

# UNDERSTANDING THE PROFESSIONAL LEARNING OF BEGINNING TEACHERS: MAXIMISING LEARNING IN A CONTEXT OF SYSTEMIC CONSTRAINTS

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## ABSTRACT

This article considers the processes involved in the professional learning of beginning teachers in England. In discussing the processes involved, this article considers the nature of professional knowledge needed to be learned by beginning teachers and the processes by which they may learn. Representing beginning teacher learning is framed in terms of a learning trajectory in contrast to the Teachers' Standards (DfE, 2011) which describe a restrictive and technicist perspective. This draws from the novice / expert discourse but with the understanding that while there are a number of typical features in a beginning teacher's development (Burn, Hagger, & Mutton, 2014) there is variation between individuals. Finally, implications are drawn for those involved in the training of beginning teachers.

**Key Words:** Professional learning, teacher knowledge, novice and expert teachers, standards, learning trajectories

## INTRODUCTION

Problematising the professional learning undertaken by beginning teachers is difficult. Korthagen (2017a) points out that although many studies consider the *outcomes* of beginning teacher learning there is a paucity of in-depth studies regarding the *process*. The discussion surrounding the current position of initial teacher training (ITT) and early career development framework for teachers in England provides a new opportunity to contribute to the discourse about the process of beginning teacher learning. Although contextualised for ITT in England, the principles that I will consider have application across other international jurisdictions.

Rather than discuss the specific content of what beginning and early career teachers<sup>1</sup> should learn, this paper focusses on the learning processes as beginning teachers develop their professional knowledge.

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<sup>1</sup> For the purpose of this paper beginning teachers refer to those in their training year, novice teachers are those in their training year and through year 1 of their career (after Berliner, 2004) and early career teachers (ECT) are those in Years 1–3 of their career.

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This paper contributes to the discourse on the professional learning of beginning teachers by considering

1. teacher knowledge with the emphasis here being on domains of teacher knowledge rather than specific content
2. features of teacher professional learning
3. the learning trajectories of beginning teachers as a useful representation of teacher learning

Finally, I shall consider some the practical implications these considerations have for educating and training new teachers.

A traditional rather than systematic reviewing approach has been adopted for this discussion with the material selected to assess both policy and theories and so present an argument. The value of this form of review is that allows for the gathering of relevant literature from peer-reviewed research as well as material drawn from teacher blogs and practitioner journals. Unlike the more rigorous and well-defined approach of a systematic review, the traditional review affords greater flexibility to explore ideas (Cronin, Ryan, & Coughlan, 2008; Jesson, Matheson, & Lacey, 2011). However, the limitations due to the implicit subjectivity and selectivity of this approach are noted.

### **THE PROFESSIONAL KNOWLEDGE OF TEACHERS**

For beginning teachers there is more urgency about ‘what to do’ than about ‘why’ they should do it, so encouraging a focus of identifying activities ‘that work’ (Loughran, 2019; Ovens, 2000). Yet locating the specifics of teaching within some broader theoretical framework should be fundamental to the development of teachers (Alsop, Bencze, & Pedretti, 2005). Formal representations of professional knowledge are highly problematic (Eraut, 2007) as there appears to be two competing discourses. The first has its focus around competence and standards whereas the second is concerned with experts and expertise. While there have been attempts to define the knowledge base of teachers, teacher knowledge is often located in policy frameworks. Bishop and Denley (2007) point out that what a beginning teacher should know in England is situated within a policy context driven by a competency framework entitled Teachers’ Standards.

#### **Framing Teachers’ Professional Knowledge**

Loughran (2019) writes that there is much contested debate about what comprises the professional knowledge of teachers; that debate being centred on differing values and interpretations of theoretical and practical knowledge.

The literature on teacher professional knowledge and how it develops reveals tensions in that there are differing views on both what counts as professional knowledge and how it should be conceptualised. Wilson and Demetriou (2007) describe professional knowledge as being drawn from the components of codified knowledge (knowing what to teach) and understanding (knowing how to teach), this also being identified as practice / craft knowledge. By comparison, Zaragoza, Seidel, and Hiebert (2021) identify professional knowledge as theoretical, research-based knowledge, which has some correspondence with Wilson and Demetriou's understanding of codified knowledge, but omits any inclusion of craft knowledge.

Loughran (2019) suggests that in their daily practice, teachers do not think about professional knowledge in the way it is described in literature. Knowledge is understood through the lens of personal classroom practice, often with an emphasis of 'what works'. Knowledge of how to do things needs to be useful, useable and pragmatic in nature (McIntyre, 2005) and while this addresses aspects of the 'what and how' of teaching it overlooks the 'why' component of professional knowledge. This is unsurprising as pedagogical reasoning is tacit in nature.

### **The Domains of Teacher Knowledge**

A number of authors have further developed frameworks for considering the domains of teacher knowledge, e.g., Shulman (1986), Bransford, Darling-Hammond, and LePage (2005) and Taber (2020). Although the frameworks differ in their theorisation, they do have commonality in linking subject knowledge, pedagogy, and classroom practice. As Berliner (1986), in considering the work of Shulman, points out, they provide a useful starting point for portraying characteristics of hidden practice and so facilitating the opportunity for expert teachers to make their tacit knowledge explicit – this being particularly important for supporting the development of beginning teachers.

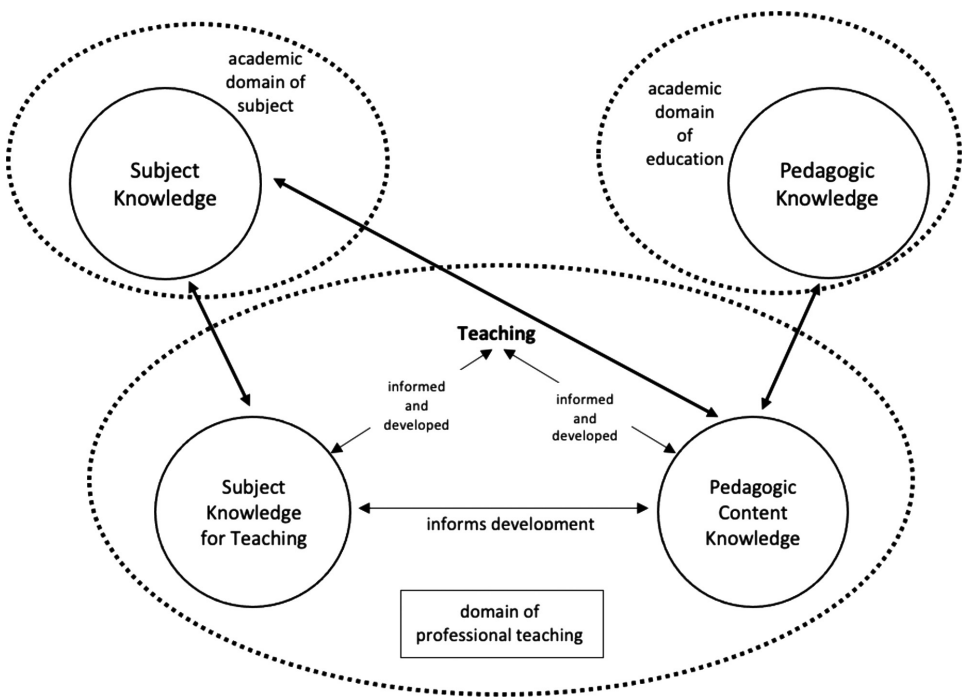
The work of Shulman provides an important contribution to the thinking about teacher knowledge. Shulman (1986) conceptualised teacher knowledge in terms of canonical subject knowledge alongside an understanding of how to represent this knowledge to learners. He subsequently framed this in seven categories that he called teachers' knowledge bases (Shulman, 1987). These fall broadly into three groups, subject-matter content knowledge, pedagogical content knowledge, and general pedagogical knowledge. Even though the framing of pedagogical content knowledge (PCK) has evolved from Shulman's original conceptualisation, attention given to PCK affords an opportunity to consider those aspects of knowledge required by a teacher. However, while there is a degree of agreement on pedagogical content knowledge as a shared construct of teacher knowledge, there seems to be no consensus on how to conceptualise or measure it. Philpott

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(2014) makes the point that Shulman's conceptualisation was not based on explicit empirical evidence, and he goes on to argue that some models of PCK are based on opinions of what teachers should be doing rather than evidence of actual professional knowledge.

For the purpose of this paper the model described by Taber (2020) is useful in that it not only considers the domains of teacher professional knowledge but also shows the complexity and inter-relatedness of those domains (figure 1):

Taber emphasises the point that that both subject knowledge for teaching and pedagogic content knowledge evolve and are strengthened by the act of teaching as teacher learning emerges from the reciprocal interactions of these teacher knowledge bases.



**Figure 1: Teacher's professional knowledge - a dynamic system drawing on several knowledge domains - adapted from Taber (2020)**

## BEGINNING TEACHER LEARNING

If problematising teachers' professional knowledge is complex, then attempting to translate teachers' professional knowledge into action in beginning teacher and early career teacher education is even more challenging. In considering this matter,



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It is accumulated propositional knowledge (knowledge of facts, knowledge that such and such is the case) stored in texts, scholarship, research, and the cultural practices of teaching. For teachers it involves acquisition of specialist subject knowledge and evidence informed pedagogic training (theory).

The second form is practice based or practical knowledge. This is often acquired through informal learning and often is tacit and not easily codified. This practical knowledge is often context specific and difficult to make explicit (although books which are ‘Tips for Teachers’ try to do so). It is acquired informally through participation in classrooms and mediated guided learning experiences. However, accessing tacit knowledge is not straightforward as expert teachers take for granted how and why they do things (Eraut, 2004) and expert teacher actions become routinised and procedural (Knight, 2002). Moreover, beginning teachers’ judgements at the start of ITT are often influenced by their own experiences as pupils.

Nevertheless becoming a teacher is not only driven by rational thinking, it is influenced by experiences and emotion (Wilson, 2012; Wilson & Demetriou, 2007). These are aspects of beginning teachers’ disposition as they develop agency, capital (both social and professional), self-efficacy and thus their teacher identity. Thus Grossman, Hammerness, and McDonald (2009) argue that teacher education should change its emphasis from a framework of what teachers need to know to one where organisation is around core practices that facilitate the development of knowledge, skill and professional identity through the process of practice. Professional identity is interwoven with practice. It is individual and ontological (Mockler, 2022).

However, the questions that need to be considered are:

1. what should comprise the content of beginning teacher learning?
2. how can this content be most effectively delivered?

Interrogating these questions in the context of ITT in England is undertaken against the backdrop of the culture of accountability and performativity (Burnett, Merchant, & Guest, 2021). One effect of this is that teaching is objectified and described in both technical and transactional terms (Reeves, 2018). One manifestation of this are the Teachers’ Standards (DfE, 2011). Reynolds (1999) argued that the current starting point for approaches to teacher training and early career development in England can be traced back to the introduction of national competencies in 1993. These were re-framed as national standards in 1997 (there have been subsequent iterations) with the purpose of developing a “benchmark of acceptable practice” making “professional requirements unambiguous” (Reynolds, 1999, p. 2). Professional standards are positioned as:

1. a tool of accountability
2. a framework for determining good practices

The impact of professional standards in their current form is to describe a 'required' form of teacher professionalism (Mockler, 2022). Alexander (2008) further argues that imposed standards leave little room for professional judgement and potentially can lead to beginning teachers implementing and imitating the practice of others rather than thinking for themselves. This privileging of the behavioural component of professionalism (i.e., what teachers can do) comes at the expense of attitudes and the intellectual components (teachers' knowledge and understanding) of teacher professionalism (Evans, 2011).

A second manifestation is the framing of ITT Core Content Framework (DfE, 2019a) and the Early Career Framework (DfE, 2019b). The ITT Core Content Framework is framed in terms of a minimum entitlement for beginning teachers and is built upon by the Early Career Framework. It is designed in terms of 'Learn that' and 'Learn how to' statements based the contestable claim of best evidence. As Brooks (2021) argues there is a need to differentiate between the macro-level of curriculum policy frameworks; legislation to establish agencies and infrastructure and the nano-level of practice in the individual classroom. Failure to do so could mean that curriculum policy underpinning the ITT Core Content Framework could lead provision in the wrong direction.

### **How Do Beginning Teachers Learn?**

Teacher learning can be formal or informal and either planned or incidental (Wilson & Demetriou, 2007). Conceptualising the process of beginning teacher learning draws from two theoretical frameworks, namely situated learning theory and traditional cognitive theory (Korthagen, 2017a). Situated learning theory corresponds to the practical experiences of beginning teachers in school and concurs with recent approaches of school-led teacher education. The cognitive perspective provides guidelines for developing cognitive representations, schemata, of both theory and practice. These are not mutually exclusive perspectives but rather should be seen as integrated. Teacher professional learning is an interplay between practical wisdom and public knowledge where these are understood as connected domains rather than discrete bodies of knowledge (Boyd, Hymer, & Lockney, 2015).

Additionally, the process involved in teacher learning which integrates the domains of knowledge and supports the learning trajectory from novice to expert teacher is complex and multifaceted (Clarke & Hollingsworth, 2002; Opfer & Pedder, 2011). It comprises both formal and informal learning and the practical outworking involves:

1. reflection and action
2. benefiting from the knowledge of others

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3. being shaped through the act of teaching
4. engagement with research-informed practice

### **Reflection and Action**

Teacher learning is grounded in practice and has been described as a dynamic process of reflection and action (Billett, 2001). It is spiral process in which teachers continuously monitor, critically evaluate, and revise their own practice (Pollard, 2014). Reflective teaching is based on teacher judgements shaped by evidence and research insights requiring the reflective teacher to be open-minded.

Reflection aids the acquisition and enhancement of competence (Schön, 1983). This finds resonance with teachers as it encapsulates the complexity of teaching and learning at a time when teaching is perceived from a technicist viewpoint. Teaching “*requires more than knowledge of theories and technical skills; it requires analysis and reflective critique*” (Smith, 2001, p. 76).

However, being a reflective practitioner is difficult for beginning teachers (Hagger, Burn, Mutton, & Brindley, 2008; McIntyre, 1993) as they are more engaged in theorising rather than reflection. Hagger and McIntyre (2006) describe this in terms of learning from other people’s ideas whether it be an experienced practitioner or educational researcher. They are engaged in conscious deliberation with many aspects of their practice yet to be developed. These difficulties are noted elsewhere e.g. Eraut (1995) lists the availability of time to reflect, disposition to reflect and the routinisation of professional work as militating against the process of reflection and Tomlinson (1999) reports that a large number of trainee teachers exhibit an antipathy towards deliberate reflection.

Nevertheless, reflection as a process, supports the integration of practical and theoretical knowledge domains. It also facilitates deliberative learning (Eraut, 2000) and can be interpreted as a “*growing capacity to make appropriate judgements in changing and often unique circumstances*” (Beckett & Hager, 2000, p. 302). Deliberative practice supported by serious self-assessment and reflection supports growth towards expert performance (Ericsson, 2008). This rejects the type of reflective practice that focusses on experience alone (McIntyre, 1993) and simply asks, “how can I improve what I’m doing”. Reflective practice that focusses on experience alone produces restrictive learning, a neglect of sociocultural factors and it fails to bring about the paradigm changes necessary for learning.

Schön (1983) describes two forms of reflection regarding practice: reflection-*in*-action and reflection-*on*-action. Reflection-*in*-action entails the reading of a particular situation followed by a rapid and intuitive response, and this kind of expertise requires both a great deal of prior experience of similar situations and



some knowledge of the group of people involved. This is very difficult for trainee teachers, even when they can observe good role models; but the use of *reflection-on-action* is less problematic. Attempting to make retrospective sense of an action and learning something from the experience contributes to the extension of one's knowledge base.

Faced with huge complexities teachers build and develop schema that help to scaffold and structure their understanding of the practice of pedagogy. These schemata emerge over time and are developed through practice, experience and engaging in educational debate. They are influenced by prior experiences and values, but their function is to facilitate reduction in complexity. Teachers also develop heuristics (rule-of-thumb actions) to minimise classroom complexity. These, on their own, are not enough, but heuristics and schemata are amended and developed through reflective practice (Wood, 2016). Teachers develop, over time, by creating and amending schemata which provide the basis for judgement and practice, i.e., pedagogical reasoning, which is the thinking that underpins informed practice (Loughran, 2019). Reflective practice, and in particular double-loop reflection (Argyris & Schön, 1978), helps create better schemata and heuristics and leads to the emergence of wise classroom judgement (Biesta, 2014).

Supporting beginning teachers to become reflective practitioners is important and is best located in schools. The mediation of expert teachers, and in particular effective mentors, making tacit knowledge explicit and explaining pedagogical reasoning after a lesson observed by the beginning teacher has been taught is of real value. Solomon (1987) strongly argues that reflection should be a social practice in which the discussion of situations and ideas supports the development of an open, critical perspective.

### **The Knowledge of Others**

There is general agreement with Lave and Wenger (1991) that professional learning is primarily a social process and so the theoretical perspective of beginning teacher learning is broadly sociocultural where making sense is understood as social process involving others and located in both context and time (Steadman, 2021). Further, Wenger (1998, p. 95) argues that learning is *“the very process of being engaged in, and participating in developing, an ongoing practice”* thus professional learning takes place in a participatory framework (Tsui, Lopez-Real, & Edwards, 2009).

Undertaking lesson observation of expert teachers is important for the development of beginning teachers. Novices need to see exemplary practice in order to reproduce it. Darling-Hammond (2006, p. 308) makes the point that, *“it is impossible to teach people how to teach powerfully by asking them to imagine*

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*what they have never seen*". Observation on its own is insufficient. Beginning teachers need the opportunity to discuss and question what they have seen in order to shape their own teaching thus school experience becomes an object of inquiry.

This is important when expert teachers articulate their pedagogical decision making, i.e., they make their tacit knowledge explicit to novice teachers. The tacit dimension of expertise that needs to be made explicit to novice teachers include:

1. understanding – expert teachers hold hidden constructs of practice drawn from the implicit aggregation of episodes and impressions
2. use of knowledge – expert teachers have well developed schemata whereby knowledge can easily be retrieved from memory, transformed, and resituated. They also have an awareness of when and where to use and apply certain aspects of knowledge
3. skills – which are routinised, non-verbal and intuitively monitored
4. decision-making – expert teachers are able to make judgements in complex and uncertain situations which are holistic, rapid, and intuitive

Those activities that support the making of expert teacher thinking and tacit knowledge accessible to novice teachers include (Burn & Mutton, 2015; Wexler, 2020; Zaragoza et al., 2021):

1. expert teachers (often the novice teacher's school-based mentor) decomposing complex practices (Grossman et al., 2009) into ways novices can see and understand. The use of video can be a valuable supporting instrument (Marsh, Mitchell, & Adamczyk, 2010)
2. joint engagement in the practices of teaching e.g.,
  - a. the dialogue that results from a novice observing an expert teacher's lesson
  - b. collaborative lesson planning
  - c. mentor modelling
  - d. expert and novice co-teaching
  - e. discussion and critical conversations

### **Shaping of Knowledge**

For beginning teachers, professional learning is outworked in the individual classroom context (Eraut, 2000) so the school placement should be understood as a significant component in the development of teacher knowledge (Hagger et al., 2008; Hobson, 2003). Supporting beginning teacher learning are practice communities – these are often teacher-supported in school (secondary school departmental structures can be good for this) where formal (e.g., working with a

mentor) and informal encounters with work colleagues (e.g., conversations in staffrooms and departmental workrooms) can lead to developmental feedback and support.

Significant to the development of beginning teachers is their school-based mentor. Their role is complex, multifaceted, and developmental whereby they are involved supervision, training, and assessment (Hobson & Malderez, 2013). The Core Content Framework (DfE, 2019a) places mentors in the role of ‘expert colleagues’ (Forster et al., 2021). Whitehead and Fitzgerald (2007) describe the mentor-beginning teacher relationship as a top-down model whereby beginning teachers are inducted into an agreed body of professional knowledge linked to externally set standards / competencies.

Mentoring conversations can be transformative where the emerging identity of the beginning teacher and the evolving identity of the mentor can be constructed. Formal conversations with school-based mentors are important for the articulation of “*principles of teaching as they arise in practical contexts for student teachers ... in ways that facilitate student teacher learning about their own practice and how to improve it*” (Timperley, 2001, p. 112). This is consistent with Maynard (2000) who argues that these conversations not only inform beginning teachers of how to proceed but also illuminate cultural knowledge in specific practice communities. This does, however, imply a type of mentor preparation that focusses on the enactment of practices, addresses the complexity of teaching and supports inquiry of practice (Wexler, 2020).

An important feature of effective mentor conversations is the ability to scaffold discussions which support discussion and reflection on both critical incidents and broader themes of teaching and learning. Two aspects of mentor activity support effective formal learning conversations. The first might be called contextualisation where mentors juxtapose theoretical and practical elements, with the beginning teacher being encouraged to make connections between theoretical ideas and classroom activity. The second activity is complimentary and may be called decontextualization where examples of classroom practice experienced by beginning teachers are given a more generalised, theoretically influenced interpretation (N. Mitchell, Marsh, Hobson, & Sorenson, 2010)

A notable feature of practice communities is the sharing of stories about practice. Through informal conversations teachers will typically share experiences of practice through stories of teaching (Clandinin & Connelly, 1996), the common focus being on classroom procedures and activities (I. Mitchell, Keast, Panizzon, & Mitchell, 2016). However, as Loughran (2019) indicates, the busyness of work results in a focus on the act of teaching rather than discussion of the reasons that guided their pedagogical choices. In other words, some stories may only offer an opaque window into professional knowledge.

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Teacher learning and professional development, however, is not context free. Retallick (1999) notes that the context in which schools and teachers are situated is the single greatest determining factor of what and how teachers learn in school. The structures, ethos, and practices of the placement school determines the level of participation that a beginning teacher will undertake (Opfer & Pedder, 2011).

A model considering factors affecting learning in the workplace was developed by Eraut (2004). This framework conceptualised a relationship between the work itself, relationships at work and the professional growth and development of the individual. There is correspondence with the concept of self-efficacy (Bandura, 1997). If teaching efforts and teaching activities are perceived to be within a teachers' control, they are more likely to believe that it is within their abilities. Moreover, they will determine which activities to prioritise and how much effort to exert. Two features of training programmes may, however, work against efficacy. First is the judgement of performance and progress made by school-based mentors and teacher educators, particularly if there are competing viewpoints (Grossman, Smagorinsky, & Valencia, 1999). The second is the loss of professional autonomy if a beginning teacher deliberately acts to adopt local practices in the hope of obtaining a more favourable judgement (Stadman, 2021).

### **Research-Informed Practice**

Burn and Mutton (2015) identify two perspectives that novice teachers should engage with:

1. insights from the diverse field of educational research that are relevant to practice and are introduced in such a way that they can be brought to bear on decisions and actions as novice teachers begin to practice
2. insights from the knowledge of experienced teachers whereby expert teachers articulate their pedagogic reasoning and decision making thus making their tacit knowledge and experience explicit

Using the perspective of (Kriewaldt & Turnidge, 2013) of bringing research-based understandings of teaching and learning into dialogue with the professional understandings of experienced teachers, Burn and Mutton (2015) argue this is important in facilitating the interplay between different kinds of knowledge. It also provides beginning teachers with the scope to interrogate the different types of knowledge to respond to and interpret their classroom experiences. This testing of ideas rejects both a simplistic theory-into-practice model and a decontextualised what works perspective (Biesta, 2007).

This is supported by Timperley (2008) who argues that theory and practice need to be integrated so enabling the ongoing making of principled decisions about practice. Theory, in this context, is that described by Eraut (1994, p. 60) as:

*“concepts and frameworks, ideas and principles which may be used to explain, interpret or judge intentions, actions and experiences in educational or education-related settings”*

Timperley (2008) makes the further point that a skills-only focus does not develop the understanding required to change practice in a way that meets the complex demands of teaching.

## **REPRESENTING TEACHER LEARNING**

Representing the learning of beginning and early career teachers is complex. Mockler (2022) notes that a range of research literature (e.g. Evans, 2019; Gore et al., 2017; Keay, Carse, & Jess, 2019; Opfer & Pedder, 2011) identify the characteristics of good teacher professional learning as being differentiated, contextualised, connected to teachers’ problems of practice and knowledge, collegial and collaborative, encouraging of experimentation, active and complex. Additionally becoming a teacher involves the formation of a teacher identity which in turn is linked to agency (Steadman, 2021). This is also complicated as beginning teachers have remarkably varied profiles. In other words, beginning teacher learning has a high personal dimension.

### **Novice-Expert Discourse**

The discourse regarding novice and expert teachers is contested, but does, nevertheless provide a helpful conceptual framework when considering the professional learning of beginning teachers. It does so by offering a potential roadmap to consider the development of the professional characteristics and knowledge that beginning teachers need to learn and cultivate. Research into expert teachers draws from two sets of evidence (Shires, 2020); the move from novice to expert and second the acquisition of expert performance through deliberate practice. Both perspectives have limitations in that their focus is primarily on teaching as a performance.

Problematizing teacher expertise requires resolving three important concerns. The first is the criteria used to define pedagogic expertise; the second is conflating experience with expertise and the third is agreeing which knowledge domains contribute to pedagogic expertise. Nevertheless, the study of expert teachers is

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important as they sometimes provide exemplary performances from which rich pedagogic descriptions can be drawn (Berliner, 1986).

Differences between novice and expert teachers have been considered in terms of:

1. knowledge – for a beginning teacher, domain knowledge is fragmented and disconnected whereas the knowledge of expert teachers is broad, deep, and extensively connected. Expert teachers appear to have different schemata to novice teachers (Berliner, 1986) that enables appropriate moment by moment selection of teaching strategies in complex classroom settings (Timperley, 2011). They have organised domain knowledge and a great deal of accessible content knowledge that is both easily retrieved and reflects a deep understanding (Kirschner, 2009).
2. perception and interpretation of classroom events – expert teachers interpret and make sense of complex classroom events using developed elaborate practical knowledge whereas novice teachers are less coherent in their thinking, not having developed the necessary domain knowledge (Kirschner, 2009; Mccrea, 2018; Wolff, Jarodzka, & Boshuizen, 2017). Novice teachers tend to assess classroom events in terms of rules and discipline. For expert teachers, issues related to pupil thinking and learning are of more importance. Mccrea (2018) argues that expert teachers view their classrooms in different ways focussing on cues that support inference making regarding pupil progress. Moreover, much of their practice is routinised.
3. developing subject agency for their students – Shires (2020) reports that expert teachers have a long-term goal of subject agency for their students, i.e., supporting their students in developing the capacity to do something with the subject knowledge for themselves.

Expert / novice teacher differences manifest themselves at the pedagogical and conceptual level but also at the level of epistemology and ontology (Kirschner, 2009).

Mccrea elsewhere<sup>2</sup> makes the point that developing routinised habits is critical to effective teaching. Automated routines are a consequence of structured schemas and are characteristic of expert teachers. Beginning teachers have not developed these mental frameworks and so must think through every decision and event in a more effortful way. This can be mentally overwhelming. However, routinisation may come with a cost as experienced teachers can become resistant to change and

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<sup>2</sup> in a series of Tweets @PepsMccrea on 23<sup>rd</sup> January 2022

entrenched in their habits. This can lead to inertia regards professional learning (Hobbiss, Sims, & Allen, 2021)

### **Learning Trajectories**

Teacher professional learning is described by Keay et al. (2019) as being recursive and non-linear. This supports the position of Eraut and Steadman (2005) who argue that learning trajectories provide a better representation of learning and fit more closely to the experience of an individual than a set of competencies, which do not describe learning but are the criteria for assessment. It is, therefore, useful to map the knowledge and skills of novice teachers with those of expert teachers as a learning trajectory. Learning trajectories consider changes in context, variations in practice and changes in practice.

The conceptualisation of a learning trajectory from novice to expert teacher that might be used in supporting the professional learning and development is an adaptation of the heuristic framework proposed by Dreyfus and Dreyfus (1986) and refined and described by Berliner (2004). This is a staged development model – see figure 2 below. Although Berliner suggests approximate timespans for each stage, he notes that the duration of each stage is individualistic and there is overlap of the stages.

An important issue that arises from using a trajectory model is whether all novices can become experts. Dreyfus and Dreyfus (1986) conceptualise that the path to competence as a continuum of skill acquisition and as such assert that a novice, with inherent ability and given opportunity to gain appropriate experience may become an expert. They argue that it is only after considerable experience that competence is developed. However, their language of ‘inherent ability’ and ‘may become an expert’ (Dreyfus & Dreyfus, 1986) is ill-defined and uncertain. Berliner (2004) is more definite as he notes that not all teachers become experts, or even reach the proficient stage

By framing teacher learning in terms of a trajectory from novice to expert, account is taken of the remarkably varied profiles that beginning and early career teachers have because of their individual preferences, disposition, agency, and differing opportunities offered. Moreover, it considers:

1. changes in learning context, e.g., the learning that occurs in HEIs and the different placement schools
2. variations in practices between and within schools (Pedder, 2007)
3. changes in the practice over time of the novice teacher
4. the unreasonable burden placed on criterion-based assessments of teacher competence

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Although there are typical features that are common to most beginning teachers' development caution needs to be exercised in assuming they will undertake identical trajectories (Burn et al., 2014), it is not a simple one-size-fits-all approach. While the conceptualisation of Dreyfus and Dreyfus (1986) is important in framing a developmental model for the novice / expert learning trajectory model, there are complexities in applying the model that require reflexion, e.g.,

1. teacher learning is personal, non-linear and recursive (Keay et al., 2019). Not only do individuals progress from stage to stage at different rates but an individual novice teacher progresses through the separate strands of a particular stage at different rates
2. the development of expertise in one aspect of practice can come at the expense of a different aspect of practice. Explicit progress made in one area while progress in others may stall or even regress through the lack of consolidation (Eraut, 2002). Moreover, the stages are not discrete and are fuzzy at the edges. Watzke (2007), from his tracking of 79 beginning teachers concluded that rather than seeing chronological progression, the concerns of beginning teachers recur. The progress of beginning teachers requires that those supporting them “scaffold linkages between pupil learning, learning theory and instructional practices” (Watzke, 2007, p. 106)
3. the model does not incorporate reflection or emotion (Eraut, 2002), a component of personal knowledge (Wilson & Demetriou, 2007). Burn et al. (2014) note this using the beginning teacher phases of development described by Furlong and Maynard (1995) which describes the move from ‘early idealism’ to ‘moving on’ as beginning teachers develop their identity and agency
4. such a learning trajectory cannot account for different, and sometimes contradictory, practices of the training sites. This is not just the expectations and approaches between HEIs and schools but also about the expectations, cultures, and practices between placement schools. This may lead to vulnerabilities around identity and so militate against the development of professional agency (Steadman, 2021)

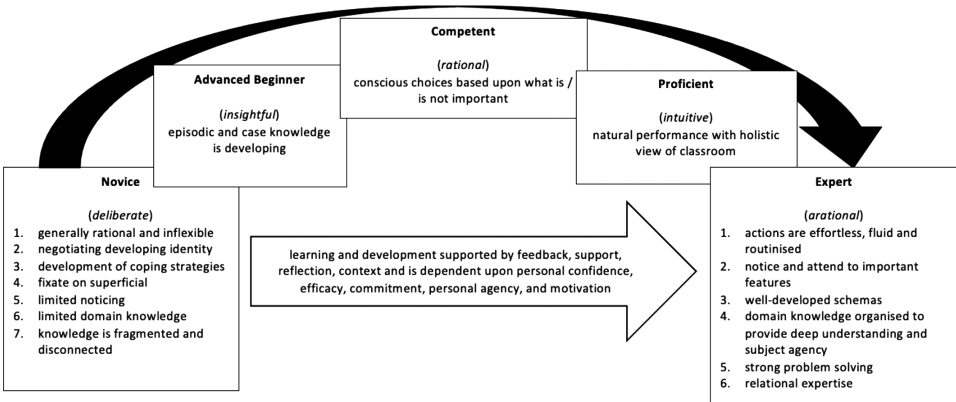
Philpott (2014), in considering professional learning theories, identifies some common features in the learning trajectory of novice teachers. These include:

1. from learning being an individual activity to learning being a social process
2. moving the emphasis from conscious knowledge and reasoning to including attributes such as tacit knowledge and identity



**Learning Trajectory of Beginning and Early Career Teachers from Novice to Expert**

1. professional learning leads to development through different stages
2. lengths of stages are ...
  - a. individualistic and related to context, disposition, agency, and personal efficacy
  - b. not equal in duration and fuzzy at the edges



**Figure 3: Teacher Learning Trajectories**

3. moving from generalisations about the learning processes for all to considering the specific learning of individual learners in their own context

**DISCUSSION - IMPLICATIONS FOR INITIAL TEACHER EDUCATION**

The challenges that ITT providers have to overcome in supporting the learning of beginning teachers should not be underestimated. In considering their learning and progress of teachers it would be too simplistic to argue for a complete re-visioning of the training process. In practical terms, ITT in England is framed against the backdrop of the Teachers’ Standards and often in a context that involves a school-university partnership. Additionally, the time and resources available for mentoring are limited, the experience of mentors is variable and as personal and professional knowledge growth is complex the rate of growth is different for every teacher.

Nevertheless, there are important elements of beginning teacher learning that can be applied without making significant institutional changes (Zeichner, 2010). Furlong, Griffiths, Hannigan-Davies, and Harris (2021) argue that a form of situated learning is required where teacher-educators and school-based teachers work together and collaboratively on the different types of professional knowledge.

It is important that programmes developed for novice, especially beginning, teachers both develop and deepen the integration and interplay between the

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different types of teacher professional knowledge, i.e., practicing theory and theorising practice. Moreover, such programmes should recognise the differing needs and learning trajectories of beginning teachers.

There should be scope for using both to interpret and respond to classroom experiences (Burn & Mutton, 2015). A ‘non-dualistic epistemological’ position (Kinsella, 2007) should see all types of teacher knowledge having equal value. It is both insufficient and inappropriate for beginning teachers to:

1. be expected to ‘apply’ decontextualised knowledge that has been taught in universities
2. simply attempt to model their practice on what they see in school – implicit in England’s School Direct model (Furlong et al., 2021)

As Braund (2010) notes, closing the gap between theoretical, propositional knowledge and the often-tacit professional craft knowledge is one the major challenges for those involved in training and educating beginning teachers. One way of doing this is by re-considering the alignment of the academic and professional components. Beginning teachers tend to learn best at the point of need (Eraut, 2012; McCarthy & Youens, 2005), i.e., at the point when it is relevant to the point of practice. There needs to be a greater proximity of experience and theory. Mechanisms that support this include changing the pattern of placements, adoption of case studies, and the use of video-recording of lessons. Beginning teacher learning is most effective when activities require engagement with the materials and context of their practice. However, this is not a quick process as beginning teachers need time to discuss, absorb, and develop their practice so new knowledge is acquired.

Burn and Mutton (2015) argue that that there has been inadequate framing of theory and practice. Darling-Hammond (2006) makes the point that there is a vast range of what teachers should know and be able to do. She is critical of some ‘uninspiring teaching methods, superficial curricula and traditional views of schooling’ (p. 279) that can be found in some ITT provision. Conceptions of educational research and craft-knowledge have changed. A vital part of teacher professional knowledge can only be learned through direct practice itself. It is here, in schools, that both subject knowledge for teaching and pedagogic content knowledge are informed and developed. The contribution of knowledge from theory and research along with knowledge of effective practice is of equal importance (Furlong et al., 2021). The contribution from universities of disciplinary knowledge, applied educational theory and action research needs to be made available to all who are training and those leading the training of beginning teachers. Regarding research-based findings, Hagger and McIntyre (2000) argue

that universities should make these more accessible as suggestions for practice rather than theoretical propositions.

Underpinning the professional learning of beginning teachers is the understanding that this is a pedagogical process. The pedagogical framework has its focus on teacher professional learning a considers the extent to which there is a shared understanding of what beginning teachers need to learn, how they might best learn these things and the site of learning.

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