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## LESSON STUDY AND PEDAGOGIC LITERACY IN INITIAL TEACHER EDUCATION: CHALLENGING REDUCTIVE MODELS

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*ABSTRACT:* This paper argues that teacher learning is not reducible to lists of ‘performative’ standards. Funded by the Society for Educational Studies, we used ‘lesson study’ as a vehicle to develop new teacher expertise, following which we concluded that conceptualising ‘learning to teach’ as acquisition of standards is insufficient for understanding the process of teacher growth. We propose an alternative holistic vision.

*Keywords:* initial teacher education, lesson study, collaborative practice, pedagogic literacy

### 1. INTRODUCTION

Historically, teachers have enjoyed high levels of professional independence and pedagogic freedom. Until the 1980s, this was certainly the case in England, in relation to the development of the curriculum and responsibility for the direction of professional development. However, over the past 20 years, this has been eroded, Stevenson and Wood (2013, p. 46) characterising the change of teacher work as one based on a ‘*quantification of value*’, part of a trend towards a ‘marketisation’ culture in education.

In many countries, educational aims have been recast to focus on providing an educated, skilled workforce. Quantifiable outcomes from education, e.g. success in Programme for International Student Assessment (PISA) tests (OECD, 2014) have become an economic tool for attracting inward investment to aid economic prosperity. Such changes are clearly documented and characterised by Ball’s (2003) work on ‘performativity’, in which he argued that teacher work has become shaped by a culture of ‘managerialism’ with intrusive forms of top–down performance measurement. As a consequence of the need to ensure teacher ‘efficiency’, economic and political imperatives have emerged to drive educational change. As Ingersoll (2003, p. 35) comments:

*... desire to increase control over what goes on in school and what teachers do in their classrooms resurfaces on a regular basis as a central tenet of educational reform.*

In this paper, our purpose is threefold: firstly, to review impacts of standards-related ‘performativity’ on initial teacher education (ITE), secondly, to generate

debate about conceptualisations of teaching in ITE and beyond; and finally, to put forward an alternative vision for understanding the ‘professional growth’ of teachers. Our thinking emerges from insights gained from lesson study research (Cajkler *et al.*, 2013; Wood and Cajkler, 2013), the theoretical perspectives of which have been influenced by considerations of professional development via the perspectives of Communities of Practice (Lave and Wenger, 1991; Wenger, 1998, 2000), the work of Biesta (2014) concerning the role of teachers, and the concept of Professional Capital (Hargreaves and Fullan, 2012).

## 2. THE RISE OF STANDARDS IN INITIAL TEACHER EDUCATION

Teacher standards have increasingly become a feature of national education systems, for example in Australia, England (DfE, 2012), USA and the Netherlands (Ceulemans *et al.*, 2012). In England (Department for Education, DfE, 2012), for example, student–teachers must meet eight principal standards:

- (1) Set high expectations, which inspire, motivate and challenge
- (2) Promote good progress and outcomes
- (3) Demonstrate good subject and curriculum knowledge
- (4) Plan and teach well-structured lessons
- (5) Adapt teaching to respond to the strengths and needs of all pupils
- (6) Make accurate and productive use of assessment
- (7) Manage behaviour effectively to ensure a good and safe learning environment
- (8) Fulfil wider professional responsibilities (Department for Education, DfE, 2012, pp. 7–9).

Each is broken down further into 3–5 bullet points, meaning a total of 35 statements to satisfy with evidence of achievement or compliance. Use of such standards has been linked to the development of accountability systems (Ryan and Bourke, 2013), from which ‘performative’ and ‘technicist’ expectations dominate thinking about ITE (Biesta, 2014; Wilkins and Wood, 2009). Teacher learning is seen as a ‘simple task of emulating what successful teachers do’ (Kriewaldt and Turnidge, 2013, p. 104) and ITE is conceptualised as instrumentalist and objectives-led (Edwards and Thomas, 2010), with training experiences defined principally by student–teachers gathering evidence to meet standards in order to qualify.

In England, there has also been an almost continuous shift in the structure of ITE since the 1990s (MacBeath, 2011; Whitty, 2014) with two main developments: firstly, to open up ITE to a broader range of providers, secondly, gradually move responsibility away from universities and into schools. These developments have often been driven by a desire to reduce the role of universities in the leadership of ITE, despite there being little evidence that ‘the teacher training system was broken’ (Whitty, 2014, p. 468). Within this rapidly evolving system,

the notion of the reflective practitioner is still seen as an essential component in ITE (Edwards and Thomas, 2010). This paradoxical demand for both reflection and providing evidence against a tick-list of standards will be familiar to many initial teacher educators across the world.

Judgements about the possibilities for collaboration in traditional ITE are not all favourable. Recent decades have seen the development of collaborative clinical practice models, such as the Oxford Internship Scheme or the School University Professional Development Schools (PDSs) in the United States, both positively evaluated for their impact on student–teacher practice development (Burn and Mutton, 2013; Grossman, 2010). Nevertheless, Burn and Mutton (2013, p. 3, citing, Furlong et 2000) note that partnership models do not necessarily lead to changes in ‘the conception of the nature of professional learning, merely preserving the dominance of one perspective or the other and failing to address potential disjunctions between them.’ Edwards and Protheroe (2003) offer a challenging critique of current practices in university-led ITE in England claiming that they fail to offer student–teachers real opportunities to learn from experienced mentors. Models of observation and feedback, they argued, did not allow student teachers to learn through ‘peripheral participation’ in the work of experienced teachers (Lave and Wenger, 1991) and offered few opportunities to explore how teachers interpret and mediate subject knowledge to facilitate students’ learning. This criticism has long been voiced, for example, Brown and MacIntyre (1993, p. 113) argued that beginning teachers learned largely by trial and error, despite there being

a vast reservoir of experienced teachers’ sophisticated professional craft knowledge which is, at least in principle, accessible to student–teachers. Yet, ... this reservoir of professional knowledge is generally untapped, so that beginning teachers to a very large extent have to learn their craft by trial and error from their own experience.

Ryan and Bourke argue (2013, p. 421) that reflexivity should be at the centre of teacher work to avoid ‘wholesale teacher attrition, apathy or robotic dependence on “one-size-fits-all” programmes’. In recent years, however, teacher standards have dominated the agenda, as a result of which the whole discourse of teacher education, and more specifically pedagogy, has become increasingly reductive (Beck, 2009). Osgood (2006) calls this a discourse of rationality, where all teachers are ultimately forced into a narrow framework which may jeopardise their wider reflexive capacity.

Increasing dependence on standards highlights a wider conflict in the way teacher work is understood, illustrated by Hargreaves and Fullan (2012) who contrast two alternative views: ‘Business Capital’ and ‘Professional Capital’. Business Capital assumes that teaching is a relatively simple activity, albeit emotionally draining and demanding, which can be mastered relatively quickly with hard work. This ‘mastering’ is obtained most effectively ‘by high-performance data about what works and where best to target one’s efforts’ (Hargreaves

and Fullan, 2012, p. 14), thus prioritising performance management over teacher development.

An alternative conceptualisation is Professional Capital which is constituted of human, social and decisional capital. Human capital is built from teachers' emerging knowledge and skills, which come from many sources and continue to build over a whole career. Social capital emerges from collaborative interactions in educational settings, with a high level of mutual trust so that teachers gain confidence to make decisions about the development of their own work. The roles of advice and shared expertise are central to this principle of trust and as such promote shared responsibility. However, collaboration does not automatically bring positive impacts as some forms of collaboration can be detrimental, particularly when they are competitive in nature or driven by senior managers or external agencies. Hargreaves and Fullan emphasise the need for development of decisional capital, characterised by the time and space given to teachers to decide for themselves what is needed to improve practice. Offering opportunities for growth of decisional capital may result in the emergence of wise judgement (Biesta, 2014), which increases over time as teachers gain experience and reflect. Decisional capital is more effectively sustained when developed collaboratively (social capital) but the technicist-reductive views of professional practice at the heart of the Business Capital model can lead to prescriptive views of practice with obvious implications for ITE. For instance, Elliott (2012, p. 109) argues that the policy community widely regards a craft apprenticeship model of learning to teach as superior to any other, with theory best avoided or relegated to a minor role.

Professional Capital is a collective process based on collaboration and shared responsibility with others. Evidence is important but is not followed unquestioningly, as teacher experience is also central to the development of wise judgement. Hargreaves and Fullan (2012, p. 63) state that:

*Human growth ... can be nurtured and encouraged, but it cannot be forced.*

Such debate is not confined to teaching. Benner (1984, 2004) very clearly demonstrates the complexity of nursing expertise. Drawing on the Dreyfus and Dreyfus' (1980) five-stage model of expertise development, she argues for a holistic understanding of what a nurse does, working from a 'deep understanding of the total situation' (1984, p. 32). Like Hargreaves and Fullan, she identifies the limitations of a rational-technical view of expertise, arguing (Benner, 2004, p. 198):

The rational-technical vision of performance is that of a practitioner or technical expert developing mastery of a body of knowledge and applying that knowledge in prespecified ways for prespecified outcomes. The rational-technical model does not account for development of relational, perceptual, or skilful comportment over time. It also does not account for the role of experiential learning in learning to practice in a dynamic, underdetermined, and complex practice such as nursing and medicine.

Discretionary judgement finds little mention in lists of teacher standards, but it remains always at the core of professionalism.

### 3. USING LESSON STUDY IN ITE

Lesson study is a collaborative process that enables groups of teachers to identify elements of learning with which students have problems (the ‘learning challenge’), before jointly planning a lesson to tackle that challenge. Having planned together, the group of teachers observes one of their members teaching the resultant ‘research lesson’, focusing on students’ learning. The impact of the ‘research lesson’ on learning is subsequently discussed in a post-lesson evaluation meeting. The lesson study cycle continues with re-teaching of the lesson (amended following the evaluation meeting) to another comparable group of students.

Funded by the Society for Educational Studies (SES), we piloted the use of lesson study in a university-based PGCE programme with student–teachers of geography and modern languages (ML) in teaching practice placements (reported in Wood and Cajkler, 2013). The approach that we evolved was a dyadic variation of lesson study (see Figure 1), although in some cases participants were able to work in a triad with an additional participating teacher. The cycle followed a similar pattern to lesson study cycles previously recommended for professional development contexts (e.g. Dudley, 2014; Lewis, 2002), but a distinguishing characteristic was that it was often done by pairs working in the asymmetric relationship between mentor and student–teacher, as opposed to the larger groups of teachers typical of in-service contexts.

Use of lesson study in ITE has developed over the last decade and has given rise to a variety of applications (Cajkler and Wood, 2015; Fernandez, 2005; Sims and Walsh, 2009; Tsui and Law, 2007) to meet different contexts and constraints. Our project involved 12 student–teachers working with 9 mentors in eight schools, and was initially theoretically framed by Communities of Practice (Lave and Wenger, 1991; Wenger, 1998, 2000) to evaluate the effectiveness of lesson study as a vehicle to support the sustainable development of pedagogic skills (Stigler and Hiebert, 1999). The mentor and student–teacher collaborated in the design, teaching and evaluation of a cycle of two (or more) research lessons. The first lesson was taught by the mentor and then, following evaluation and revision, the second research lesson was taught by the student–teacher (stages 4 and 5 in Figure 1). The student–teacher observed two or three case students in the first lesson, the mentor observing a similar number in the second. Where parallel groups could not be used due to timetabling constraints, two different lessons were planned with insights from the first informing the second. In some schools, post-lesson stimulated-recall interviews were conducted to discuss learning with case-students (stage 5 of the cycle at Figure 1) and review, in more depth, the learning observed during the lessons. Data were collected and

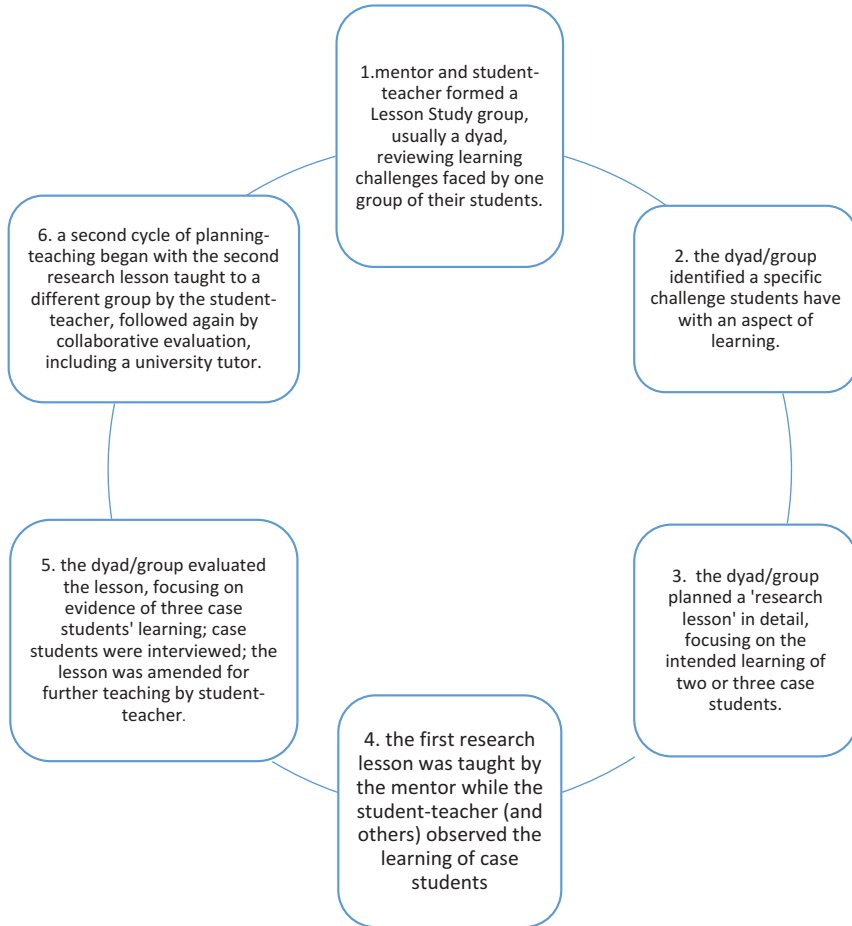


Figure 1. ITE lesson study cycle for use in a practicum

analysed from recordings of planning/evaluation meetings and post-lesson study interviews.

#### 4. BENEFITS OF LESSON STUDY IN ITE

It is not our purpose here to describe the research findings in detail (see Wood and Cajkler, 2013), but offer insights into what we learned. Principal benefits identified by student-teachers and mentors were that, despite differences in their experience, status and power, lesson study engaged mentors and student-teachers as learning-partners so that they confronted the complexity of teaching and learning in collaboration. However, hierarchies did not disappear and mentors

clearly led the process during planning and evaluation meetings. Nevertheless, many of the participating student–teachers reported increased levels of assurance as the principal benefit of lesson study in teaching practice. Student–teachers engaging with their mentors in guided participation in the acts of teaching offers a framework for mentors to act ‘as mediators of responsive pedagogy as a body of cultural and professional knowledge’ (Edwards and Protheroe, 2003, p. 239). What nine student–teachers described in post-lesson study interviews suggested that lesson study could scaffold such guided participation and offer an alternative to the traditional pattern of planning, often in isolation, followed by observation and feedback on performance.

Although mentors expressed reservations early in the process, by the second lesson there was more exchange of ideas:

But in the second, what was nice is that she had the more experience and I took a step back. So, it wasn’t me saying you could do this or have you thought about this? (Geography mentor)

The value of working together was echoed by student–teachers, the act of collaborative planning seen as a powerful addition to straightforward lesson observation and feedback:

To have something like that in a placement, definitely! Even if it wasn’t that often, just every so often just have, like have a chance to do that. It gives you a few ideas and then you can take it on (ML student–teacher).

Nevertheless, despite lesson study offering a fruitful collaborative opportunity to explore complex pedagogic processes, three of the twelve reported significant difficulties with the process. In these cases, lesson study was used to serve a ‘technicist’ agenda leading to relatively uncritical induction of student–teachers into objectivist approaches to planning, simply following pre-set formulae, such as the uncritical use of a three-stage lesson plan. One geography trainee complained of being spoon-fed. Two mentors admitted that student–teachers were told what the focus of their lesson study cycle would be before discussion took place:

The first cycle, I’d already kind of decided it before. So, it was my decision really and the trainee didn’t have that much choice, but I talked to her about it. (ML mentor)

More general concerns were expressed (often by mentors) about the availability of time to do justice to the process and their level of readiness, these being the most frequently reported challenges, for example:

We found it quite intensive, . . . worthwhile, but it was intensive. It took up time certainly; a whole mentoring session was just devoted to this (ML mentor).

Nevertheless, our findings suggest that both mentor and student–teacher experienced growth in their understanding of the multi-layered nature of teaching and

learning, for example the following mentor advising the trainee what she [mentor] had learned during the observations:

I would have been exactly the same as you. I would have been at the front getting really frustrated thinking they were all talking and going off, when actually they weren't really off-task. They were trying to figure out what the task was! (ML mentor)

For the majority of participants, lesson study opened a window into the complex processes of teaching, helping student-teachers to learn how to teach from engagement in practice (Hiebert *et al.*, 2003). It opened up the thought processes of expert teachers for explicit review, something that may be lacking when programmes depend on straightforward observation and feedback:

When you're sitting there planning by yourself there's no one there telling you actually 'have you thought about this?' And, I mean it's silly stuff like just movement round the classroom or getting stuff out of boxes ... you don't sort of realise how much time it could take or depending on the class sort of what could happen. (ML trainee)

In the words of Cerbin and Kopp (2006, 250), participants in the lesson study project had 'opportunities to question, explore and reflect on every phase of the teaching and learning process' opening up for investigation what we have called 'the pedagogic black box' (Cajkler and Wood, 2015), by which we mean that lesson study provided a space and a focus for debate about pedagogy, a crucial area of professional growth often left closed in traditional observation and feedback. This discussion informed the development of plans and, from there, practice and evaluation/ in the lesson study cycle, leading to growth in confidence and decisional capital by the second research lesson. The following student-teacher is an example:

[I] felt a bit more confident to make more suggestions on what I think would suit and especially in the reflection sessions, ... how I could adapt it to my group. I think I felt a bit more confident in identifying what I think I could get rid of, or what would work for my class (Geography trainee)

Nine student-teachers talked of the insights gained by working with an experienced practitioner, including a better understanding of lesson planning, the following typical of student-teacher observations about the process:

I think it was planning the lesson as like a team. And it wasn't just my own ideas; it was other people's ideas as well, because it makes you think about things in a different way or in a way that you'd never considered doing ... so I would never have thought about getting everyone up out their seats ... (Geography trainee).

Mentors described new insights into their own students' learning and the positive experience of being exposed to fresh and alternative perspectives from student-teachers. For both groups of participants, the time given over to discussing and

developing new pedagogic insights was seen as a very positive, formative process.

Using lesson study in ITE provided participants with a structured collaborative opportunity for exploration of the complexity of the classroom, not compromising the need to meet the teaching standards but leading to a more rounded understanding of what it means to be a teacher. In reflecting on this growth in pedagogic understanding, we moved from a practical focus on lesson study to consider the dynamics of working within the pedagogic black box, and then began to consider how a more critical and holistic model of pedagogic development might be characterised, a model we call ‘pedagogic literacy’, as an alternative to a purely standards-driven view of expertise.

##### 5. TOWARDS PEDAGOGIC LITERACY IN INITIAL TEACHER EDUCATION: AN END TO REDUCTIONISM?

Initially, we analysed our research data (observation notes, recordings of planning and review meetings, post-lesson study interviews) through the theoretical insights offered by Communities of Practice as an explanatory framework for the learning of participants in lesson study. Communities of practice are formed by people who are engaged in a common enterprise or work on a common interest and develop skills collaboratively as a result. Such communities may be composed of people at different stages of development and expertise (Wenger, 1998, 2000). Those who are new to the community, for example student–teachers, are seen as starting from a position of peripheral participation. Through the emergence of shared practice and expertise, new members become increasingly incorporated into the community. This process, in its own right, contradicts the notion that learning to teach can be characterised as a process of just meeting standards. The process of initial teacher learning is akin to the professional growth that only positive collaboration can bring, as outlined in the Professional Capital framework of Hargreaves and Fullan (2012), discussed earlier.

However, one important finding from our research is that although lesson study is an inherently collaborative process, individual participants develop different pedagogic insights which emerge as different practice-oriented changes from the common process. One student–teacher, for example, reported improvements in planning for transitions:

One of the things I struggled with at the beginning in my planning was transitions between activities and the kind of activities that should follow on after other types of activities ... because now, like I look back, and I was like: what was I thinking?

For one mentor, her perspectives about student engagement were shaken during the lesson study cycle, despite her long experience:

From observing her lesson and from having her observe mine and giving me feedback on individual kids, I got a better insight of things . . . Like the boy that she was focusing on here; I was struggling with because he never really participates and doodles a lot and I always thought it was because he's just not really that bothered . . . whereas H [student-teacher] was saying that he was trying to put his hand up. We had some discussions, quite big debates, about levels of participation and thinking time and ways of integrating certain kids (ML mentor)

The student-teacher, on the other hand, took different learning from this about the limitations of what one can see when teaching at the front of the class. Billett offers the following explanation for such differential professional learning:

*while a phenomenon may have some common meaning, its construal by individuals will be shaped by particular sets of values, subjectivities and the discourses to which they have access* (Billett, 2007, p. 65).

This focus on individual agency led us to question the value of Communities of Practice as an explanatory framework for teacher development. Our experience in researching lesson study leads us to agree with Hargreaves and Fullan (2012) that authentic collaborative work between teachers brings professional growth. Becoming a teacher is a multi-dimensional process including reflection on, and enactment of, values and philosophies, as it is values which inform judgements (Goepel, 2012). Teachers do not act in isolation, and therefore need to comprehend the context of their work in relation to societal issues and organisational policies. The emergence of pedagogic expertise occurs at the confluence of a complex network of factors and processes, through growth in what we call 'pedagogic literacy'.

Teaching regularly occurs in large, diverse classrooms, what Ball and Forzani (2009) call unnatural and highly specialised public work that requires investment of time, energy and support. Crucially, the pedagogic literacy needed by teachers for formal education settings includes, at its core, the ability to interpret what is happening in lessons through a heightened awareness of how learners respond to teaching. It is more than Shulman's PCK (1987), as it involves learning to read learner responses and make adjustments in action, echoing Schön's (1983) reflection-in-action. It also includes a focus on subject knowledge, constant attention to its refinement and the ability to communicate this clearly to a range of learners, but it is much more than communicating subject knowledge. Ainley and Luntley's (2007, p. 1137) discussion of attentional-dependent knowledge makes reference to reading the classroom:

... the existence of attention-dependent knowledge as part of what experienced teachers know, both in the sense that they have attentional skills which enable them to 'read' the activity of the classroom, and that they use the knowledge they gain by and from this attention in making judgements about how to act.

This is central to pedagogic literacy, ability to read classrooms and make appropriate learner-responsive decisions within a wider, heterogeneous and constantly

shifting context. The pedagogic process is rational, creative, and intuitive but, fundamentally, it is complex, defying simplistic ‘business capital’ prescriptions such as the view that how to teach can be learned most effectively from observation, then being observed and subjected to detailed feedback. That can play a part, but much more goes into the making of an effective teacher. Collaborative engagement in pedagogic communities enhances consideration of teaching, involving context-related analysis of a range of complex interlinked factors through collective, reflexive practice. In an attempt to capture this complexity, we outline a model of pedagogic literacy based on a range of dimensions (Figure 2).

Pedagogic literacy is the complex of skills, knowledge, attitudes and values that enable teachers to use their reading of the classroom to reflect-in-action and to make learner-responsive decisions that support learning in all its complexity (cognitive, social and emotional). It is composed of numerous dimensions. However, we acknowledge that pedagogic literacy can be construed in a variety of complex ways, and hence it is contingent and contextual in nature; therefore, any description of pedagogic literacy is never exhaustive. Furthermore, these dimensions are related processes that are neither hierarchical nor temporally disjointed. With these caveats, Figure 2 represents an emergent view of some of the dimensions and central processes that contribute to pedagogic literacy. We relate each dimension to the current standards used in England (Department for Education, DfE, 2012) to explore the extent to which they complement and extend beyond official expectations, an issue of importance to teacher education contexts across the globe as many jurisdictions work with similar lists of competences (e.g. Ceulemans *et al.*, 2012).

### 5.1. *Personal dimensions*

Personal dimensions are central to pedagogic literacy, although they are not sufficient of themselves. They are enacted over a lifetime and career through experience and reflection, both reflection on practice, but also reflecting-in-action on what is occurring within the classroom (Schön, 1983). These are not the sole processes that enable teacher growth; they occur in conjunction with many others. Individual growth must also include a continued attempt to understand pedagogy, as well as continued interest in subject knowledge and how this relates to the pedagogic process, for example through pedagogic content knowledge (Shulman, 1987). Personal dimensions are not explicitly represented in the DfE standards although responsiveness to advice is an expectation. However, being responsive does not lessen the need for individual agency and responsibility for personal growth.

### 5.2. *Affective dimensions*

Teacher beliefs, values and philosophies are of paramount importance as they play a fundamental role in the way an individual understands their role as a

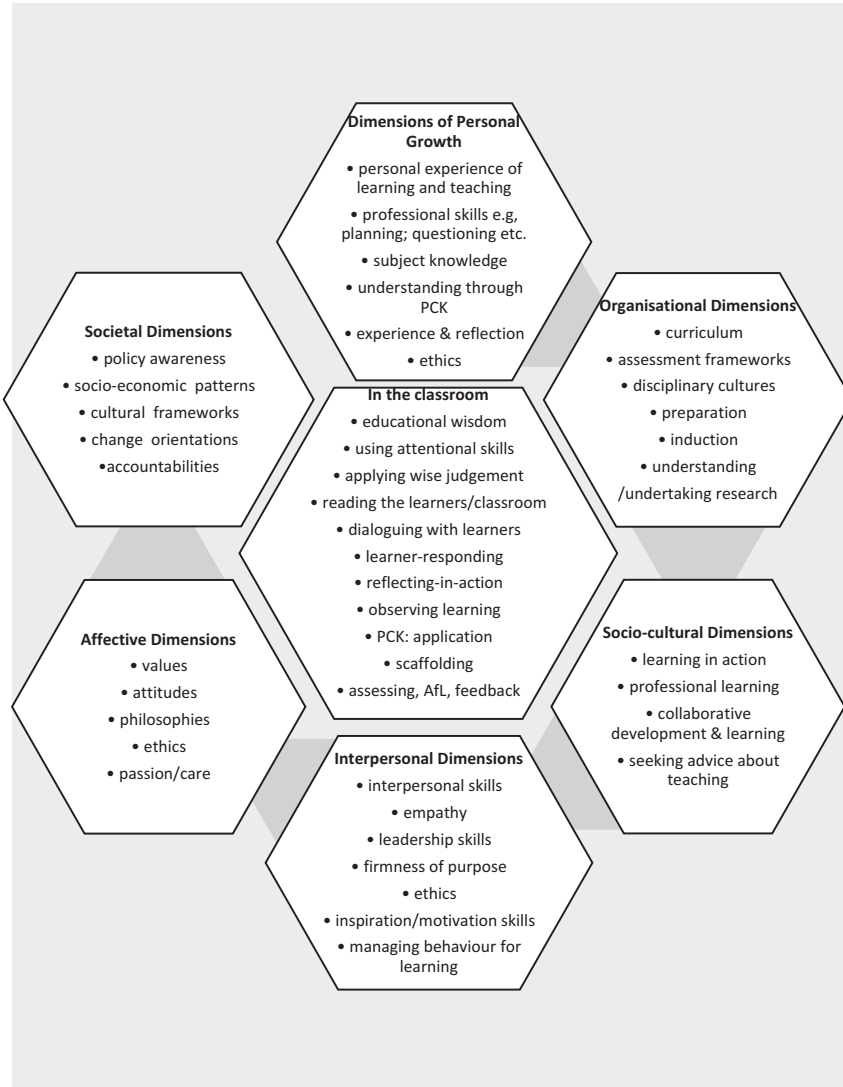


Figure 2. Elements of pedagogic literacy: an emergent view

teacher. If there is dissonance between the individual's beliefs, values and philosophies and those stated in official statements and/or the ethics espoused by a given school, stress and anxiety may result, leading to a major cause of teacher apathy and attrition, described by Ryan and Bourke (2013). Values and attitudes are woven into the DfE standards, notably in expectations for professional conduct, often associated with the safeguarding of children. However, the

standards only appear to relate to the ‘legalistic’ surface features of values and attitudes; there are no statements which legitimise the role and importance of professional philosophies and values. Instead, values are increasingly presented as top-down expectations, for example through the expectation that teachers espouse ‘fundamental British values’ (democracy, the rule of law, individual liberty, mutual respect, and tolerance of those with different faiths). Deeper engagement with pedagogic exploration, both individually and collaboratively, provides opportunities for beliefs, values and philosophies to be openly discussed. If these are not considered, the chances of positive growth in pedagogic literacy may be limited, particularly in ITE where student–teachers may experience professional isolation.

### 5.3. *Interpersonal dimensions*

Teaching is not just an ethical act, but is also dependent on successful interaction and communication with others, both students and teachers. Becoming both self-aware and aware of others is a significant part of the journey to becoming an effective teacher. This is associated with Kounin’s (1970) notion of ‘withitness’, which encompasses being alert and sensitive to what is going on in the classroom and being able to communicate confidence, clarity and purpose for what one is doing as a teacher. This can be seen in the assurance with which effective teachers deal with minor disruptions with a look or quiet word.

Interpersonal ability is also central to how teachers deal with each other, in both formal and informal settings. For collaborative work to be successful, participants need to be able to work positively, often in high-pressure contexts. In the current standards, teachers are expected to ‘develop effective professional relationships with colleagues’ and ‘maintain good relationships with pupils, exercise appropriate authority, and act decisively when necessary’ (Department for Education, DfE, 2012, p. 12), but nothing is said about the essential characteristics that can enable teachers to fulfil these expectations, for example empathy, open-mindedness or collegiality, which lesson study encourages.

### 5.4. *Sociocultural dimensions*

All organisations are characterised by complex sociocultural processes and structures. The work of teachers involves many different collaborations. DfE standards require that teachers forge positive professional relationships, but there is no requirement to engage in collaborative development of pedagogy, which could enable a continued engagement with research, an important element of personal and organisational growth. As outlined by Hargreaves and Fullan (2012), the development of social capital through collaborative work brings a number of professional advantages. Shulman (1993), discussing the work of lecturers within the university context, identified what he called ‘pedagogic solitude’ where lecturers rarely open up their seminar rooms as a centre for

wider discussion on teaching and learning. We argue that classrooms used for student–teacher placements need to be more than sites for standards-led accountability, leading to forms of pedagogic solitude that may limit collaborative exploration and pedagogic discussion. One of the strengths of lesson study is that it acts as a framework for allowing groups of teachers to explore issues and challenges at the heart of pedagogy in their contexts.

### 5.5. *Organisational dimensions*

It is important that, in understanding and developing their classroom practice, student–teachers also understand the environments in which they work. Contextual understanding is an expectation of standards in England and elsewhere, in relation to curriculum knowledge, policies and school practices. However, standards often fail to capture the essential aspects of working within an organisation, such as understanding micro-politics, policy generation and execution, as well as wider curriculum and pedagogic expectations. At the level of the subject area or faculty, philosophies and values, and personal development of pedagogy, are often not uniform (Douglas, 2014; Wildy and Wallace, 2004), leading to discussion and disagreement about pedagogic approaches and curriculum content even within a subject or year team. New teachers need to understand how to operate successfully within complex and constantly emerging organisational settings, meaning that this becomes an important part of their pedagogic literacy. If they work in relative isolation without the support and knowledge of experienced teachers (Brown and McIntyre, 1993), they may fail to understand their contexts.

### 5.6. *Societal dimensions*

The day-to-day working of teachers is directly influenced by external policy formation, which is, at least in part, the result of wider socioeconomic, cultural and environmental influences, for example the impacts of socioeconomic deprivation. Therefore, it is important that these issues, often seen as being remote in relation to pedagogy, are engaged with. The standards (Department for Education, DfE, 2012) require teachers to have proper and professional regard for a school’s ethos, policies and practices and understand the statutory frameworks specifying their responsibilities, attitudinal and knowledge-focused requirements but with little acknowledgement of the complex societal dimensions within which all teachers work.

Discussion of what constitutes pedagogic literacy could be extended, but the above examples serve to exemplify the complexity of what contributes to teacher knowledge, skills and values. Effective teachers draw on a complex interplay of dimensions in which they deploy attentional skills to make judgements (the core of Figure 2), seeking to be learner-responsive through dialoguing and observing learning. In writing, it is difficult to capture the complexity of pedagogic literacy

which grows in a long term and dynamic process. Seeking to represent a complex and contingent concept, we lay ourselves open to the charge of reductionism, a charge that we have laid at the door of standards-driven accounts of teacher development. Student-teachers may struggle to confidently read the classroom but their classroom actions are influenced and informed by an emerging pedagogic literacy.

Conceptualising 'learning to teach' as the acquisition of a set of standards is insufficient to prepare new teachers for the complex classroom realities. The ability to scaffold learning, support learners, assess and give feedback are not discrete 'technicist' skills that can be ticked off at one point in time, and then set aside so that student-teachers can focus on other discrete skills (the standards-driven view of learning to teach). Thus, we propose the concept of 'pedagogic literacy' as a holistic vision of how teachers evolve through continuing and supported professional engagement with theory and practice, action and reflection, all inseparable elements of teachers' work. This understanding of teachers' pedagogic growth puts a premium on continued engagement and reflection over the course of an individual's career, as opposed to a short and intensive sprint towards a set of prescribed standards over a preliminary period of training. That underplays the complexity of teaching. Perversely, however, ITE providers in England are expected to 'train' newly qualified teachers to be 'outstanding' by the end of their training year (Ofsted, 2014). Those responsible for such impatient expectations may resist the incremental view of development associated with lesson study (Stigler and Hiebert, 1999), but our research suggests that lesson study can set new teachers off on a journey of learning how to learn to teach, including the ability to research and develop their own practice more effectively than when working alone on lesson planning and evaluation.

## 6. CONCLUSION

Our thinking is at an early stage. We would not wish to suggest (yet) that standards be abolished, but they could be used in a more educationally literate way, perhaps diagnostically rather than summatively. We work in a culture increasingly dominated by a belief in reductive cause-and-effect relationships where absolute pedagogic 'truths' are knowable, and efficiency and professionalism can be distilled out in quantitatively driven frameworks which sort individual teachers into predetermined categories of proficiency. Use of a concept such as pedagogic literacy could provide for more sensitive, nuanced use of standards, to acknowledge that development of teacher expertise is continual and can only ever be partially captured by observation alone. Accountability frameworks reduce teaching to a set of statements which are deemed able to capture the entirety of the pedagogic process. However, there is widespread evidence, also confirmed in our lesson study research, that pedagogy is broader and more complex than data capture systems are capable of characterising, as Biesta (2014, pp. 129–130) argues

because education is multi-dimensional, teachers constantly need to make judgements about how to balance the different dimensions; they need to set priorities – which can never be set in general but always need to be set in concrete situations with regards to concrete students – and they need to be able to handle tensions and conflicts and should be able to see and utilize possibilities for synergy.

This is a first, speculative step towards articulating a change of focus in ITE, one removed from sole dependence on a standards system. Our lesson study research in ITE has uncovered more questions than it has answered (Cajkler *et al.*, 2013; Wood and Cajkler, 2013) about the inherent complexity of classroom environments and the people who teach and learn within them. Therefore, pedagogic literacy is deliberately conceptualised as a holistic understanding of the multi-dimensional aspects of teaching, acknowledging the impossibility of capturing the complexity of pedagogy in full and offering hope for an agenda that may roll back reliance on business capital models.

Wise judgement in the classroom is not definable through standards, but proceeds from understanding and experience and responsiveness to context and learners. Use of lesson study in ITE is one example of how student–teachers and mentors can focus on a holistic view of what it means to be a teacher, but the process requires time and, crucially, willingness to engage in critical discussion of professional practice. This extends beyond any simple notion of research-based practice, although engagement with research is important in informing the judgement made by practitioners (Winch *et al.*, 2013).

In standards-driven models, mechanistic mastery of ‘statements’ is given primacy over pedagogic literacy. The work of teachers is highly complex in nature, characterised by continued reflection on values and philosophies which underpin the pedagogic decisions that teachers make and the skills that grow incrementally over a career.

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