO) institutions in the Netherlands. Orr and Simmons (2010, p. 78), commentating on educational reform within the sector, noted 'virtually all aspects of FE are now highly mediated by the State'.

FECs are the main provider of ITE for the sector's new teachers. These courses are offered at levels 3, 4, 5, 6, and 7 and those offered at level 5 and above are often run in conjunction with a university partner. FE-based ITE has five characteristics that make it distinctive from most full-time, pre-service ITE for schools:

(1) It is predominantly part-time and in-service, reflecting the sector's focus on vocational education and training and the practice of employing skilled professionals direct from industry to teach and then training them 'on the job' (Thompson, 2014). The courses at levels 3 and 4 are short, introductory programmes of less than a year's duration; those at levels 5, 6, and 7 are normally taught over two years;

(2) The teachers 'will often have entered FE without a degree on the basis of a vocational specialism' (Avis et al., 2011, p. 123):

(3) FE-based teacher educators deliver the programmes (Powell, 2016);

(4) There is often limited or no development of subject-based pedagogy within the programmes (Thompson, 2014);

(5) FECs are often spaces where student teachers learn to teach through their role as teachers and their student experience of being taught in an FE ITE classroom. As a result, Orr and Simmons (2010) suggested they have two interacting roles and identities: student teacher and teacher. Orr and Simmons (ibid, p. 75) concluded this might 'cause tensions in their development – shaping and reinforcing a conservative understanding of further education and the role of the FE teacher'.

The theory of practice architectures

The theory of practice architectures is a site-based theory of practice for studying the practices of an education site. These practices consist of 'sayings', which reflect the

language of the cognitive domain, 'doings', which are the actions of the psychomotor domain, and 'relatings', which characterise the behaviours of the affective domain (Kemmis et al., 2014a, p. 38). These 'sayings, doings, and relatings' [or actions] 'hang together' in 'the distinctive project" (ibid, p. 56) of a practice, for example, learning to teach. Projects consist of the 'actions' of the practices within it and its goals. The project and its practices are 'pre-shaped and pre-figured (but not predetermined)' (ibid, p. 5) by the three intersubjective spaces that connect its participants: 'the semantic space and its medium of language; the physical space-time and its medium of activity and work; and the social space in the medium of solidarity and power' (ibid, p. 34). In turn, these spaces are shaped by the practice architectures of the site: the cultural-discursive arrangements, the material-economic arrangements, and the social-political arrangements. Two other factors shape practices: the practice landscape of the site, for example, an FEC, and its practice tradition, an example of which is ITE. A strength of the theory is its ability to make visible the practices of a site, any interconnectedness between them, and the arrangements shaping them.

Learning to teach: an initiation into the 'sayings, doings and relatings' of teaching

Literature on learning to teach for in-service teachers has focused on teaching placements (Goh & Zukas, 2016), the use of interventions (Winters et al., 2012), 'a new education program' (Duch & Andreasen, 2015), observations (Lahiff, 2015), teachers' dual identity as teacher and learner' (Orr & Simmons, 2010), and Harkin et al.'s (2003) study of FE-based in-service teachers' experiences of FE ITE classes.

Harkin et al. (ibid, p. 1) asked the research question: 'What are FE teachers' perceptions of the effectiveness of initial training in helping them to teach and to support learning?'. The findings identified five ways these in-service teachers were learning to teach: course content, tutorials, role modelling of tutors, reflective practice, and observations. However, the study did not use a conceptual framework to evaluate how they were learning to teach, it focused on the whole course, not just the classroom-based learning, and drew on samples from former in-service teachers from ten FECs. As such, it was not site specific and did not consider the factors shaping the practice of learning to teach.

Learning to teach is an initiation into the practice of teaching: its 'sayings, doings, and relatings' (Kemmis et al., 2014a). In relation to his work with school teachers, Lortie (1975) asserted that this initiation begins with student teachers' own experiences of being taught at school; thus, they commence their ITE programme with established ideas of how to teach. Consequently, their initiation into the process of learning to teach can be disruptive and disorientating as they struggle with preconceived and new ideas of what it means to teach and be a teacher (Brintzman, 2003).

Burn et al. (2015) suggest that student teachers need to acquire three types of knowledge: knowledge of their students and how they learn; knowledge of their subject and curriculum; and the knowledge of how to teach. However, there seems to be only one study that suggests a framework for how they might acquire this knowledge. Taylor (2008), who studied pre-service teachers within an ITE partnership, conceptualised four ways of learning to teach. Three of which apply to ITE classrooms:

(1) Cascading expertise involves the teacher educator transmitting important practical knowledge on, for instance, managing disruptive behaviour to their student teachers prior to practicum.

(2) Developing student teaching is concerned with experts, normally teacher educators and mentors, helping student teachers establish their own repertoire of teaching strategies. This apprenticeship model (Boyd, 2014) might be a result of a teacher educator modelling a strategy in their classroom, the mentor modelling it in their classroom, the student teacher co-teaching with an experienced teacher, or teaching their own class and receiving feedback on it. What is important is that the student teacher is able to discuss with an expert the strategy so they understand it and get feedback on their use of it.

(3) Student as teacher and learner acknowledges their unique position as both a student who is learning to teach and a teacher who is applying this learning to their teaching as they create their own personal pedagogy. However, this can only happen if they have a disposition to see themselves as a 'teacher-learner' (Taylor, 2008, p. 78).

Additionally, Taylor (ibid, p. 80) suggests these ways of learning to teach might be tiered into three levels of understanding: 'cascading expertise' is a 'limited level', 'developing student teaching' is an intermediate level, and 'student as teacher and learner' is 'a more sophisticated level'. Those with a 'limited level' of understanding of how to teach would view their own students as passive recipients of their knowledge, those with an 'intermediate level' see teaching 'as facilitating students to acquire the teacher's knowledge' (Taylor, 2008, p. 68). Those who discern teaching at 'a more sophisticated level' recognise that it can be transformative, though are aware that this will be dependent on their own students' dispositions to learning.

Teacher educators' modelling is a key concept in ITE and aims to facilitate student teachers' practice of learning to teach. Lunenberg et al. (2007, p. 591) identified four forms of modelling: implicit; explicit; explicit and making links to student teachers' own practice; and theorising their practice. However, student teachers rarely notice implicit modelling so it is of little value to them (Powell, 2016). Explicit modelling is more powerful than implicit because the teacher educator unpacks the 'pedagogical principles' (Lunenberg et al., 2007) for their student teachers, enabling them to make connections between their experience of being taught and their own teaching. Boyd (2014, p. 53) suggests that as well as modelling teaching 'strategies' a teacher educator might also model teaching 'values' and 'identities'. Depending on how it is used by a teacher educator, modelling seems to sit within two of Taylor's suggested ways of learning to teach: developing student teaching and student as teacher and learner. It sits within the former when the teacher educator models a strategy their student teacher can use in their own teaching. It might sit within the latter when the student teacher recognises their own position as a role model for their students – part of what Boyd (2014) calls the layered pedagogy of teacher education – and uses modelling in their own teaching to convey the practices, values, and identities of the profession they are preparing their own students to enter.

Swennen et al. (2008) highlight the importance of teacher educators possessing the necessary vocabulary and language to explain their practice to their student teachers. As a practice, teacher educators' modelling consists of their 'sayings, doings, and relatings'

and its effectiveness as a practice is dependent on two factors (Powell, 2016). First, a teacher educator's willingness and ability to make explicit their practice and values explain what informs them and then suggest its usefulness for their student teachers' practice. Second, the actions of the student teachers in terms of their disposition to question and discuss with their teacher educators the modelling of strategies, behaviours, and identity (Powell, 2016).

Boyd (2014) suggested what makes learning to teach complex and difficult is that in any class student teachers are required to simultaneously focus on and follow both teacher educator's content, pedagogical, and practice turns. For example, they are studying the content of their subject, how it is being taught to them, and the theory underpinning the teacher educator's practice. Unless the teacher educator can reduce this complexity for the student teachers, there is a danger of them feeling overwhelmed (Powell, 2016). One way a teacher educator might do this is by discussing and debating their pedagogical choices (Loughran & Berry, 2005), and in the process make their student teachers aware of 'the dilemmas, issues and concerns germane to teaching about teaching' (p. 196) of the practice turn. Boyd (2014, p. 70) argues that effective modelling can be the 'glue that will improve the coherence for in-service teachers between the domains of knowing and layers of purpose within their complex learning experiences'.

However, a teacher education classroom is 'not a neutral zone' (Brintzman, 2003, p. 34); it is an ideological force-field of government policy, teacher education policy, institutional expectations and policies, teacher educator practices, student teacher learning practices, and teacher educator and student teacher identities. Thus, the site(s) where student teachers are learning to teach shape(s) the practice of learning to teach; their relationships with their teacher educator(s), mentors, other teachers, managers, students, their fellow student teachers; their own biographies as students, and the policy context (ibid).

The site and its participants

The site for this research was a general FEC in England. This paper draws on data from a larger study involving six of the college's teacher educators and 35 of its in-service teachers. The larger study involved the teacher educators opening the doors of their teacher education classrooms, allowing me to film their classes. This enabled me to zoom in (Nicolini, 2012) on their 'sayings, doings, and relatings' (Kemmis et al., 2014a, p. 31) and zoom out (Nicolini, 2012) to consider what was shaping their actions by talking to the teacher educators and the in-service teachers. This paper focuses on the zooming out phase of the study. Following British Educational Research Association's (2011) ethical guidelines, I obtained approval for the study from my university and fully informed written consent from a senior manager at the FEC and the individual participants (Powell, 2016).

Methodology, data collection, and data analysis

Smith (2015, p. 44) suggests that 'research in teacher education should be mainly practice-oriented research'. In other words, it needs to be of value and 'relevant to the practice field' of teacher education. The larger study's design was a result of my invitation to teacher educators within a university ITE partnership of FECs to join my study on the

use of modelling within FE-based ITE classes. Initially three teacher educators from one college volunteered to participate and I, alert to Lunenberg et al.'s (2007) claim that teacher educators working together to explore modelling could be beneficial to their practice, saw an opportunity to work with a team of teacher educators at one site. This led me to choose action research, a practice-based methodology (Kemmis et al., 2014b, p. 4) that seeks to better understand practice, change it and change the practice conditions at a site for the study. This paper draws on two data collection instruments from the study: 1) 'teacher talk' (Hardy, 2010, p. 131), six 'deliberately developed conversations' with the teacher educators about the study's design, data analysis and findings, and their use of modelling, and 2) focus groups with the three groups of in-service teachers, a total of 35 in-service teachers. These teachers were studying for either a level 5, level 6, or level 7 teaching award and teaching a range of academic and practical subjects including practical sports, law, accounting, travel and tourism, practical catering, English, art and design, music, biology, British Sign Language, and employability skills.

Two of the focus groups were with teachers in their second year of ITE and the other group was with teachers in their first year of ITE. The focus group with the first-year group took place in the second cycle after a peer teaching session, which was the study's intervention. During one of the 'teacher talk' conversations, we agreed that two of the teacher educators from the study would conduct this focus group: Teacher Educator E, a new teacher educator, and Teacher Educator B, the team's leader. Focus groups were chosen because they made audible the practice of learning to teach and the relationship between teacher educators' practice of teaching and in-service teachers' practice of learning to teach. An audio recorder was used for the focus group discussions.

All data collected were transcribed for analysis. The study's analytical lenses were Taylor's (2008) three ways of learning to teach and concepts from the theory of practice architectures (Kemmis et al., 2014a). A weakness of this study is that I was unable to share the transcriptions with the in-service teachers prior to data analysis due to timing issues. As two of the teacher educators had been involved in the focus group with the first years, I invited them and the rest of their team to comment on my initial analysis. As well as this, after each cycle of the study, I shared my preliminary findings with FE-based teacher educators who were members of the university's FE ITE partnership and at the end with university-based teacher educators who attended the researcher's workshop at the University Council for the Education of Teachers in conference in 2015. These conversations with knowledgeable professionals was the way I sought to 'establish the legitimacy and validity of [my] knowledge claims.' (Kemmis et al., 2014b, p. 3).

Findings and discussion

Pre-conceptions of how to teach at the start of their course

Student teachers serve an 'apprenticeship of observation' (Lortie, 1975, p. 61) during their own schooling. As a result, they bring pre-conceived ideas, or 'sayings', of how to teach into their practice of learning to teach. Four in-service teachers spoke about former and current teachers whose 'sayings, doings, and relatings' had made an impression on them and helped them establish their own ideas of how to teach. The first remembered teachers from school who were poor role models:

> I wouldn't teach like some of the teachers I had when I was younger. I thought, "I'm never going to be like that." (In-Service Teacher 5, Focus group with Teacher Educator D's Year 2 class).

On the other hand, the second recalled having

> …some amazing teachers, who I identified as amazing teachers, and I would hope I am as fun and as engaging as they were. (In-Service Teacher 3, ibid).

A third teacher's response suggested they saw their university teachers as role models and sought to emulate them:

> I repeated how I'd been taught at university. (In-Service Teacher 3, Focus group with Teacher Educator B's Year 2 class).

A fourth reflected on the experience of being a learning support assistant (a teaching assistant who supports students in classes) and how working with and observing another teacher shaped their ideas:

> I fell into teaching because we were short staffed at work and I kind of stood in and I mirrored what the previous teacher had done and so, when they were poorly, I tried to stick to their structure and what they'd done and it ran smoothly as they [the students] were used to that way of teaching. (In-Service Teacher 10, Focus group with Teacher Educator D's Year 2 class).

All four emphasised how these FE-based teachers drew on their experience of being taught, or working with another teacher, as they began to create their own personal pedagogy.

Three ways of learning to teach

The data suggested that there seemed to be just one example of a teacher educator's 'sayings and doings' as 'cascading expertise' (Taylor, 2008, p. 73):

> Teacher Educator B shows different ways of how we can use that word as well and … give us ways in how we can use that information. (In-Service Teacher 6, Focus group with Teacher Educator B's Year 2 class).

This transmissive way of learning to teach, according to Taylor, might be of limited value to these teachers as they establish their own pedagogy, so it may not be an issue in itself that there was only one example of it. On the other hand, there were at least ten examples of how teacher educators' modelled actions were 'developing student teaching' (Taylor, 2008, p. 77), enabling them to adopt and adapt these modelled practices into their own setting and practice, which is an aim of modelling (Lunenberg et al., 2007). I have selected four examples to represent what was said. The first shows how a teacher educator's 'sayings and doings' were adopted into this in-service teacher's 'sayings and doings':

> Last week Teacher Educator B gave us the manipulative – the bits of paper – and I can sit back and think about how I [can] use that method in a visual way when I am teaching sign language. Obviously it's me that has to think of that different way but it's still modelling the use of such an activity. (In-Service Teacher 6, Focus group with Teacher Educator B's Year 2 class).

The second, third and fourth examples illustrate how a teacher educator's actions influenced their in-service teacher's own actions. For instance,

> There were things that Teacher Educator D was doing that you would do with your own students like not jumping in and giving them the answers if you saw that they were struggling. (In-Service Teacher 5, Focus group with Teacher Educator D's Year 2 class).

In-Service Teacher 8 said:

> My students tend to form groups fairly early on and keeping them away from those groups can be difficult. They will stick to their own group until you actually mix them up and that is something I need to do more of. That's something Teacher Educator D has taught me I should be doing. (Focus group with Teacher Educator D's Year 2 class)

In-Service Teacher 5 reflected:

> I think Teacher D is really good at linking stuff we've done in our own lessons and Teacher D might say 'oh In-Service Teacher 8 can you share what you did in your lesson?' and so we can see how people are using similar things in different ways that Teacher D has observed in our observations, because we don't tend to get to see other people teaching generally. (Focus group with Teacher Educator D's Year 2 class)

Taylor (2008) categorised 'developing student teaching' as requiring an 'intermediate level' of understanding of how to teach as these teachers translate their own experience of being taught into strategies, behaviours and values they can use in their own teaching. What is interesting in the last example is how the teacher educator harnesses examples of teaching they have observed to develop the thinking and teaching amongst these in-service teachers. However, not all these teachers said that being on the course was developing their teaching. For example, one stated,

> I've actually been teaching for about eighteen years before I came on the course so I don't really think that I would teach any differently now than I did before I came on the course. (In-Service Teacher 4, Focus group with Teacher Educator B's Year 2 class).

Taylor (2008, p. 80) suggested that a 'student as teacher and learner' disposition involves a conceptual change in how an in-service teacher perceives their teaching. As such, she asserts it requires 'the most sophisticated understanding of learning to teach' (ibid). Within this study, there were at least eight examples of how these in-service teachers were able to put on their bifocal lenses and adopt the dual identity of teacher and learner (Orr & Simmons, 2010). Three examples have been chosen to examine this way of learning to teach. The first suggests how Teacher Educator E's actions were shaping In-Service Teacher 10's own 'sayings':

> Previously, if they actually filled in a worksheet – it was 'oh my God they've done some work!' But now I'm sorta 'I don't care if you have written it down, do you get it? Do you understand it?' That's how I've changed massively. (Focus group with Teacher Educator E's Year 1 class).

The second example evidences how In-Service Teacher 9 now realises that when planning, designing, and teaching classes that their own students' actions are more important than their own:

> When I first went into teaching, I almost felt I had to have every single second of every single minute covered and be in control and make sure that I'm getting over that information for every single minute. But I remember in one of the sessions and you said 'who should be working the hardest – you or the students?' It's like that really kind of resonated with me in so far as they should be the ones learning and working hard rather than me. (Focus group with Teacher Educator E's Year 1 class).

The final example suggests this teacher now realises that the importance of their own actions in creating a positive classroom climate:

> If I'm not motivated and coming up with fresh stuff then how can I expect to keep them fresh and motivated as well? (In-Service Teacher 3, ibid).

One important final point, none of these in-service teachers 'sayings' foregrounded the role of theory in helping them to learn to teach and better understand it as a practice.

What shapes the practice of learning to teach?

The data suggested that the language of the cultural-discursive arrangements, the physical, spatial and temporal resources of the material-economic arrangements, and the relationships of the social-political arrangements all shaped the practice of learning to teach.

In terms of the cultural-discursive arrangements, the data suggested that these teachers' conceptions of how to teach, their command of language, and their ability to see themselves as teacher and learner all shaped the practice of learning to teach. For example, in the voice of In-Service Teacher 10, who had been teaching for 'three to four years' before starting the course, we hear how they initially imported into the ITE classroom their own pre-existing conception of teaching as the transmission of information from the teacher to the student. Their ability to see themselves as both teacher and learner enabled this perspective transformation:

> … when I started the course I realised that teaching was more than just that. I've picked up things from the tutors during class about how I can involve the students more (In-Service Teacher 10, Focus group with Teacher Educator B's Year 2 class).

Swennen et al. (2008) highlight the importance of teacher educators possessing the necessary vocabulary and language to explain their practice to their student teachers. In this study, Teacher Educator B's command of language enabled one of the Year 2 in-service teachers to learn how to teach but for two first year in-service teachers it was a constraint. For example, In-Service Teacher 7 said:

> Teacher Educator B uses some very long words but Teacher Educators B explains them well. In the first year, a lot of the terminology was explained but not as well – they expected you to understand it. Whereas this year everything has been explained very clearly. (Focus group with Teacher Educator B's Year 2 class).

On the other hand, In-Service Teacher 4 said:

> When you [Teacher Educator B] speak sometimes you use such long words that they go completely over the top of my head and I haven't understood a word that you've said so there is no point in saying it. (Focus group with Teacher Educator E Year 1 class).

Immediately, In-Service Teacher 1 replied:

> I'm glad of some of the things you [In-service Teacher 4] said because some of the things you [Teacher Educator B] said were just going over my head (ibid.).

In-Service Teacher 4 responded to this comment by stating:

> You [Teacher Educator B] have to come down to our level! (ibid).

To which In-Service Teacher 3 replied:

> Dumb it down a bit [Teacher Educator B laughed heartily and the group joined in] (ibid).

Then, In-Service Teacher 2 added:

> I agree. Like, some of this is over my head but when there were words that I understood I felt clever because I understood them and I quite like that (ibid).

It is worth noting that none of the in-service teachers referred to Taylor's ways of learning to teach when asked how they were learning to teach. Yet Swennen et al. (2008) emphasise that acquiring the language of learning to teach (teacher educators' capacity to use the language of learning to teach) is important for student teachers as they learn how to teach. The teachers making these comments were in Year 1 and struggling with some of the vocabulary being used, including the language of learning to teach. These voices capture how teacher educators' actions might affect the in-service teachers' actions. Here the practice of teaching how to teach became a practice architecture that shaped how some of these teachers learn how to teach. This suggests perhaps more might be done within the curriculum to develop student teachers' language skills and this includes their ability to acquire and use the language of learning to teach.

As part of the assessment requirements for the first module in the first year of their course these teachers are required to do a micro-teach in front of the rest of the group. However, there is no requirement to do this in the second year and one of them identified this as something they would have found helpful as they learned to teach:

> You don't get any opportunity in the second year to see each other teach either. We did in the first year ... and, to be honest, it's more useful in the second year than it is in the first because, by that time, you are more interested in what other people are doing, or you should be, because that is part of your own personal development. (In-Service Teacher 12, Focus group with Teacher Educator B's Year 2 class).

This is an example of how the cultural-discursive arrangements shape the curriculum and then limit in-service teachers' opportunities to learn from watching others teach.

The material-economic arrangements shaped the actions of the teacher educators and their classes. Within this study, the classes were of 3 hours duration. This is often the duration of an FE-based in-service class, though when the class takes place varies. Two of the classes took place in the afternoon, one in the evening. The rooms seemed to me to be relatively small for teacher education classes, though all the classrooms were approved by the accrediting university prior to use. The classrooms were set up in a horseshoe (or U shape) prior to the focus group.

Data from the filmed classes, which were part of the larger study, seemed to suggest that the interactive whiteboards (IWBs) that were in the classrooms were only used for displaying PowerPoint slides. Therefore, I asked about this during one of the 'teacher talk' meetings. Teacher Educator C responded:

> The boards are different in different rooms so there isn't a consistency with the type, the way that the boards operate, and whether they are going to be working properly. There has been no proper rigorous training on how to use these boards [and] even if we had the training it can only be relevant if it can be applied across different classrooms and different settings … and … our students themselves say, "Oh we've got a different system". ('Teacher talk' Meeting 5).

It seems that, at the time of the study, the ICT equipment was limiting this teacher educator's use of the interactive whiteboard. This is no longer the case. The teacher educators in this study who were on full-time contracts were expected to teach at least 830 hours in a year (Powell, 2016). This is not unusual for FE-based teacher education, though it is very high compared with the teaching hours of university-based teacher educators. Whilst the teacher educators did not mention they felt pressurised for time when preparing their classes, they did feel under pressure to cover the curriculum. For example, Teacher Educator C stated:

> there is so much for students to learn in year 1 and it almost feels like there isn't enough time. There is so much to do. ('Teacher talk' Meeting 2).

Here the cultural-discursive arrangements within a university-accredited curriculum and the material-economic arrangements of the time allocated for teaching were impacting on the 'doings', and perhaps their 'sayings and relatings' too, of this teacher educator's practice as they foregrounded the content turn at the expense of the pedagogical turn.

A final point to make about the material-economic arrangement is that Teacher Educator D, whose class took place in the evening, was aware their group was tired at the end of the day. Therefore, they designed

> … activities where we have to move around and they are very interactive because Teacher Educator D knows that we've all come from a hard day's work and we're tired and we're grouchy and hungry and we want to go home. (In-Service Teacher 3, Focus group with Teacher Educator D's Year 2 class).

The in-service teachers seemed to feel comfortable saying how they were learning to teach. In-service Teacher 3 seemed to suggest that relationships between in-service teachers in the same group were good and sustaining the project of learning to teach too:

> … if I did have any worrying problem we've got a support system, and even though my subject is nothing like other peoples, it might be a situation where I could say to anyone and they might say: 'Actually I tried this for something similar and I can help out in that way.' (In-service teacher 3, Focus group with Teacher Educator E's Year 1 class).

The voices of these in-service teachers and those of the teacher educators suggest that the social-political arrangements related to teacher interaction at the site were enabling the practices of the project of learning to teach.

Conclusions

This paper sought to answer two questions: How do in-service teachers learn how to teach within teacher education classes as part of a university accredited ITE programme at a general FEC in England? What site-based factors shape the in-service teachers' practice of learning to teach? Harnessing three of Taylor's (2008) ways of learning to teach and the theory of practice architectures as its conceptual lenses, this study illuminates the practice of FE-based in-service teachers' learning to teach in two distinct ways that moves it beyond Harkin et al.'s (2003) instrumental list of five ways of learning to teach.

First, it unpacks how these FE in-service teachers were initiated into the 'sayings, doings, and relatings' (Kemmis et al., 2014a) of the practice of classroom-based teaching and, more significantly, suggests how they were conceptualising the practice of teaching at an 'intermediate level' and sometimes 'a more sophisticated level' (Taylor, 2008). For example, echoing Boyd's (2014, p. 70) claim, the teacher educators' modelling of strategies and behaviours seemed to be 'the glue' that was linking these teachers' learning as students with their practice as teachers. Having said this, a limitation of this study is that, because of timing issues, the transcriptions of the focus groups with the in-service teachers were not shared with them prior to analysis. Here a further opportunity to discuss the data and in-service teachers' experiences of learning to teach was missed.

Second, it illuminates the practice architectures shaping these FE in-service teachers' practice of learning to teach in FE ITE classrooms at this FEC. There was evidence that all three arrangements were shaping the practice of learning to teach at this FEC. For example, the cultural-discursive arrangements were audible in the voices of three teachers who found it difficult to understand some of the language being used by one of the teacher educators. This shaped how they were learning to teach in that class. None of the teachers referred to Taylor's ways of learning to teach when asked how they were learning to teach, it is suggested that, in future, in-service teachers are introduced to the language of learning to teach within their programme. This would allow them to both participate in conversations with their teacher educator about how they are learning to teach and also help them construct their own account and understanding of how they are creating and might, in future, develop their own personal pedagogies. The material-economic arrangements of unreliable interactive whiteboards shaped the teacher educators' use of them. One of the teacher educators spoke about feeling under pressure to cover the content of the university's curriculum within the class time allocated, this resulted in a greater focus on the content turn than the pedagogical, and practice turns. The social-political arrangements seemed to promote the practice of learning to teach.

This site-based study adds new knowledge to two international maps (Petrie, 2015). The first map is of what is known about in-service teachers practice of learning to teach in terms of its 'sayings, doings, and relatings', the 'layers, levels, and intricacies and situatedness of enactment' (Grootenboer et al., 2017, p. 17), and, in particular, the practice tradition of FE-based ITE in England. The second is of the value of employing the theory of practice architectures to illuminate what is shaping the 'happenings' (Edwards-Groves & Grootenboer, 2017, p. 45) of FE ITE classrooms at an FEC.

Notes

1. Level 0 is known as Entry level and for those with specific learning difficulties and disabilities and those with very low or no educational achievement, Level 2 is UK GCSE level, Level 3 is Advanced level and for those considering a university education. Levels 4, 5, and 6 are equivalent to the first, second, and final years of an undergraduate honours' degrees, and Level 7 is Master's level.

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No potential conflict of interest was reported by the author(s).

Notes on contributor

David Powell is the Director of the Education and Training Consortium, an initial teacher education partnership between the University of Huddersfield and some 20 further education colleges.

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