

# **An alternative perspective for ITT: Learning to Learn and its basis in personal beliefs about knowledge**

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## Executive Summary

This paper reports on a series of on-going investigations of learning to learn in the context of Initial Teacher Training (ITT). Generated from an ESCalate funded project (see Appendix 1), the work has a particular focus on exposing important connections between trainee teachers' personal beliefs about knowledge (epistemological beliefs), conceptions of learning, and the conceptions underpinning their pedagogy when working with children in school. These seem to have emerged as key issues particularly pertinent to expanding the capacity to learn of trainees within ITT. Yet, to date, they have received little attention within research on Learning to Learn (L2L), given its more immediate focus within the school setting. We believe, however, that the climate is now ripe for research focusing on the context of lifelong learning, in particular teacher trainee learning in ITT. Thus, connections underpinning these various beliefs and conceptions, central as they are to teacher education are critically explored, addressing, in particular, fundamental issues such as dialogue, self-identity, and the influence of the emerging professional context of practice.

The continuing nature of the investigations is significant; beginning investigation into the field of L2L in HE has raised more questions than it has currently answered. As a consequence, four papers which were originally written to support a BERA symposium event (2007) in respect of the investigations have been reworked to highlight and tease out concepts connected to the fundamental issues above; they are thus not presented as 'traditional' completed research projects. These investigations are presented in Part Two of the report.

With a view to siting the individual investigations within a meaningful context, the first part of the report offers an overarching context. Part One first of all provides an overview of the Learning to Learn agenda, giving further impetus to the rationale. Particular reference is made here to a special edition of *The Curriculum Journal* (2007) which focuses on the L2L agenda in Europe, including drivers and definitions. Attention is paid, too, to Guy Claxton's Keynote speech at the 2006 BERA annual conference: 'Expanding the Capacity to Learn: A new end for education?' Insights into the nature of learning that can be aligned with expanding the capacity to learn are gained by drawing on a select sample of articles, identified because of their particular focus on L2L. This leads us to consider the current situation within ITT, highlighting as we do a set of key pedagogic concerns that we believe require an 'informed' response by all practitioners currently working within ITT. It is evident that there are tensions between such a perspective and current learning experiences of trainee teachers highlighted. However, if practices associated with the Learning to Learn agenda are to become embedded within ITT, then it is essential that the tensions we highlight are addressed.

Part Two then presents the four investigations that stem from the initial overarching ESCalate project. The first of these (Chapter 3) centres on the personal epistemological beliefs of teacher trainees and the role that students beliefs' about knowledge can have both for them as students in Higher Education, and as developing classroom practitioners. It examines the dimensions of learning power in relation to the author's personal beliefs, and is developed through a wide-ranging literature review which links the students' ability to engage meaningfully in L2L with the growth of their epistemology, or their theories of knowledge.

The second investigation (Chapter 4) explores the potential of the role that classroom dialogue plays in cognitive development of students on a PGCE programme in Primary Education. It establishes strong links with Lucas and Claxton's notion of lifelong learning capacities in terms of 5 Rs, specifically 'reflection' and 'reciprocity' in the context of dialogue; and examines the extent to which teaching and modelling of these L2L strategies enables embeddedness in postgraduate students' own pedagogic repertoire. It thus presents an interesting snapshot of these students as they struggle towards contextual knowing.

Chapter 5 considers conceptions of learning to learn via an exploration of the kinds of learning conditions that are best suited to promoting deeper ways of engaging learners within

knowledge construction. It focuses on students following an undergraduate course in Primary Education with History, and examines ways of developing pedagogic practice that not only creates a nurturing L2L environment, but also challenges learners and promotes collaborative inquiry and risk-taking.

Finally Chapter 6 offers a discussion of the potential for an enhanced relationship between critical thinking and subject pedagogy in the context of secondary postgraduate trainee teachers. It situates this within a framework encompassing metacognition and the epistemology of history as an academic discipline. This paper considers how far student teachers viewed a thinking skills activity as a series of clever teaching strategies rather than a considered approach to student learning.

We conclude the report by considering more briefly in a shorter final Part Three ways in which the Learning to Learn agenda might be more strategically *infused* into the fabric of the university, and more intellectually coherent and well-grounded. More specifically, in this section of the discussion paper we present our thoughts on what an enabling L2L framework comprising suggestions about what, in practice such a learning environment might look like, and ideas on how to get there in the context of ITT.

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# **Part I**

## **An agenda for Learning to Learn in ITT**

# Chapter 1

## Introducing Learning to Learn

### **Learning to Learn as a response to the knowledge society**

Fredriksson and Hoskins (2007) in their introductory article: *The development of learning to learn (L2L) in a European context*, explain how the concept of L2L has been identified by the European Council (2006) as one of the basic skills for success in the knowledge society. Rapid changes in the work place, linked to changing technology and societal needs as a result of globalisation are posited as reasons for this focus. Such rapid change, Fredriksson and Hoskins (2007) argue, demand that citizens have the capacity to *learn to learn* “if they are to maintain their full and continued participation in employment and civil society or risk exclusion” (p. 127). Learning to Learn is thus being viewed here as a “quintessential tool for lifelong learning”; one which education and training need to provide the learning environments for the development of.

Fredriksson and Hoskins (2007) explain how “In developing their ideas around the new skills needed in a less uniform society and in recognition of the need for people to live together in tolerance and respect” (p. 127), the Education Council (the body within the European Union composed of ministers of education) set up a working group comprising national experts and representatives from stakeholder organisations in 2002, charging it with the task of looking further into the issue of key competencies. This resulted in a recommendation on key competencies for lifelong learning being developed and adopted, including the following definition of the concept of Learning to Learn:

‘Learning to learn’ is the ability to pursue and persist in learning to organise one’s own learning, including through effective management of time and information, both individually and in groups. This competence includes awareness of one’s learning process and needs, identifying available opportunities, and the ability to overcome obstacles in order to learn successfully. This competence means gaining, processing and assimilating new knowledge and skill as well as seeking and making use of guidance. Learning to learn engages learners to build on prior learning and life experiences in order to use and apply knowledge and skills in a variety of contexts: at home, at work, in education and training. Motivation and confidence are crucial to an individual’s



competence. (Education Council, 2006, para. 5, annex in Fredriksson and Hoskins, 2007, p.129).

The above definition of L2L, comprises both affective and cognitive dimensions. Fredriksson and Hoskins explain that the affective dimension refer to social skills such as ‘learning relationships’, ‘motivation’, ‘confidence’, ‘learning strategies’, and the ‘ability to overcome obstacles’. The cognitive dimensions are concerned with the ‘capacity to gain’, ‘process and assimilate new knowledge’ and ‘students organising their own learning’. Although distinct, Fredriksson and Hoskins acknowledge that, in reality, both dimensions do overlap. Furthermore, the definition emphasises that the combined skills should be able to be used in multiple different contexts by the individual who has them – thus referring to this competence as general rather than specific subject-related competence. The definition also emphasises **life-long** (from birth to death) and **life-wide** (taking into account the breadth of learning opportunities such as work, family, community and specific learning environments such as school or adult education) learning dimensions of this competence by referring to building on ‘prior learning and life experience’ and emphasising the multiple environments where this competence can be utilised.

Rawson (2000), too, argues that one of the main drivers for the inclusion of ‘learning to learn’ on the skills agenda is the position accorded to it as an essential life skill (Smith, 1990 in Rawson, p. 225). Drawing on Stefani (1998), he posits that “within a changing world, lifelong learning is seen as essential for individual and societal survival and viability” (p. 225). However, Rawson (2000) in his article ‘Learning to learn: more than a skill set’ raises the question of whether L2L should be regarded as purely a skill, or set of skills, linked as skills often are to a functional/instrumentalist educational ideology. Rawson develops the position that L2L, to be effective, involves far greater depth of personal learning than skill development alone and that there are important pedagogic implications relevant to the encouragement of this deeper level of learning. Such thinking is supported by others (Hargreaves 2005; Poerksen, 2005; Moon, 2007).

Claxton in discussing the question of what motivates the idea that ‘expanding the capacity to learn’ is a valid end for twenty-first century education further explains that “some of the initial interest in ‘learning to learn’ reflected national government’s anxieties about economic competitiveness” (2006, p. 2) and that such thinking has led to a narrow focus “on ‘lifelong learning’ as the continual updating of vocational knowledge and skills (p. 2)”. Claxton asserts that too narrow a focus on lifelong learning for an employment agenda ignores the wider reality that many young people are not coping well with the general challenges of twenty-first century living. He argues that young people seem to lack the necessary personal resources to cope with the high levels of challenge, complexity and individual responsibility that the twenty-first century promotes. Believing that “we are in a century of choice, problem-solving and learning, and that it is the job of education to strengthen the ability of pupils and students to make good choices, skilfully to solve problems and to learn powerfully” (p.3), he argues that the fundamental purpose of education is to increase the resources that young people possess to cope with life; giving them whatever-it-is we think they will need in order to thrive:

...Though it draws heavily on the accumulations of culture, education is fundamentally a preparation for the future, not a veneration of the past. And so the aims of education have to change. There is no such thing as ‘best practice’ – or even ‘next practice’ – in abstract. You cannot say what is good teaching, good school organisation, good leadership, until you have specified what it is you want youngsters to gain, in the light of the particular world they are being readied for... Only if you tell me what your end is can I tell if your means are good or bad... It is education’s most basic job to expand all young people’s emotional and intellectual resources to cope with life... (pp.3-4)

Thus, Claxton argues that expanding one’s capacity to learn is as much a matter of character as it is of skill and that we need to develop a richer vocabulary to do with learning

that includes words like attitudes, dispositions, qualities, values, emotional tolerances, habits of mind (p. 4). As a way forward, Claxton offers two new phrases. They are ‘epistemic mentality’ which he defines as *the sum total of the cognitive habits of mind that go to make up one’s capacity to learn* and ‘epistemic identity’ - *the sum total of the emotional and personal attitudes, beliefs and tolerances that expand or contract one’s capacity to learn*. Expanding young people’s capacity to learn, as a goal of education could, Claxton argues, potentially help to give young people the confidence and capability they often lack in dealing with a host of real-life complexities and uncertainties and demands. But, he believes that we are very far from realising this potential arguing that some of the very early attempts to respond to the ideal have been little more than techniques bolted on to ‘business as usual’ to boost exam performance, and, as such, have supplemented the means but not the ends. To make the reality of students’ school experience match the L2L rhetoric more closely, Claxton argues that “we have to dig deeper, and not be afraid of talking about the character traits and habits of mind that is our intention to help young people cultivate” (p.4).

In an attempt to help us think more critically about the ways education and training can provide the learning environments for the development of L2L, Claxton turns to the notion of the powerful learner: ‘the Explorer’, ‘the Investigator’, ‘the Sceptic and ‘the Finder-Outer’ (p. 5); and then proceeds to unpack these characteristics through focusing on the learning dispositions – or character traits – that make possible powerful learning. Table 1 shows the kinds of things that people regularly associate with being a capable learner, which, Claxton reminds us, is not the same thing at all as being a successful student. Claxton explains how other researchers, such as Costa in California, and David Perkins’ group at Harvard have designed similar lists, with cognitive neuroscience, experimental psychology and sociocultural studies all making a contribution to underpinning the theoretical basis for such dispositions. Claxton highlights how cognitive neuroscientists, now believe that our brains have evolved to make us disposed to learn by imitation and that a disposition towards imitation is seen as one of the main ways in which cultural habits of thinking and learning transmit themselves from generation from generation. Drawing on Vygotsky, Claxton further highlights that habits of mind are contagious and that a tolerance for hazy or non-articulate ways of knowing is also essential to learning. He goes onto explain that people who are more receptive to their own hunches and inklings are likely to be better problem solvers than those who must have everything clear-cut. Such thinking demands a particular classroom climate/ethos – one in which mistakes are allowed to be made, indeed, are welcomed, and time is given towards learners being able to digest their learning and be in receipt of feedback.

In clarifying the nature of these dispositions and what is actually being ‘expanded’ Claxton explores the distinction between **learning skills** and **learning dispositions**. Claxton explains, when you have learned a skill, you are able to do something you couldn’t do before. But you may not spontaneously make use of that ability when it is relevant in the future, if you do not realise its relevance; or if you still need a degree of support or encouragement that is not available. Claxton’s point here is that it is not much use being able if you are not ready and willing. Claxton posits that to become better disposed – to develop the disposition – involves two kinds of learning in addition to mastering the skill. First, Claxton argues, we can broaden or refine our sense of when it is appropriate to use this particular ability (**to become more ready**). And secondly, we can strengthen our inclination to make use of the ability regardless of whether other people are encouraging us (**to become more willing**). So when talking of dispositions, Claxton believes that we are not talking about a new kind of psychological entity that needs to be distinguished from skills: rather a disposition is merely an ability that you are actually disposed to use.

<i>Resilient</i>	<i>Resourceful</i>	<i>Reflective</i>	<i>Reciprocal</i>
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<b>Curious</b> (proactive)	<b>Questioning</b> ("How come?")	<b>Clear-thinking</b> (logical)	<b>Collaborative</b> (team member)
<b>Adventurous</b> (up for a challenge)	<b>Open-minded</b> (‘negative capability’)	<b>Thoughtful</b> (Where else could I use this?)	<b>Independent</b> (can work alone)
<b>Determined</b> (persistent)	<b>Playful</b> ("Let’s try ...")	<b>Self-knowing</b> (own habits)	<b>Open to feedback</b>
<b>Flexible</b> (trying other ways)	<b>Imaginative</b> (could be ...)	<b>Methodical</b> (strategic)	<b>Attentive</b> (to others)
<b>Observant</b> (details / patterns)	<b>Integrating</b> (making links)	<b>Opportunistic</b> (serendipity)	<b>Empathic</b> (other people’s shoes)
<b>Focused</b> (distractions)	<b>Intuitive</b> (reverie)	<b>Self-evaluative</b> ("How’s it going?")	<b>Imitative</b> (contagious)

Table 1.1 Positive Learning Dispositions

### Competing definitions

Paying particular attention to learning in schools in UK, the DEMOS Report (2005) highlights the difficulties associated with the defining of L2L. More specifically, the DEMOS report argues that a sense of confusion prevails concerning the relationship between L2L and a range of other terms that are commonly used in education, such as **problem solving** or **thinking skills** or **critical thinking** among others – with claims made that training in relation to these will enhance both learning and learning to learn. Interestingly, confusion is also evident in the mindset of the most expert in the field of L2L, who at their first meeting of the recently established (2006) Centre for Research on Lifelong Learning (CRELL) questioned whether ‘learning to learn’ is different from ‘learning’ and how different views on learning may lead to different interpretations of the concept of learning to learn. Another issue discussed was whether learning to learn should be regarded as a general ability or not. One concept emphasised by several of the participants in the meeting was metacognition or, as some rephrased it, meta-learning. It was also noted that areas such as intelligence and problem solving are close to learning to learn, but they are not identical with the concept of learning to learn. A further issue discussed was concerned with the assessment of learning to learn, more specifically, to what extent it can actually be assessed and does this assessment provide a

useful purpose. Thus the picture that emerges in seeking to map out the territory covered by the notion of Learning to Learn is one that is contested.

The approach of the DEMOS working group broadly aligns with the approach taken by Claxton, in defining Learning to Learn not as a single entity or skill, but as a family of learning practices that enhance one's capacity to learn; whilst acknowledging that a more precise specification of the family of practices that constitute Learning to Learn must await both further psychological research and educational developments. Associated with this is the notion of the individual student's 'learning power'; described as 'a complex mix of dispositions, lived experiences, social relations, values, attitudes and beliefs that coalesce to shape the nature of the individual's engagement with any particular learning opportunity of individual students' (Deakin Crick *et al.*, 2004 in Hargreaves, 2005).

While we will operate from the broad perspective on Learning to Learn articulated by both Claxton and the DEMOS report, it will also be important to relate the debate to those related terms current within the sector, particularly critical thinking and perspective forming associated with metacognition. As well as avoiding potential confusion, this will allow us to draw on understanding developed within these more established fields. Before considering the pedagogy of Learning to Learn, and the contribution that Learning to Learn might make to ITT, it is thus important to consider the contribution of these fields.

## **The contribution of metacognition and higher level learning**

The DEMOS report placed meta-cognition at the core of the family of practices that they identified as comprising Learning to Learn. Meta-cognition, here, is defined as **the capacity to monitor, evaluate, control and change how one thinks and learns**. In less formal terms, Learning to Learn can thus be associated with reflecting on one's learning and intentionally applying the results of one's reflection to further learning. It involves:

- understanding the demands that a learning task makes
- knowing about intellectual processes and how they work
- generating and considering strategies to cope with the task
- getting better at choosing the strategies that are the most appropriate for the task
- monitoring and evaluating the subsequent learning behaviour through feedback on the extent to which the chosen strategies have led to success with the task.

(DEMOS report, p. 7)

According to Flavell (in Jackson, 2004) "metacognition is higher order thinking to actively control the cognitive processes engaged in thinking and acquiring knowing. It is central to learning." (p. 391) Jackson goes on to examine that part of metacognition that is concerned with how we control or regulate ourselves in order to learn and learn better. In doing so, he draws on the term metalearning, first used by Biggs (1985) to describe the 'state of being aware of and taking control of one's own learning'. Metalearning here is viewed as high-level thinking about learning, and how we acquire it. Flavell in viewing metacognition as central to learning goes on to argue that "It involves thinking about thinking and it must therefore include thinking about learning" (p. 394)

Bateson (1987, cited in Rawson, 2000) similarly posits Learning to Learn as a higher level of learning rather than purely a skill set – one which involves conceptualisation, adaptation

and transfer of learning from one situation to another. To achieve this level of learning, Bateson argues that the learner needs to develop the ability firstly to conceptualise the problem or issue to be addressed (what it is and what it is not) before deciding upon an appropriate solution. This clearly involves an expansion of viewpoint, however limited, to enable ‘corrective change’ and is probably at the level considered as the remit for higher education.

Rawson goes on to discuss that “resolute questioning of external apparent givens and internal perceptions and the mutual influence of the one on the other appears an essential element for the form of Learning to learn that is being developed here [by Bateson].” (p. 227). Further understanding about the concept of L2L is supported by drawing on Mezirow’s (1991) concept of ‘meaning perspectives’, or ‘personal paradigms for understanding ourselves and relationships’ and his suggestion that world-views can be held at a more personal and contextual level. Rawson argues that learning to learn might involve developing the ability to become more critically aware of our own/personal focused, specific perspectives and how they may be changed. He makes reference to Johnson-Laird’s (1983) description of the mind turning in on itself, first to create and then to question a kind of summary of its capabilities. Attention is also paid by Rawson to Bruner (1987) and his support of the possibility of a progressive widening or ‘decentering’ (away from oneself) of one’s frame of reference, for making and understanding meaning – an expansion of consciousness. This view suggests that learning to learn might involve the development not only of a questioning stance in relation to external and internal worlds but also a desire to understand their mutual interaction.

The model of learning to learn that is being developed by Rawson requires the learner to be involved in a self-reflexive process of learning: a conscious examination of his or her learning processes, or as Roth (1996, p. 1 in Rawson) describes: ‘building awareness of the self as learner’. Similarly, Terry (1997, p. 278 in Rawson) discusses the learners in formulating ‘new ways of understanding reality, of interacting with others and of perceiving their own identities’. Such thinking is further supported by Johnson-Laird (1983 in Rawson) who talks of the need for learners to bring to the surface, and examine, the ‘tacit mental processes’ that have been employed to construct ‘mental models of the world’. The view of learning to learn that is being argued for by Rawson involves a deep and very personal learning process, central to which is the ability to think or act critically.

## **Lessons from critical thinking**

In seeking to address such second-order or higher-level notions of learning, we thus also need to address the field of critical thinking more directly. With a view to supporting the promotion of critical thinking, a number of definitions are posited by Moon (2007) highlighting its **technical nature**, its **component processes** or **fundamental elements** and its **sequential nature**. Of particular interest is Brookfield’s description of critical thinking in relation to pedagogical issues where, from the outset, there is a concern not to capture a tight definition but to facilitate the development of critical thinking in the ‘classroom’. Brookfield (1987 in Moon, 2007) views critical thinking as a process that involves identifying and challenging assumptions, questioning the status quo and exploring alternatives. Brookfield’s approach typifies the ‘pedagogical approach’ to critical thinking. He advocates processes of trying to awaken, prompt, nurture and encourage the process. Critical thinking here, it is argued, should be fostered through the engagement of students’ interests and motivation via a facilitated environment.

Of particular note, too, is Barnett’s consideration of critical thinking as an element of the taking of a critical stance – an acquired disposition towards knowledge and action – the implication being that students as learners embark on a developmental journey towards being critical. This ‘developmental’ construct is central to all the papers set out in Part II of this report, and Moon (2007) highlights this particularly; many approaches to applying definitions of critical thinking to HE students do not consider progression to be an issue, either in a

student's ability to think critically, or in pedagogy. Barnett (1977 in Moon, 2007) is the exception to this in implying that we should consider critical thinking as a process of development towards 'critical being', with the developing manner in which students conceive of the nature of knowledge, that is their personal beliefs about epistemology, playing a crucial role in this process.

The term 'epistemology' is a central one here. It describes the learner's view of the nature of knowledge, that is, their conception of knowledge. Moon (2006, p. 7) argues that work on critical thinking and work on epistemology are closely linked stating that:

Critical thinking is a capacity to work with complex ideas whereby a person can make effective provision of evidence to justify a reasonable judgement. The evidence, and therefore the judgement, will pay appropriate attention to the context of the judgement.

Adopting such a broad definition of critical thinking aligns quite naturally with epistemological issues, highlighting: (1) the influence of the student's conception of knowledge in their ability to think critically; and, given the identification of stages in the development of an individual's conception of knowledge (2) the capacity for critical thinking should be seen as a developmental process. It is important also to emphasise Barnett's notion of critical being, taking us, as it does, beyond a focus on conceptions of knowledge to considerations of ontology that is the nature of being. Barnett goes on to argue that it will be important to recognise this in shaping pedagogy for ITT.

## Implications for pedagogy

The challenge remains, however, to embed such a family of learning practices within pedagogy. How can schools expand the capacity to learn? Recently, attention has been turned to the development of what are called 'infusion' or 'epistemic change' programmes (Claxton, 2006). These infusion approaches are exploring ways in which the school as a whole, and its classrooms in particular, can become settings in which the various constituent elements of learning capacity are acknowledged, discussed, understood and systematically strengthened. Their guiding question is: what would it mean to organise your classroom and your pedagogy in such a way that every day your students were learning to learn more robustly, more broadly, and more flexibly and skilfully?

## Epistemic culture

Claxton (2006, p. 9) argues that an epistemic culture will need to attend to the following areas of its operation, as indicated in Table 2. The *language* employed in the school will need to change. *Activities* will need to be selected, designed and framed so that they deliberately focus on stretching each aspect of learning capacity, with a screen for content and a screen for learning practices. *Wild topics* will be required that give students freedom to develop their emerging capacity for learning to learn. *Transparency* will be required as to intentions to expand learning capacity, with students *actively involved* in making the culture even more effective in doing. Students will need to be encouraged to look for out-of-school applications and modifications of the learning dispositions, so that a continual *transfer* of thinking occurs. There will need to be a sense of *progression*, so the dispositions continue to get stronger, broader and richer. And *modelling* of the learning dispositions will be required on the part of teachers,

<b>Aspects of an epistemic culture</b>
Language – we all speak 'learnish'

Activities – a potentiating milieu
Split-screen thinking – the warp and weft
Wild topics – rich, real, responsible
Transparency and involvement – students as epistemic co-workers
Application – to other contexts
Progression – stronger, broader, deeper...
Modelling – walking the learning talk

Table 2: Aspects of an epistemic culture

### Addressing the whole person

It is apparent already in this epistemic culture that a number of fundamental issues need to be addressed. Rawson (2000) raises pedagogic issues that concern power and knowledge; involvement; and design. He identifies two further pedagogic areas, however, to be explored (one implicit and one explicit) as necessary precursors to the ultimate discussion of how L2L might be encouraged: personal development and assessment. Rawson argues that his view of learning to learn embraces more than solely intellectual activity. From the outset it involves an awareness of individual learning styles, but at a deeper level, which is of particular concern for him, it involves understanding and dealing with personal perspectives and aspects of self that interfere, positively or negatively, with the achievement of personal potential. Rawson references Roger's (1994) view that the significant nature of learning involved can only be as the result of a combination of logic and intuition, intellect and feelings, concept and experience, idea and meaning, i.e. involving the whole person. In terms of personal development, the demands placed upon and the commitment and involvement required of, the learner in the learning process now begins to be more defined. What is clearly involved is a rather more holistic view of the student and the education process than is currently normally evidenced in higher education. The learning involved not only covers the development of the whole person but also requires the engagement of, and exploration of, the whole person. To more fully understand what is involved in L2L, we need a framework for understanding personal development. The second area, implicit and not unrelated, is concerned with the examination of an aspect of higher education that offers considerable potential leverage for encouraging, or otherwise, learning to learn. Rawson argues the area of assessment not only offers this potential but also is inextricably linked with learning to learn. Paper 3 goes on to discuss the nature of learning behaviour in ITT students in HE, and draws upon Rawson's notion of 'design' in relation to pedagogic approaches.<sup>i</sup>

### Constructivist paradigms

Rawson's thinking is encapsulated in Poerksen's (2005) paper: *Learning how to learn*, where he describes the central ideas of Heinz von Foerster and related authors on constructivist model(s) of education, learning and teaching. Heinz von Foerster's constructivism is fundamentally opposed to any view that involves nicely portioned transfer of knowledge: it foregrounds the human learner as the active and autonomous maker of knowledge. Constructivism, here, is understood as an epistemology of fundamental ignorance and promotes the following key propositions:

#### Variations of listening

A belief that knowledge cannot be simply transferred, since successful communication from the constructivist point of view, is highly improbable since we just glide along being unaware

that we have failed to understand each other. In higher education we have to find ways of making successful communication more probable by presenting students with powerful reasons to change. A university teacher who creates these situations for the potential for personal change, must learn to listen in a special way – not merely seeking affirmation.

### **The distinction between knowledge and ignorance**

The traditional picture, which engenders anxiety and frustration and thus poisons the climate of learning in universities, is that students know little and – explicitly or implicitly – the tutors as the guardians of truth and certainty. They are the ones who know, who have the authority to decide. Such a communicative matrix anchored in the distinction between knowledge and ignorance puts dialogue at risk; it is not a good basis for arousing creativity, passion, patience, perseverance, and curiosity.

### **The universalisation of the dialogical principle**

The dialogical principle states that the creation of knowledge and spirit of dialogue seems to be particularly appropriate to the epistemology of constructivism. A successful dialogue acknowledges that there is not just the one reality but a multi-verse of different interpretations as we argue and contradict one another, or attempt to harmonise views, or synthesise, or plaster over contradictions. The result of a dialogue worthy of its name is not the victory or defeat of one side or another, but mutual understanding based on mutual respect.

Such an approach clearly has implications also for the role that the teacher plays in supporting the construction of understanding. Poerksen thus goes on to posit four key role models, linking as these do to sustaining an epistemic culture within a school:

- **The *maieutic method***, like Socrates, reflecting the teacher who does not teach, but, rather, creates conditions in which the hunger for knowledge is fuelled and the delight in personally achieved knowledge and independently constructed insight can be actively experienced.
- **The *moderator*** - Should the disorientation of Socratic teaching increase beyond reasonable limits and threaten to become unproductive, then the moderator aspect of tutor steps in. The moderating dimension will try to keep dialogues going and the desire for answers alive.
- Learning as ***cooperative researcher***
- The ***perturbation agent*** - Whenever there is premature consensus, intellectually unprofitable petrification or boring and subjection-orientated quarrelling, then the time for irritation agents has come.

We can see for instance, that Socratically inspired teaching searches out the questions most suitable to agitate their partner's minds, to disturb, upset, and astonish them. The tutor does not set out to solve problems, but to generate them, assuming the role of problem designers. Moderators then attend to the contours of the dialogues and insist on definitions and terminological precision whenever necessary. They will prevent dialogues from drifting off into marginal areas that seem unpromising. They will point out existing knowledge canons of excellence but avoid presenting them as collections of ultimate truths whose validity is context-independent. The constructivist model of learning creates environments in which learning takes place because the partners – the students – recognise and experience it to be necessary. The central principle of the maieutic procedure is to create the problems that generate answers and solutions that are, finally, to be tackled and discussed.

### **The introduction of Learning to Learn perspectives into ITT**



The purpose of the discussion at this point in the report is, however, to consider pedagogic issues that might inform the introduction of Learning to Learn perspectives into ITT. An alternative perspective is painted by Kantz (2000) in his discussion of the Canadian curricular initiative in Ontario. Ontario's curriculum framework is based on essential learning outcomes grouped into four 'programme areas', each of which includes several subject domains. Along with this focus on outcomes, the policy advocates an integrated approach to curriculum as well as a number of changes to traditional assessment, evaluation and reporting practices. This outcomes-based model of education focuses on results as opposed to teaching objectives, or time spent on areas of study.

Interestingly, in Kantz's extended discussion of the epistemology at work in an outcomes-driven curriculum model, he argues that an outcomes-driven curriculum is one that confirms an entity view of knowledge. Here 'knowledge is seen as a free standing attribute of the enviroing world that only secondarily comes into passive possession of those who, because they happen to be in the right place at the right time, automatically end up with some portion of unmitigated truth directly embossed upon the recording equipment of their minds' (Boyes and Ball, 1990: 377 in Kantz, 2000). Considered in this light, knowledge is certain and permanent, and viewed as right or wrong: this is diametrically opposed to the notion of the development of critical thinking, and as such, all that the concept of learning to learn stands for. Thus, the use of learning outcomes needs to be carefully deployed.

Achieving an epistemological redefinition within an ITT context is not easy since this runs counter to that which is popular. Kantz argues it might be productive to begin with teachers, who act as mediators between child and the formal curriculum and draws on the practice of Nola Lyons (1990) who teaches the various epistemological descriptions to her teachers in training, asking them to critique teaching episodes, texts and curriculum projects in epistemological terms. Such an activity, Lyons believes, "opens the window to what she calls 'dilemmas of knowing' as the future teachers begin to realise their pedagogical choices are mediated by (nested in) implicit epistemological assumption." (p. 141). Whilst promoting multiple viewpoints this, Kantz suggests, is in itself not enough. He goes onto urge that students (and tutors) must be encouraged to make judgements (interpretations) and with judgements come reasons for those judgements. This alternative pedagogy frames teachers as information managers, cultivating the conditions under which learners are able to approach 'competence'. Competence, in this view, is defined as a process of knowledge construction. Assessment becomes synonymous with learning and is best accomplished by students themselves as they engage in the belief evaluation process. Learners form and revise their beliefs on the basis of evidence accumulated in the cultural store. Taken together, these redefinitions of competency, epistemology and pedagogy offer, as Kantz posits, a richer version of the holy trinity: one that curriculum will need to support if it is to carry out its mandate successfully.

## **Towards an alternative perspective for ITT**

While some insight has been gained into the theoretical perspectives and pedagogy associated with the family of learning practices linked with Learning to Learn, it clearly still remains a challenge to embed these practices within the sector. Until now this has largely occurred through direct work with teachers, including associated continuing professional development for teachers, building as this has on the associated research. This has resulted in the development of material and teaching approaches for use in schools.

Initial Teacher Training, though, also plays a key role in determining the nature of practices employed within schools, given the way in which it helps to shapes the competencies, expectations, attitudes and understanding of the body of teachers across the sector taken as a whole. It thus makes sense to explore the possibilities for introducing Learning to Learn within ITT; indeed this is essential if Learning to Learn perspectives are to impact on practice across the sector as a whole. The ESCalate Subject Centre of the Higher

Education Academy accordingly funded a project entitled ‘Making real the Learning to Learn (L2L) rhetoric embedded in an Initial Teacher Education Learning and Teaching Strategy’, focused on practice within the University of Chester. This led to further funding from ESCalate for a wider project involving other institutions, carried out between September 2006 and July 2007, entitled ‘A critical exploration of a Learning to Learn perspective and its Pedagogical Impact on Teaching in ITT’. It is this latter project that has led to this report.

The project that has given rise to this report sought to critically explore how the notion of Learning to Learn – understood as a family of learning practices that enhance one’s capacity to learn – could be evoked in ITT. The project further sought to identify current pedagogic thinking and practice within ITT, and, working from this initial basis, to introduce ITT tutors to a vision of what Learning to Learn might look like within their own practice as providers of ITT, to develop and test out (with the support of experts in the Learning to Learn field) ideas for ITT tutors to employ within their practice.

The project thus aimed, after an initial phase of identifying tutors who would be ready to champion Learning to Learn approaches within their own practice, to help frame a series of small-scale action research projects. Four such action research projects went ahead, and it is these projects that provide the basis for Part II of this report. These projects, as well as informing each other, would thus provide a test-bed for Learning to Learn within ITT. This would ensure the development of insight into the challenges involved in introducing Learning to Learn into ITT more widely, while also allowing for the creation of practices and resources to support this. This report is thus framed by the objectives for the overall project. However, we must at this point emphasise that the report outlines what is the first investigation into Learning to Learn, as such, within the context of ITT. And this is despite the extensive research base directly associated with Learning to Learn, and also the extensive body of relevant practice and resources situated within schools; as was evident to the project director in initiating the project. One therefore wonders whether there might be factors at work against the establishment of practice within ITT that is rooted in L2L perspectives. ITT indeed operates under a different set of constraints to those present for schools.

Any attempt to introduce Learning to Learn into ITT will thus clearly needs to be aware of potential constraints, and ready to address these constraints directly. It is important, then, that this project in seeking to introduce the Learning to Learn perspective within ITT also serves to highlight these constraints. Insight for ITT teachers that relate to practical strategies for embedding Learning to Learn within their curricula and teaching are thus likely to be insufficient.

Before introducing the small-scale action research projects that constitute the heart of this report (in Chapters 4-6 of this report, along with material produced as part of a further investigation in Chapter 3), we thus explore the context that ITT presents to the project. As we shall see, this will involve exploring a number of tensions evident within ITT. The exploration is shaped in part by the responses of practitioners involved in the early stages project. This context is important in understanding the course of the project as it developed, and in making sense of the small-scale action research projects that concern the practice of individual teacher educators. This exploration will further enable us in Part III of the report to address, more briefly, issues that will need to be addressed at the institutional level, informing those responsible for the design of entire ITT programmes. This, indeed, returns us to the challenge faced by the project based at the University of Chester, focusing on Learning to Learn in relation to a Learning Teaching Strategy for a suite of programmes in ITT.

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# Chapter 2

## Tensions within ITT, and practitioner responses

### Challenges and tensions within the ITT culture

The introduction of the Teacher Training Agency (TTA) in 1994 had a major impact on Initial Teacher Training, with powers granted to the TTA enabling it to determine practice across the whole sector. Alongside this the professionalism of teacher educators has arguably been questioned by successive documents and papers, not least during the last nine years, which has seen not only the introduction of a National Curriculum for Initial Teacher training, but three substantial revisions to this curriculum. It is important to note that as a consequence, a new language has emerged. Teacher education is now teacher training; students are trainees; the curriculum is expressed as a set of standards for qualified teacher status (QTS) and subject knowledge is termed ‘content’; the expansion of school-based routes and employment schemes means that training institutions are often referred to as ‘providers’ within what is a competence-based model.

Implications follow for the way student teachers and student educators are perceived, creating distance between those educational programmes of Higher Education Institutions which encourage an approach to teacher education based upon reflective practice and the now prescribed routes which are based on training and the assessment of standards (although previous DfEE Circulars purported to raise the profile of reflection). Burgess (\*\*\*) indeed argues that the process of consultation with the TTA has been firmly based in the tradition of teacher criticism, assuming that teachers do not work hard enough, that their work is not focused, and that they do not keep up-to-date with new technology. In the following discussion, particular attention is paid to the shift from more open models of competence to clearly specified standards, and to the impact of a mandated national curriculum for ITT.

### From competence to standards

McCulloch (1994, in Burgess 2000) argues that a competence-based approach to ITT provides an opportunity to demonstrate that teaching and learning in higher education can be reflective and systematic, allowing student teachers to develop the key skills and knowledge required for their future role in the classroom. However, earlier definitions of competence were unclear. A later definition referred to:

A complex and dynamic process which involves exploration, choice, decisions, creative thinking, and the making of value judgements. The major elements in this process – evaluation, research and experimentation – are not value added features of teacher quality; they constitute the very

basis of competence in teaching – that is reflectivity. (Hextall et al., 1991: 82)

The above definition reflects Taylor's (1991) suggestion that the most effective means of ensuring skill transfer is for technique (knowing how) to be underpinned by reflection (knowing why). In recognition of the interplay between practice and reflection was central to effective performance, many HEIs adopted models of teacher education which were based on the reflective practitioner. The focus changed, however, when, in 1998, the TTA introduced the move from more open notions of professional competence to clearly specified national standards that aim to offer a guarantee that, whatever route into teaching is chosen, the threshold level of competence will be the same for all qualified teachers. It is worth noting that the standards carrying the award of QTS are separate from any academic qualification that students might achieve such as a PGCE. There is thus scope through this for a wedge to be driven between academic and professional achievement.

### **Mandated curriculum**

Clark (2005) states that in order to comply with the requirements for teacher registration, ITT providers are usually expected to introduce student teachers to the mandated curriculum. Often this is done uncritically, so students tend to accept rather than examine the underlying epistemological model which partitions knowledge into distinct 'pillars of wisdom'. In New Zealand, the Teachers Council ensure that teacher education programmes depend in part on 'demonstrating knowledge of current curricula and the subjects being taught', including 'knowledge of content of what is being taught' and 'knowledge of relevant curriculum documents' (NZ Teachers Council, 2002, p. 18). Clark goes on to say that mandated curricula will have some universal features of concern to a wide international audience. Two of the most fundamental problems are philosophical in nature:

- how, in broad terms, should the curriculum be structured
- what, in detail, should it consist of?

All too often, pre-service teacher preparation programmes accept the official position as a given rather than subjecting it to critical scrutiny, leaving student teachers indoctrinated into the 'bureaucratic' view of the world. Clark challenges the perceived wisdom about curriculum structure and content by highlighting the lack of any good epistemological reasoning for thinking that knowledge is partitioned, and that a partitioned curriculum rests on insecure philosophical foundations. He also argues that it is of vital importance for student teachers that they confront those challenges to that which they are expected to learn unquestioningly and, further, it is vital that academic staff in teacher education programmes likewise do so in the interests of teacher *education* worthy of the name. A focus on the role of epistemology in helping to shape teaching approaches is thus likely to be a key element in inducting beginning teachers into alternative perspectives.

Given the problems of justifying a partitioned curriculum, Clark argues that a different metaphor is required which promotes holism for, example in the Queensland 'New basics' project. Rather than the curriculum being structured by pillars of knowledge, a holistic curriculum starts with the most fundamental questions of what students need to know in order to live as adults in communities. *New basics are centred* on four clusters of practices essential for survival in the world in which students will live and work, and focus on *Productive pedagogies*: the classroom strategies used by teachers to focus instruction and improve student learning outcomes. Within this, *Rich tasks* represent the culmination of student engagement with the curriculum. These are assessable and reportable, but are more than something which can be assessed: they are intellectually challenging and have real world value (Education Queensland, 2001).

## **Curriculum inclusion/exclusion**

The drift towards a partitioned curriculum is further accentuated by decisions relating to the inclusion and exclusion of what is to be learnt within the curriculum; this is because of a tendency to not exclude what is already in, and include additional content which is either excluded. There may be social/political demands for its inclusion or new material which is deemed academically worthy of inclusion. This leads to problems of curriculum overcrowding and the need for decisions about what curriculum content is of most worth. To avoid such judgements being arbitrary or capricious, a set of criteria is required which gives direction to the way decisions are made. Clark (2005), referencing Project 2061, highlights a fundamental principle: do not teach more increasingly poorly but teach less increasingly better. It is evident here that sufficient space needs to be made available if the family of practices associated with Learning to Learn are to be incorporated into the curriculum. A partitioned curriculum works directly against this possibility. By concentrating on few topics, teachers can introduce ideas gradually, in a variety of contexts, reinforcing and extending them as students mature. Students will end up with rich insights and deeper understandings than they could hope to gain from a superficial exposure to more topics than they can assimilate (AAAS, 1990, p. 3)

In preparing the young for some 60 or more years of future adult life, it demands that content should consist of deeper concepts, theories and principles of lasting significance rather than content of no more than the passing interest of the day – the former provides a structure for lifetime understanding, problem solving and future learning in a way the latter does not. In order to bring about the necessary curriculum reforms, a number of premises need to be taken into consideration:

- Reform necessarily takes a long time
- Collaboration is essential
- Teachers are central
- Comprehensive approaches are needed
- Reform must focus on the learning needs of all children
- Positive conditions for the reform must be established

HEIs are, though, required to introduce student teachers into the details of such a partitioned curriculum, and it would be ill advised for an institution to fail to do so. But at the same time a clash is potentially evident in relation to the understanding and attitudes held by ITT tutors, who would be expected to possess deeply held and clearly articulated views in relation to the nature of effective pedagogy; views that would be. The project indeed began to face a range of challenges at an early stage.

## **Practitioner concerns with the learning of trainee teachers**

The situation with ITT described above indeed provided a challenging environment within which to conduct a project advocating the Learning to Learn agenda. From the outset, the project suffered from timetabling problems in relation to planned staff development as set out in the original project proposal. Issues to do with re-validation and short OFSTED inspections were prioritised by the senior management teams above engagement with the project.

As such, the project, particularly at its start, was bitty and fractured, involving passing on information to those seen as central to change within institutions. Emphasis was effectively placed on the project leader as enthusiastic ‘outsider’ passing on information to a small group of interested individuals. Communication of L2L ideas was more akin to one-off events rather

than it being holistic, coherent and integrated as part of whole school staff development. Unfortunately, many of the individuals involved with initial L2L experimentation have not had the time or energy to record any formal reflections on their activity. No reflective journals have been kept and strategic meetings as a project team have not been possible. Evidence of thinking on their practice was, however, captured in an initial questionnaire and during the staff development days themselves.

### **The fixed nature of the ITT curriculum**

An initial questionnaire was given to ITT practitioners across four institutions as part of the initial phase of the project (see Appendix 2). Drawing on responses from one institution (but representative of feedback from all four), practitioners intimated that their work was being adversely affected by government policy and external scrutiny which they believed sought to micro-manage curricula and pedagogy. A common belief amongst the practitioners was that much of what is done in ITT is more akin to training, not educating and that practice was far too tied to mechanisms and systems that viewed 'quality' in respect of learning in a very narrow, instrumental sense. Indeed, the Standards were viewed as the ultimate benchmark of 'quality'.

These practitioners believed that the curriculum they were delivering was to a significant extent 'fixed' in that the attention being paid to the Standards, as set out by the TTA, tended to emphasise content delivery, not the process of learning. Others felt that consideration of the curriculum in respect of it being 'fixed' was not easy to respond to; one practitioner stating:

... the meaning of a 'fixed curriculum' needs to be considered in the first instance – what does this mean? For the most part many of us are just too damn busy doing too much, running around like headless chickens in what is supposed to be an educational establishment having no time to think about underlying philosophies and the meaning of life!

Another practitioner believed that:

It [the curriculum] can become fixed when in my case the programme runs on two campuses with different tutors, under different conditions, different timetabling arrangements etc and I have to ensure parity of provision.

Others felt that the curriculum is more likely to be viewed as being 'fixed' by those tutors who are insecure in doing things differently. Such views, presumably, could be aimed both at the experienced practitioner, used to designing and delivering the curriculum in a very didactic way, or at the tutor, new to the HE context. Conversely, one practitioner particularly valued the way that drama education and enactive learning encouraged the resistance of fixity and the importance of specific context in determining what could be taught and learnt and how. Whilst acknowledging this individual's response, the majority of practitioners believed that their practice was being constrained and that tensions prevailed between their personal visions for trainee learning and actual practice.

It is important to note here that the practitioners engaging with the initial staff development, aligned to the overarching project, espoused sophisticated teaching philosophies. For example, in response to the question: How would you describe your philosophy of teaching and learning? As well as one view that was strongly influenced by a socio-constructivist model of learning, responses to this question included:

Education, as opposed to training or indoctrination, requires that those who are taught exercise meaningful control over what is to be learnt.

Open, needs based

I would place my philosophy of teaching and learning within the critical, emancipatory tradition of education. I do not see the relationship between knowing and being, thought and action, theory and practice, knowledge and experience, the objective and subjective as dichotomies but as dialogic. By this I simply mean that they shape each other in the process of

coming to know.” Another practitioner discussed their teaching philosophy as being “Inclusive, Reflective, Challenging, Questioning, Open minded.

### **Constraints on espoused teaching philosophies**

A different group of ITT practitioners, meanwhile, on being asked to visualise what ‘effective learning’ looks like to them, as part of a staff development day at their institution, presented the following small-group views of effectiveness:

#### **Perspective 1**

- Use of multiple-staff as part of programme teams
- Notion of (smaller/strategic) in-puts & larger out-puts and that there are multiple views of what these (in-puts & out-puts) might be
- Valuing of ‘experiences’
- Importance placed on ‘active listening’ (on behalf of students & tutors (??))
- Valuing of ‘questioning’ & ‘researching’
- Functional element of training in terms of employment and on-going learning
- Attention paid to the use of a broad range of resources and the promotion of ‘interaction’
- Learning takes place in a ‘pleasant environment’
- Careful attention paid to how the aforementioned is organised in terms of a strategy

#### **Perspective 2**

- Problem-solving approach taken
- Notion of independent learner promoted
- Learning in groups valued with an emphasis placed on communicating with one another (open discourse?)
- Desire to promote ‘active learners’ who engage as researchers – analytical and deep thinking
- Importance placed on promoting enthusiastic learners
- Mindful of learner’s starting points

#### **Perspective 3**

- Careful attention paid to the starting points of our learners & mindful of the work-life balance of our learners
- Desire to see learners interacting and drawing on a wide-range of resources
- From the out-set we see learning leading to graduation & employment and on-going engagement as learners

#### **Perspective 4**

- Student-centred approach taken towards learning
- Questioning approach towards learning valued and the use of a wide-range of resources encouraged



- Friendly, enthusiastic tutors
- Expectation that all students engage as ‘active learners’ who are in dialogue with one another
- Important links made between the way students learn and children in classrooms
- Importance placed on tutor modelling good learning behaviour
- Inclusive approach taken

Whilst, much over-lap was observed between these small-group perspectives, it was felt important by all practitioners involved in the exercise to consider the ways in which the variety of overlapping perspectives could be conflated into some meaningful whole. It was agreed that the range of terminology being deployed needed expanding on and making real sense of. The importance of making clear to one another and, most importantly, to the trainees, what we as ITT practitioners mean by ‘student centred’, ‘active learning’, ‘experiences’, ‘researchers’, ‘analytical’ and so on was also highlighted. The embedding of illustrative examples of pedagogic practice within a clearly articulated philosophy was viewed as a very powerful way of communicating ideas.

As part of this particular staff development session, the ITT practitioners highlighted perceived constraints and possible ways forward in respect of their espoused teaching philosophy. For example, whilst the notion of enquiry-based teaching appeared to be high on the agenda, it was strongly believed that such practice needed making more explicit and coherent across the curriculum. Furthermore, the practitioners believed that such an approach to student learning demanded that tutors encourage students’ attention towards the process of learning, not the product.

Identified constraints were seen in terms of shortage of time generally (stuffed curriculum), the turnover of programme team members and student lack of ‘engagement’ with such learning. Possible ways forward were suggested: (1) to give students more time for such learning and *induction* into the notion of such learning; and (2) to engage tutors with professional development on this style of teaching-learning methodology. It was also felt that attention needed to be paid to the alignment of assessment with enquiry-based teaching-learning – maybe drawing on examples from other disciplines. Further constraints that were identified in respect of the promotion of a more enquiry-based learning were concerned with: (1) the amount of information students have to manage; and (2) the lack of distinction between various bits of documentation trainees tend to be in receipt of. Tutors also felt that, whilst much importance was being placed on differentiation, the enactment of such thinking was problematic because of time tabling issues for students & tutors; a lack of time for colleagues to talk freely with one another, and a lack of explicitness to trainees about the differentiated approach being taken.

## **Shaping practitioner responses**

Given this overall picture, the way forward for the project was clearly constrained by the overall environment for ITT. The project thus progressed primarily at the level of individual practitioners carrying out small scale investigations into their own practice. The initial phase, however, still helps to set the scene for the four individual practitioner responses that followed, highlighting issues of relevance at this level. In particular we highlight the following lessons that relate to understanding the place that personal beliefs about knowledge play in shaping capacity to learn.

The focus on content within both the ITT and the national curriculum poses challenges for embedding Learning to Learn in both contexts; however it is apparent also that a focus on theories of knowledge will be of particular help in navigating a route by which relevant practices might be introduced. Given also that the student teachers that are now commencing their training are part of the first wave of SAT's taught children, one might in any case expect issues of epistemology would need to be addressed directly. Where absolute views of knowledge are held, then the tendency is for trainee teachers to see themselves as passive receptors of knowledge. In this, it will be important to emphasise the subjects themselves that inevitably shape curricula; and in light of this to expose, in partnership with the students, relationships between 'learning in the discipline' and classroom practice.

The learning approaches involved clearly will play a key role in generating such insight, with existing experience that trainees bring with them an essential resource in this. It is essential that tutors find ways to shifts attitudes which might see an ITT course as a means of supplying answers to questions related to curriculum content and delivery, and classroom organisation, with any 'real' learning taking place during teaching practice. In this also it will be important to shift the attitude of the trainees, so that they themselves are able to challenge views and shape their own learning in partnership with their tutor; it is likely that dialogue will need to be incorporated into the learning experience if this is to occur. As Daly (2004, p. 197) suggests, we need 'social place[s] where meanings are forged and where the teacher is also the learner'. There needs to be a shift in thinking, so that students perceive the ways in which knowledge is formed through a complex web of social and collaborative interactions between partners.

The mismatch that many ITT tutors experience between their own philosophies and the manner in which they are required to teach also points towards the need to focus on foundational issues. Again epistemology emerges as a key issue within this mismatch, as does the importance of understanding the professional identity of the teacher. It is essential for this that tutors view themselves as learners – hence the importance of practitioner research as a way forward, affecting as this does the tutors wider professional commitments; although other strategies at the ITT programme level may also be effective in offering a focus for professional commitment, as we shall see in Chapter 7. Personal commitment, it is clear, provides a means to stimulate the creative responses that are essential in such a constrained environment, where the status quo mitigates against any embedding of Learning to Learn practices. If the use of dialogue, for instance, is seen as beyond the scope of the programme, given a need to spend time covering content then an important route to embedding Learning to Learn practices will have been ruled out. Creative responses are clearly essential, but these stem in significant from a willingness to explore possibilities, and to develop new approaches.

In this it will be important to adopt a holistic view of the student and the education process, at least one that is more evidently holistic than is at present normally evidenced in higher education. The learning involved not only covers the development of the whole person but also requires the engagement of, and exploration of, the whole person. To more fully understand what is involved in L2L, we need a framework for understanding personal development.

This initial work will, however, also be of assistance in framing lessons that we draw in the concluding chapter that concern wider issues in further moves to embed the family of learning practices associated with Learning to Learn within ITT, and that we draw from these practitioner investigations.

While progress was slow in relation to the initial outcomes of the overall project, it is evident that with the practitioner investigations the project has moved to a deeper level involving 'assimilation'. Here the emphasis shifts from receiving information to taking action within ITT programmes, albeit on a more modest scale than originally envisaged. The shift to this second stage of the project has individual members of staff offering their own commitment to Learning to Learn practices. It is this commitment that led the project forward,

rather than any institutional commitment, constrained as such commitment seems to have been by the environment for ITT.

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## Part II

# Learning to Learn: the ITT practitioner's perspective

We are thus in a position now to introduce more fully the four practitioner investigations that are at the heart of this project; although the continuing nature of these investigations is important in that they each raise, as well as seek to provide answers to, questions. These four chapters that follow are based on papers written to support a symposium at the practitioner day for the British Educational Research Association conference in 2007.

The first of these chapters (by Laura Osborne) sets the scene by exploring more fully the personal epistemological beliefs of teacher trainees and the role that students beliefs' about knowledge can have both for them as students in Higher Education, and as developing classroom practitioners. Incorporating a personal rationale by the practitioner, it develops a wide-ranging literature review which questions the relationship of students' ability to engage meaningfully in L2L with the growth of their epistemology. The paper presented at the BERA symposium also included a study of the personal beliefs of a set of trainee teachers, although we only include the literature review element of the study. Given, however, that the remaining practitioner investigations included actual interventions within the classroom, we have decided to present here only this element of the wider practitioner research project. This study thus serves to provide a more adequate theoretical understanding of personal beliefs about knowledge, before we move to address these issues within the more practical ITT context.

It is important to note that the stimulus for this work stemmed from the authors own perception of a focus on content rather than process within ITT. She was keen to explore specific learning to learn strategies and notions within her own teaching in the belief that the strategies she was currently employing were not as effective as she would wish and that they did not always fit with her philosophy for teaching and learning. There are thus clear links between the reasons for her own commitment to this investigation and the perspectives that we have charted more widely in relation to ITT practitioners more generally. She was aware, also, that such understanding would also need to complement practices she might introduce falling within the field of Learning to Learn, including: the need for active and independent learners, focusing on transformation rather than transmission, and opportunities for full and frank discourse. Through this investigation, in fact, she came to realise the extent to which she based her assumptions on her own surface and non-critical reflections of her own practice. The move towards integrating Learning to Learn perspectives within her practice thus had import for her own identity as a teacher.

We then present in Chapter 4 (by Annie Fisher) the first of the three small-scale action research projects, which addresses the beliefs of primary postgraduate trainee teachers about the role of dialogue in teaching and learning. As an experienced educator, it had become apparent to Annie that the trainees did not see a value in the use of dialogue in the classroom as a tool for learning - a cognitive stepping-stone - particularly in English. Initially she assumed that this was the case because of the very tentative nature of their understanding of the role of talk at the start of the course, and a consequence of coming to terms with the complexities of the English curriculum. Annie hypothesised that a further reason for lack of

engagement might be, simply, that the shortness of the postgraduate course leads trainees to wish to be 'told', rather than to engage in speculation, critical thinking, or reflective dialogue, themselves. The study thus considers the potential for classroom dialogue to play a role in cognitive development. She explores ways in which primary postgraduate trainee teachers responded to a series of key sessions that sought to promote dialogue and a questioning stance. This chapter further establishes strong links with Lucas and Claxton's notion of lifelong learning capacities in terms of five 'Rs', specifically focusing on 'reflection' and 'reciprocity' in the context of dialogue. It examines the extent to which teaching and modelling of these L2L strategies became embedded in postgraduate students' own pedagogic repertoire.

The impetus for Chapter 5 (by Graham Rogers) was concerned with the competing influences (both negative and positive) on the perceptions of undergraduate students in Primary Education with History in relation to 'learning to teach' within the academic domain of history over the course of a first year module. Graham wished to illuminate how these influences impact on students' wider conceptions of learning, teaching and ultimately professional practice itself. The role that disciplinary-based programmes can play in forming trainee teachers is thus an important aspect of this study, relating as this issue does to moves within the sector away from such courses in ITT for primary education. The see in this chapter that a discipline-based course offers significant scope to explore issues that relate to links between epistemology and the capacity of students to introduce learning to learn practices within their teaching. The study finally also explores the students developing professional identity as they progressed through a subject-study course in history that itself incorporated adopted practices from Learning to Learn; as well as their more immediate responses to these practices.

Finally in this part of the report, Chapter 6 (by Ian Phillips) introduces a Learning to Learn approach with secondary postgraduate trainee teachers in history. He employs terminology that refers to 'thinking skills' within this chapter, given the way in which this particular term was already in use within the subject community history. He considers conceptions of Learning to Learn via an exploration of the kinds of learning conditions that are best suited to promoting deeper ways of engaging learners within knowledge construction. This, the last of the small-scale investigations included within the report, further offers discussion of the potential for an enhanced relationship between critical thinking and subject pedagogy. Ian in his investigation sought to explore specific issues in trying to understand how history graduates teachers become effective history teachers. His research project essentially attempts to raise awareness of how beginning teachers' distinctive disciplinary 'knowledge' of history is transferable to the secondary school history curriculum and, more specifically, the effective teaching of it.

# Chapter 3

## The role of personal beliefs about knowledge

Laura Osborne, University of Exeter

### My inspiration

I initially embarked on this research with a mind to explore a learning to learn perspective and its pedagogical impact on teaching in Initial Teacher Training; specifically the one year primary Postgraduate Certificate in Education programme. I had become increasingly disturbed with the continued focus on content (e.g. Ainley, 1998 and McGettrick, 2006) rather than process of learning in education, believing that what is being ‘delivered’ and ‘tested’ is not matching the needs for 21<sup>st</sup> century Britain. Many of the trainee teachers that are now commencing their training are part of the first wave of SATs taught children; this will have, in some way, impacted on their beliefs about learning. With this in mind I originally planned on exploring specific learning to learn strategies and notions within my teaching in the belief that the strategies I was currently employing were not as effective as I would wish and did not always fit with my own philosophy for teaching and learning.

I wanted to be able to engage our PGCE primary students with the notion of perspective transformation (Mezirow, 1991), and possibly with transformative learning (Cranton, 1998), with a view to them engaging in critical reflection on their experiences and developed meaning structures. Clearly this would involve responding in a more practical fashion to my own shifting understanding of what constituted appropriate patterns of teaching and learning, particularly within the context of a move to introduce Learning to Learn practices within ITT. This would involve, for instance, my moving away from what had become a transmission style back to a more transformative way of teaching; offering greater scope for independent learning; encouraging students to raise and answer their own questions and to challenge the lecture/workshop; giving the students the opportunity to engage in a full and frank discourse about their learning so enhancing their understanding; and, enabling the students to reflect critically about their own learning. We expect students to reflect throughout their time on the course both in academic terms and as developing practitioners, but I was not convinced that we enabled them to reflect purposely and critically on their assumptions and the bearing that these assumptions might have on the way they perceive, understand, and feel about their world. I hoped to develop our beginning teachers’ consciousness of themselves as learners by

enabling internal and external discourse in a challenging but safe environment. I would also then be in a position to develop my own practice more directly.

Having initiated the process of thinking about ourselves as learners and how this may influence us as teachers with our PGCE students, a critical episode occurred. In the second half of the first term I overheard this comment made by a student talking to her two friends walking down a corridor outside my teaching room:

‘...I wish they would stop banging on about learning and just teach us how to teach...’

I was dismayed. I repeated this overheard comment to the whole cohort the next time we met. There was a distinct intake of breath by many, but from others it was quite plain they agreed. This episode made me realise I had not considered the truth or validity of the assumptions I held, nor had I considered the students’ own developed meaning structures. I had based these assumptions on my own surface and non-critical reflections of my own practice. This came to me quite clearly after my initial forage into the ideas of Brookfield.

“Assumptions are the taken-for-granted beliefs about the world, and our place within it, that seem so obvious to us as not to need to be stated explicitly. In many ways we are our assumptions. It is also something we instinctively resist, for fear of what we might discover. Who wants to clarify and question assumptions she has lived by for a substantial period of time, only to find out that they don’t make sense?” (Brookfield, 1995, p.21).

If our meaning structures and personal epistemological beliefs influence our cognitive and metacognitive processes, and therefore our function as a teacher, then, I would suggest, we need to be consciously aware of what our structures and beliefs are. In my attempt to understand the students’ beliefs about learning and teaching I delved further into the theory of epistemology .

It was clear to me, however, from the initial research that student teachers need to be informed by awareness of their own perceptions of learning and knowledge and the influencing factors that impact on these views. They will then be able to draw on this self-awareness in shaping their own learning and teaching. The consequence of this might be the ability to make more informed and rational decisions about their emerging philosophy of learning and teaching, enabling reasoned and reflective engagement with the ever-controversial debate regarding reforms and changes in primary education. These are issues that the next three chapters also take up, in the context of investigations into practical work with trainee teachers. In order further to set the theoretical context for these studies, it will thus help to introduce ideas and perspectives from the literature that helped me to reach these conclusions; while also briefly summarising my enquiry and drawing out experiences and insights that helped me to make sense of the reading within my own context.

## **Rationale**

Personal epistemological beliefs reflect views about the nature of knowledge, how it can be gained and how certain it is. In terms of a relationship with learning Schommer (1994, p.318) contends there is enough evidence to propose that ‘epistemological beliefs are critical to the learning process’, furthermore Brownlee (2001) suggests that research has shown effective learning maybe affected by epistemological beliefs. Thus we can assume that student teachers’ personal epistemological beliefs will have some influence their own learning and their engagement in the process of learning to learn, both as learners themselves and, therefore, as teachers of children. The students in the study training on a one year PGCE course in primary education have a range of backgrounds and knowledge from a variety of disciplines. Ball and McDiarmid (1990, p. 438) assert that generally, "teachers' conceptions of knowledge shape their practice - the kinds of questions they ask, the ideas they reinforce,

the sorts of tasks they assign". Furthermore, as Chai *et al* (2006) posit, if personal epistemological beliefs influence one's cognitive and metacognitive operations in a significant way, then they also influence how teachers conceptualise teaching and this will influence practice in the classroom. Therefore the understanding of teacher knowledge beliefs and personal constructs is vital, and was thus the motive of this study.

This clarification emerged through extensive reading and also through engagement with the staff development activity associated with the overall project, and through exchanges with the other practitioners involved. The research that I then conducted was framed in part to develop my understanding at a more sophisticated level, and thus to provide a basis for adapting my own practice as a tutor working with postgraduate trainee teachers.

## Epistemological beliefs

There is extensive research (e.g. Perry, 1970; Belenky *et al* 1986; Schommer, 1990, 1994; Baxter Magolda, 1992, 1996) which considers the ideas held by individuals on knowledge and knowledge construct. It is widely acknowledged that the work of William Perry (1970), who examined Harvard undergraduates' epistemological beliefs, was one of the original investigations into the beliefs about the nature of knowledge. His theory described an individual's progress in the development of these beliefs, their progress through epistemological positions and the role of authority in defining and conveying knowledge. These positions he described as dualism, multiplism, relativism, and commitment through which an individual may move, but may become fixed at any point.

- *Dualism* describes a set of beliefs that knowledge claims are either true or false, and that this knowledge is given by authority.
- *Multiplism* where most knowledge is still viewed as absolute, also recognises that opinion is legitimate and not all knowledge is certain.
- *Relativism* describes a major shift in epistemological thinking (Brownlee 2001). Individuals consider that knowledge is actively and personally constructed where diversity of opinion is legitimate. There is a need to employ evidence and reasoning to validate these opinions. Truth is considered to be relative to individuals' personal interpretations of experiences (Brownlee 2004).
- *Commitment*, the final position, refers to an epistemology where some beliefs are more valued than others and flexibility is a component.

From this work he concluded that students began college with beliefs in simple and certain knowledge handed down by authority which, by the end of college, changed to the belief that knowledge is tentative and complex and is derived from reason and observation (Schommer-Atkins, 2002). Perry hypothesized that student beliefs about the nature of knowledge are related to their manner of studying (Hofer and Pintrich, 1997). Although his work was criticised for limited student sample and gender bias, it nevertheless generated much research activity into epistemological beliefs of students.

Belenky *et al* (1986) built on Perry's work using a female sample drawn from a more diverse background. They developed five 'ways of knowing' similar to Perry's positions (Table 3.1): silence, received knowing, subjective knowledge, procedural knowledge and constructed knowledge. The stages were also deemed progressive, drawing in more detail on the perspective of the self as a knower.

Perry 1970	Belenky <i>et al</i> 1986	Baxter Magolda 1992
	Silence	
Dualism	Received	Absolute



Multiplism	Subjective	Transitional
Relativism	Procedural	Independent
Commitment	Constructed	Contextual

Table 3.1: Comparable epistemological positions

Subsequently Baxter Magolda (1992) identified four epistemological positions similar to Perry (1970); the stages being: absolute, transitional, independent and contextual (Table 3.1). She developed the Epistemological Reflection Model based on a longitudinal study of both male and females, noting gender-related patterns within the stages. It should be noted that some consider there are cultural implications for the suggestion of these developmental ideals. In certain cultures, relativistic ways of thinking may not be appropriate (Goldberger 1996 in Brownlee 2001) and we should be mindful that ‘truth’ is relative to the culture or situation.

Hofer (2001, p.359) summarises the aforementioned models as ‘interactionist, constructivist [which] sketch similar trajectories of development’; that is an objective, dualistic view of knowledge moving through a subjective stance which then develops into the ability to recognise the merits and value of other points of view and the role of evidence and context in construction. Hofer (2001) describes the final stage of all models is where knowledge is actively constructed by the knower.

### **Multi-dimensional and context specific perspectives**

These models offer a unidimensional view of epistemological beliefs; a view challenged by Schommer (1990, 1998) who suggests that personal epistemology, rather than being unidimensional and progressing through a fixed progression of stages or related to maturity, is a belief system and is composed of several relatively independent dimensions. Schommer (1990, p.498) contends that ‘beliefs about the nature of knowledge are far too complex to be captured in a single dimension’. She proposes the multidimensional view of epistemological beliefs as a system of more or less independent beliefs, ‘By system, it is meant that there is more than one belief to consider, and by more or less independent, it is meant that a learner could be sophisticated in some beliefs but not necessarily sophisticated in other beliefs’ (Schommer, 1993, p.407). Using the principle of multidimensional epistemological development Schommer (1994) explains that someone with a dominant sophisticated way of knowing may also hold some naïve beliefs in a specific context, and conversely naïve learners may exhibit some sophisticated beliefs, and suggested ‘that epistemological beliefs do not necessarily develop in synchrony’ (Schommer, 1994, p.302).

She identifies at least five dimensions which can be viewed from a naïve perspective to a more sophisticated stance:

1. Fixed, innate ability to learn (the ability to learn is innate rather than acquired)
2. Simple knowledge (knowledge is simple rather than complex)
3. Quick learning (learning is quick or not at all)
4. Certain knowledge (knowledge is certain rather than tentative)
5. Omniscient authority (knowledge is handed down by authority rather than derived from reason)

Through the Epistemological Beliefs Questionnaire, a 63-item instrument developed by Schommer (1990, 1998), repeated factor analyses on different populations have yielded four factors out of the original five dimensions proposed. These are: innate ability, simple knowledge, quick learning and certain knowledge. Each of the dimensions rest on a continuum from naïve to sophisticated ways of thinking: sophisticated beliefs consider truth

as 'relative, changing, and actively constructed by the individual' (Kardash and Scholes, 1996, in Brownlee 2003, p.88). The naïve position can be compared to Perry's dualism and Baxter Magolda's absolute; the sophisticated position to Perry's relativism and commitment and Baxter Magolda's independent and contextual epistemologies.

Other authors have also debated the issue of whether individual's epistemological beliefs are defined or controlled by the context. Sheese and Radovanovic (1984, in Brownlee 2001) contended that students may demonstrate more sophisticated epistemological beliefs in areas in which they have more prior knowledge. Moreover Roth (2001) warns of the influence of the continued didactic nature in some educational disciplines e.g. science where criticality and reflection are not encouraged that it will 'enculturate (and worse, indoctrinate) students to a particular epistemology'. Lucas and Tann (2006) also suggest that whilst most researchers acknowledge an individual may have one way of knowing at any one time, that context has to be taken into account. Conversely, Shraw and Olafson (2002) draw on empirical findings that support their assumption of consistent domain-generalty. A study by Schommer and Walker (1995) investigating whether individuals have similar epistemological beliefs across domains provided moderate support that these beliefs are similar across different domains. However it is later accepted that 'the existence of general and domain specific epistemological beliefs is open to question' (Schommer-Atkins *et al*, 2005, p.292).

My developing understanding of epistemology found congruence with Schommer's multidimensional approach. I could identify with the notion that depending on the context and the degree of prior knowledge, beliefs differed, yet can be situated within a global belief of knowledge. I did not equate my personal knowledge construct as unidimensional; rather as an organic development with multidimensional facets. In trying to establish a method to help me assess students' personal epistemologies I felt, at that point, Schommer's Epistemological Beliefs Questionnaire would be the most effective instrument.

This wider discussion on the multi-dimensional and context specific nature of epistemological beliefs has particular implications for understanding the beliefs held by student teachers. As far as those on postgraduate programmes are concerned, there is the possibility that they will hold sophisticated epistemological beliefs in relation to the subject discipline that they studied as an undergraduate, but entertain naïve beliefs in relation to their knowledge of pedagogy (which at the start of a postgraduate programme will typically be strictly limited). Not only are the two contexts different, with the student acting as a trainee professional in one situation but as a student in another, but so is the extent of their educational experience in these different contexts. Schommer (1998) indeed has shown graduates beginning a one year teacher education course should typically be able to operate within an epistemologically sophisticated understanding of their discipline, but experience has shown that in terms of their metacognitive awareness they can be naïve. The issue is further complicated in that as primary teachers they will be responsible for teaching more than one subject. Hofer (2001) also suggests that individuals may well have differing epistemological assumptions in different disciplines, rather than one set over overriding beliefs: students may well present differing attitudes and levels of engagement depending on the subject involved.

## **Linking epistemological beliefs to learning and teaching**

Key questions remain, though, as to the extent to which beliefs about knowledge affect capacity for, and indeed characteristics of, an individual's approach to learning and teaching. In overall terms it has been demonstrated (e.g. Schommer 1994, Brownlee 2004) the crucial function of epistemological beliefs in the learning process. In a review of research literature Hofer (2001) concludes that 'a growing body of work provides evidence that personal epistemology is an important component of student learning'. Schommer's research (e.g. 1990, 1993) found if students tended to focus on factual understanding they viewed knowledge as dualistic, however if students had a more relativist view of knowledge their understanding would be based on constructing and developing meaning through application.

Those with relativistic beliefs were also more likely to be more reflective in their thinking rather than focused on acquiring content. This is equated with a progression from naïve to sophisticated way of thinking. Schommer (1994) suggests that ‘... epistemological beliefs affect the degree to which individuals (a) actively engage in learning, (b) persist in difficult tasks, (c) comprehend written material, and (d) cope with ill-structured domains.’

Similarly, through an examination of research that suggests the variety of beliefs about knowledge affects the way in which students learn and make judgments, Lucas and Tann (2006, p.8) claim ‘A student’s way of knowing will act as a lens through which she or he views the world’; thus suggesting this will affect how a student sees key aspects of their learning environment and the way in which learning is approached. Other factors implicit for effective learning such as student’s motivation, persistence and problem solving approach are also influenced by beliefs about knowledge (Kardash and Scholes 1996, Schraw and Olafson 2002). We are reminded by Stacey *et al* (2005) who maintain that ‘engendering sophisticated epistemological beliefs’ in student teachers is a critical function of higher education. Likewise Schraw (2001, p.460) suggests ‘results of studies that examine epistemological beliefs and their effects on learning are of considerable importance to educators...because epistemological beliefs are related to a wide variety of complex cognitive outcomes.’

Students training as teachers will have a range of backgrounds and degrees from a variety of disciplines. If personal epistemological beliefs influence one’s cognitive and metacognitive operations in a significant way, then they also influence how teachers conceptualise teaching and this will influence practice in the classroom (Chai *et al*, 2006). Given our earlier discussion, we may thus speculate that any uneven development of epistemological beliefs will have significant influence on learning (Brownlee 2004).

### **Links with teaching**

The various relationships of individual epistemological perspectives to learning will also have implications for teaching (Hoffer, 2001), and as Brownlee (2004) proposes ‘Teaching, as well as learning, may also be influenced by epistemological beliefs.’ Knowing students epistemological beliefs ‘can provide an alternative lens for teachers to use in understanding their students ideas and behaviour, in assessing students abilities and need, adapting their plans and strategies for instruction.’ (Hammer and Elby, 2002). We can surmise students’ beliefs of knowledge are critical components of understanding about student learning (Hoffer, 2001) and will have implications for teaching at all stages. Yet Hargreaves *et al* (2005) Report of the Learning Working Group ‘About Learning’ describes how teachers consider they were given ‘little of practical value about the nature of learning’ and how it might be best supported through teaching in their initial training (Hargreaves *et al*, 2005, p.4). This is quite an indictment and should concern all ITT providers.

Brownlee (2004) further directs us to the growing body of research that suggests as teacher educators we need to be aware of our beginning teacher beliefs as a ‘way to facilitate effective learning in tertiary education’. Schommer’s views about the relationship between epistemological beliefs and learning, discussed earlier, are reflected in the relationship between beliefs and teaching. Brownlee (2003, 2004) and Entwistle *et al* (2000) describe links between epistemological beliefs and beliefs about teaching: individuals with relativistic epistemological beliefs are more likely to think of teaching as a process of facilitation, whereas those with dualistic beliefs may base their teaching on the transmission of knowledge and from a more reproductive perspective. Similarly Brownlee (2004) describes those with a sophisticated way of knowing as regarding teaching from a ‘constructivist or transformative perspective’. From a naïve perspective teachers will pay little attention to ‘how learners make personal meaning and make connections with their prior knowledge’ (Brownlee 2004); this reproductive approach having a negative effect on the learning experience. If, as Ball and McDiarmid (1990, p.438) contend that ‘teachers’ conceptions of knowledge shape their practice’, then the understanding of their knowledge beliefs and personal constructs is vital.

It is further suggested by Brownlee (2003, p.89) that 'Teaching programmes aimed at improving learning in tertiary education may need to focus explicitly on participants' central values or epistemological beliefs' and cites Lyons (1990) who maintains that 'Teaching the way of knowing ought to be part of teacher education programs' (p.176). Putnam and Borko (2000 p.4) demonstrate their concern about the focus of 'new (or at least reconditioned) ideas about the nature of cognition and learning' on the students. They note the lack of attention on the teachers in terms of their changing role and how they themselves learn. If we are to encourage the learning to learn capacities and dispositions in our beginning teachers it is essential for teacher educators first to understand the epistemological beliefs that beginning teachers hold to enable them to foster mature epistemological outlooks that could then facilitate educational reforms (Chai *et al*, 2006). Given the influence on the learning and development of children surely it is vital that we gain a more sophisticated understanding of beginning teachers' epistemological beliefs and potential impact on future learners. It is from these thoughts this study took shape.

## **A brief outline and summary of the investigation**

There is inevitably some cross-fertilisation, but the dominant theoretical perspective behind this study was interpretive (Ernest, 1994, Radnor, 2001, Crotty, 2003) and falls within this paradigm as an evaluative case study. As such, the initial purpose was to evaluate and understand the epistemological beliefs of graduate students from diverse backgrounds and disciplines as they engage in a multidisciplinary approach to primary education. The investigation itself focused on the ways in which the learning to learn capability of 12 graduate pre-service teachers can be informed by awareness of their own conceptions of learning and knowledge, and the factors that impact on these conceptions. Initially there were two central research questions:

1. In what ways are students training to teach primary aged children aware of their own conceptions of learning and knowledge, and able to draw on this self-awareness in shaping their own learning and teaching?
2. What factors impact on student teachers' preconceptions of learning and teaching, with particular attention to the role of epistemology?

The possible links between epistemology and conceptions of learning were explored through the implementation of two questionnaires: Schommer's (1990) Epistemological Beliefs Questionnaire and a questionnaire originally devised for practicing teachers by the 'Learning how to Learn' four-year project, part of the ESRC Teaching and Learning Research Programme (2000). Both questionnaires were slightly modified for the context of the students. Semi-structured interviews then took place with the students where their beliefs and understanding of learning and knowledge were questioned. The analysis of the interviews involved a tentative attempt to categorize the features of their belief systems.

### **Analysis**

What follows is a brief summary of the analysis and tentative outcomes of the enquiry. Four features arose from the analysis of the interviews, supported by the examination of the questionnaires: definition of knowledge, source of knowledge, stability of knowledge and relationship between knowledge and learning (Table 3.2). Within the first three, three distinct categories emerged, but in the fourth feature the categories were not as well-defined. Each defined category is seen to sit tentatively within a belief structure continuum from a sophisticated to naïve stance for each feature. The first category suggests a more sophisticated response, moving to an intermediate then a more naïve stance. It should be noted the categories are not exclusive, but are deemed hierarchically inclusive; nor are the categories meant to equate in terms of beliefs structure across the features. This assignment

to the hierarchy is based on my beliefs and understanding of the epistemological literature, in the first instance and is open for discussion.

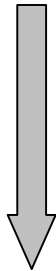
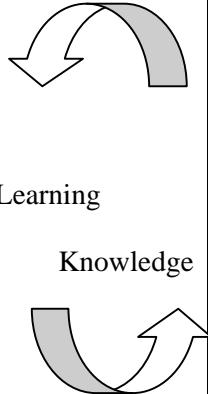
<i>Defined feature</i>	<i>Definitions of knowledge</i>	<i>Source of knowledge</i>	<i>Stability of knowledge</i>	<i>Relationship between knowledge and learning</i>
<b>Categories</b> <i>Sophisticated</i>  <i>Naive</i>	Understanding based on experience	Construct own knowledge	Knowledge always changing	
	Knowledge as many things	Construct with elements of transmitted knowledge	Knowledge is certain at times	
	Factual/information	Construction and transmission	Some consistent truths and knowledge	

Table 3.2: Features and categories defined from analysis

Unsurprisingly, the epistemological beliefs of the participants ranged from naïve to sophisticated across the features. Although this was not unexpected the implications of these beliefs on their professional development as teachers and the impact on the children they will be teaching could be significant. It was apparent, for example, that although some participants believed some knowledge is certain, this was not a belief they held across all contexts or subject areas. This is in contrast to Schraw and Olafson (2002) who make the assumption that teachers are consistent and only have one world view at a time and that these views are consistent across different academic domains. The belief that knowledge can be transmitted is held by a few in certain contexts; some modify this by acknowledging the need to personally interact with the knowledge so altering the construct to fit with their own belief structure. A few believed knowledge acquisition to be purely a process of construction. These results tentatively suggest although none of the participants held a global absolute way of knowing, a naïve stance was held in certain contexts and across specific domains; thus suggesting a realist ontology. However there was recognition that there may not be a single true answer; opinion is brought into account and there is an acknowledgement of the self as ‘an active maker of meaning’ (Robinson, 2005).

The sophisticated, or contextual stage of belief, understood to be the final stage where there is both a relational and objective way of knowing (Baxter Magolda, 1996), where subjective, interpersonal experiences are evaluated along side the impersonal mode of knowing was recognised in a limited number of participants and only in certain contexts. These beliefs signified a relativist ontology, but it should be noted that these ontological beliefs did not appear consistent across different academic domains (c.f. Schraw and Olafson, 2002). The preliminary analysis of the focus group results did not reflect Schommer’s (1998) view that there may be implications for older adults about the nature of knowledge, specifically the structure and ability of knowledge, and that younger adults may have doubts about the ability to learn.

All participants held a positive perception of the notion that we can learn how to learn and generally saw learning as a process that is inextricably linked to the concept of knowledge. The belief that the process of learning was a more valuable goal than the acquisition of knowledge was strongly advocated by all; yet, perhaps most significantly, these espoused beliefs were not enacted in practice. This warrants further exploration.

Brownlee (2004) reminds us of Belenky's (2001) advice for tertiary education of the need for students experience connected teaching to develop epistemological beliefs. The more sophisticated ways of knowing can be encouraged by supporting the students in using both relational (own experience) and impersonal (experts) ways of knowing (Baxter Magolda, 1993). This interrelationship of self and theory is characteristic of the more sophisticated ways of knowing (Brownlee, 2004) where knowledge and beliefs are seen as being the 'product of reasoned evaluation of information relative to a particular perspective or context' (Robinson 2005). We can draw from Brownlee's (2004) research in the comparable plural nature of Australian school culture. She suggests 'that primary school teachers need to be flexible, tolerant of multiple realities and reliant on a professional rather than intuitive knowledge base' (ibid., p6)

## **Concluding personal perspectives**

It seemed quite clear that in taking forward any changes in my own practice as a teacher that I had to look to myself first; to reflect on these assumptions and their origins, to consider how they influence my practice, before I could move forward. I examined my role as educator very carefully following the critical incident where my judgement about teaching and learning was brought in to question.

I had hoped I was demonstrating a willingness to learn and change with the students; but was I simply assuming too much? Had I considered the learners enough in this? Perhaps I also had to take more seriously my own position as a role model for the students. Cranton (1998) indeed argues that the teacher sets the stage for transformative learning by serving as a role model and demonstrating a willingness to learn and change by expanding and deepening understanding of and perspectives about both subject matter and teaching. The learners too have a responsibility over the learning environment but that assumes willingness and a desire to take on this responsibility. The PGCE students have nine months in which to pass the QTS Standards and the necessary assignments to gain their qualification. The culture is not of deep personal reflection but one of 'just getting through'. One of the participants in the study made the following observation:

I think there is a risk that students want to get through and they want to know what to say, the safe stuff...But what is their end goal; it's to come out the end with the thing that will give them a good job.

Mezirow's (1991, p.4) view that there has been "a failure to recognise the central roles played by an individual's acquired frame of reference through which meaning is construed and all learning takes place" also had resonance for me. I consider my understanding of my meaning structures, and therefore developed beliefs, by their very nature, to be subjective, bounded by my experiences, contexts and the lens through which we view the world yet understand they can be 'predicated upon unreliable assumptions' (Mezirow 1994). Cranton (1998, p.190) states, "questioning our assumptions is a process of critical reflection and forms the heart of transformative learning". These thoughts and reflections, along with other changes to my professional life, placed me in a position of what Mezirow (1995, p.50) calls a 'disorientating dilemma', which led to, what I consider was a time of transformative learning for me.

This project has developed my understanding of the way in which learning to learn capability is informed by or draws on conceptions of learning and of knowledge, particularly where developmental aspects in relation to the fundamental ideas and beliefs of student teachers are concerned. The tentative results of this study, and the outcomes from other more complex and advanced studies, suggest strongly as teacher educators we need to take into account the epistemological views of beginning teachers, and indeed, enable these teachers to become aware of their own beliefs and potential impact. We need to engage with this as ITT providers and ask if students are strategically aware of their learning and concepts of

knowledge. The concept of knowledge construction is fundamental to any debate about the relationship between the student teachers knowledge base, an understanding of what knowledge is, effective classroom practice and the facilitation and motivation of lifelong learners.

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# Chapter 4

## The beliefs of primary postgraduate trainee teachers about the role of dialogue in teaching and learning

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### Introduction

The rationale underpinning this research is a belief, based on observation of teaching practice and learning behaviour in sessions, that primary postgraduate trainee teachers often see themselves as relatively passive receptors of knowledge; the role of an ITT course is seen as a means of supplying answers to questions related to curriculum content and delivery, and classroom organisation, with any 'real' learning taking place during teaching practice. In particular, as an experienced educator, it had become apparent to me that the trainees do not see a value in the use of dialogue in the classroom as a tool for learning - a cognitive stepping-stone - particularly in English. Initially it was assumed that this was the case because of the very tentative nature of their understanding of the role of talk at the start of the course, and a consequence of coming to terms with the complexities of the English curriculum. The simple reason for lack of engagement, however, might be that the shortness of the postgraduate course leads trainees to wish to be 'told', rather than to engage in speculation, critical thinking, or reflective dialogue, themselves. For [Moon \(2004\)](#) the notion of critical thinking is inextricably intertwined with epistemological development: the learner's view of the nature of knowledge.

Research by [Smith \(2005\)](#) suggests that a multiplicity of factors impact upon trainees' assumptions, including intuitive theories and personal constructs; to this, he adds the reality of managing teaching and learning in the classroom, and the influence of the school culture. Arguably, at the commencement of the course, postgraduate trainees may be operating at Maslow's most basic level of physiological need which might cause them to replicate observed practice, and to default to a 'safe' (i.e. traditional) model of didactic teaching. Further, Smith speculates that in a one year course, trainees simply do not have time to reach Maslow's fifth level: forming and implementing personal beliefs. [Brownlee \(2003:87\)](#) similarly asserts that at an early stage of epistemological development, trainees will tend towards 'silence' indicating that they believe knowledge to be Bahtkinesque: transmitted via authority, and absolute. If this is the case, then an epistemology which indicates that truth and knowledge is 'out there' rather than mutually constructed, and subject to change, would constitute a powerful reason for trainees to undervalue dialogue as a cognitive stepping stone.

In practice, because of the range of background experience postgraduates bring to their course, it might prove to be more accurate to place them on a continuum somewhere between Brownlee's 'received knowing' and 'constructed knowing', and Baxter Magolda's (1993) 'absolute knowing' and 'contextual knowing'. In both models, the highest stage represents a sophisticated understanding that 'knowing' is subject to contradiction and that continual evaluation of epistemology is necessary. As we have already seen in the previous chapter, Schommer's (1994) synthesis of epistemic research indicates that there are many links between epistemological beliefs and learning; particularly the degree to which individuals are willing to engage in, persist with, and comprehend challenging tasks and concepts in an 'uncomfortableness of uncertainty'.

More recently, research into transformations in learning and teaching in ITT (Stevens, Cliff Hodges, Gibbons, Hunt and Turvey, 2006:100) suggests that insufficient work has been done on three relevant areas: firstly, examining generic pedagogical approaches used in undergraduate courses; secondly, establishing which types of teaching methods trainees associate with English; thirdly, identifying what modes of assessment and feedback are considered to be the most useful. They go on to identify seemingly paradoxical changes in epistemology of *secondary* trainees during the course; for example in a move towards more confident classroom management, but a loss of creativity; this they attribute to the 'constraints of curriculum directives'. This seems particularly apt in the light of Twiselton's (2006:88) exploration of trainees' English subject knowledge which sees knowledge as 'an inter-subjective construction which happens between individuals and the cultures in which they operate'.

Key findings from a number of projects (Smith, 2005; Stevens *et al.*, 2006; Kahn, 2006) indicate that many trainees, by the end of the course, begin to perceive that the best learning takes place when they see themselves as members of an equal learning partnership with the tutor. Kahn (2006) exemplifies this in his discussion of the significant challenges faced by students in engaging in the complex thought processes which we call 'reflection', but that, building on the work of Vygotsky, this might be developed through the social interaction of dialogue. He adds that the most powerful agent in effecting change in the level of reflection occurs when the dialogue is between equal partners. There are clear links here to research on the role of critical literacy (Johnson and Freedman, 2005; McDonald, 2004; Alexander, 2004; Mercer, 1995) in which students are encouraged to pose questions of each other, and where questions raised by the 'adult' are genuine questions, i.e. those to which an answer is not known. Kember (2001) adds to this the significance of a 'risk-taking' classroom environment if trainees are to feel empowered to move from absolutist beliefs through challenging the 'experts': a trainee who is not able to do this is unlikely to create such conditions in their own classroom.

Brownlee (2003) argues strongly that, in order to understand later impact on their teaching, initial epistemologies should be considered in course design. If we are to help trainee teachers to rise above curriculum constraints through creative mediation, then it could be argued that ITT departments have a duty to shape courses and teaching approaches where open collaborative dialogue is central, and which enable the growth of perspectives beyond one particular school's approach. Although Haggis's (2003) critique of approaches to learning in higher education posits the notion that not all students have the confidence, skill and motivation to engage in academic debate, and that creating the 'right' learning environment will not develop this, it is evident in Marshall and Case's (2005) response to Haggis that she is driven by an antipathy to a simplistic notion of 'deep and surface learning' rather than epistemic enquiry. It seems that, whilst there is not a general agreement about what might constitute a theory of epistemology, there is consensus that it impacts on the ability of trainees to engage with critical enquiry; I would argue that this, in turn shapes the pedagogical practices they are likely to adopt within their own classrooms; an issue that we revisit below.

Higgins and Leat's (2006:5) study of teachers' views of learning to learn attempts to persuade that classroom practitioners have moved beyond a 'skill set' mentality, now

believing that the ability to engage actively in learning through ‘debate, questioning and discussion’ is paramount. Current research into the use of dialogue in the primary classroom, however, contradicts this most emphatically (for example, Alexander, 2005; Myhill, 2004; Smith, 2004; Skidmore, 2003; Wragg and Brown, 2001; Mercer, 2000, 1995). These studies indicate that classroom dialogue remains teacher dominated, and focuses upon question-answer routines which close down opportunities for cognitive growth. Myhill’s (2004:28) significant analysis of teaching and learning in whole class discourse, for example, highlights the lack of speculative talk for developing pupil cognition; in particular, the failure to use questions to hand over responsibility to children at ‘critical moments’ shows a discrepancy between awareness of the value of higher-order questions, and practice. Similarly, Smith *et al.* (2004:408), investigating whole class extended dialogue in the NLNS (National Literacy and Numeracy Strategies), highlight similar concerns related to low-level questioning ‘designed to funnel pupil response towards a desired answer.’ If this overwhelming body of research is correct, then we need to reflect on how this has arisen. If, as seems likely, the teachers observed did not understand, or value, dialogic talk (Alexander, 2004), then it must be questioned how far dialogic approaches were used in their *own* learning, not least within higher education.

Dialogue with such characteristics was also seen in classroom observations carried out by the author, as a tutor teaching English on the Primary PGCE programme at University College Plymouth, St Mark and St John; and this was despite the programme focusing on developing trainees’ understanding of higher order questioning. It was apparent that the trainees needed to understand the role that dialogue plays in developing learning, and how to extend this through promoting such strategies as peer interaction, child-initiated questioning, wait time, and the use of probing to extend answers. It was thus decided to develop the Primary PGCE programme to incorporate an understanding of dialogue as a cognitive stepping stone within key English sessions. This chapter reports on the participatory action research that was carried out in order to ensure that the student co-participants were engaged in a process of understanding and transforming their practice.

### **An outline of the investigation**

The developments in the English sessions were framed by Claxton’s (2004:5) ‘learning muscles’, particularly those of reciprocity and reflectiveness, and the Campaign for Learning’s similar ‘dispositions for learning’, reflectiveness and responsiveness, since both sources draw attention to the importance of developing the skills of communication and collaboration through explicit teaching about their place in learning. Accordingly, in order to help postgraduates to reflect on, develop, and value, a more reflective, reciprocal and collaborative approach to their own discussion, and that of their pupils, a dialogic approach to managing discussion (Alexander, 2004) was adopted on the programme during 2006-07, and the following strategies from Claxton’s ‘Teacher’s palette’ modelled:

- sharing the enquiry with students;
- asking exploratory questions designed to move learners forward;
- learning aloud and responding to the unexpected with curiosity.

The inquiry was then to focus on a number of key questions in relation to these key English sessions:

- How might postgraduate trainees articulate their beliefs regarding the value of talk for learning (dialogue) at the start of the course?
- Would this belief have changed after the taught element of the course was completed?

- Could trainees articulate what, if any, features of the taught English course had led to a change?
- Might this lead to more confidence in developing a dialogic approach on their final teaching practice?
- How might trainees reflect on their development at the end of the course?

Addressing these questions would enable us to explore further any benefits emerging for the students from the project. Firstly, we could gain through the investigation of these questions a better understanding of the influence of epistemology, and related ability to engage in critical thinking about the role of dialogue. This might provide pointers for more effective development of teaching approaches used on the postgraduate English course in future years. Secondly, trainees in the focus group would develop the confidence to develop chains of enquiry with their own pupils during teaching practice, and on into their future careers. This would further foster for the practitioner(s) involved a growth in personal understanding and development of pedagogy, rather than so much an interpretation of situational acts in the classroom.

Given this search for growth in understanding and development of pedagogy a qualitative research approach was clearly appropriate, fitting as this also does with the overall practitioner research paradigm. We thus purposively selected a group of 10 postgraduate trainees as the sample for the study, allowing us to arrive at a more detailed understanding of the student experience within the sessions in relation to the above research questions. The participants represented a spread of age, gender, previous academic experience and qualifications. It is freely acknowledged that this group does not in any way replicate a wider postgraduate population, but simply affords us an opportunity to investigate the growth of epistemology and critical thinking of these specific students.

In light of this overall approach questionnaires and group interviews were selected as the research tools, offering potential to explore with these research questions and potential benefits in mind a rich set of qualitative data. The first questionnaire that was completed on the first day of the course was open-ended, and about attitudes to primary English; the second drew on a wider L2L questionnaire completed as part of their professional studies course. The group interviews, which offered the greatest scope for such qualitative data, were conducted at the end of the taught course to allow participants to reflect on theory and practice and theory within practice.

## **Analysis of results**

### **The questionnaires**

The Initial English-orientated questionnaire revealed that the hopes, fears and aspirations for most of the cohort, although diverse, were well represented by the purposively selected focus group. The gains they hoped to make from the course were mostly pragmatic. Kay, for example, wished for ‘tips and techniques’; Maeve, to ‘fill the gaps in subject knowledge’ and Annie, a ‘better understanding of curriculum content’ and significantly ‘how to *deliver* it’; effective teaching was seen as the goal. Only three group members, all male, used words such as enjoyment, inspiration and excitement. The only reference to talk was made by Ben who wrote of love of oral storytelling; this cannot be counted as dialogue, however, since it is about teacher performance.

Analysis of the ‘Learning to Learn’ questionnaire revealed several apparent contradictions but allowed some general points to be made about initial epistemologies. Although seven of the ten focus group members indicated strongly that they believed learning is about developing ideas, all responded positively to the notion that the best way to learn something was by

yourself, which could be interpreted as a belief that the best ideas are developed individually. In direct contrast, responses to the final four questions showed that group members tended to think that that pupils who collaborate, learn more. The widest range of responses concerned the role of dialogue and its place in cognitive development. The conclusion drawn at this stage was that although the focus group were generally well-disposed towards the use of dialogue, their ideas and beliefs were confused and fragmentary. It was hoped that the learning to learn approach modelled in specific English sessions would help trainees to develop a deeper understanding of the role of talk for learning.

### **Group Interviews**

Areas discussed in the group interviews enabled coding of the data into four main categories: 1) Initial beliefs about talk; 2) changes in personal beliefs; 3) influence of English sessions; 4) links with theory.

**Uncovering initial beliefs** – Interview data indicated that most trainees had never considered talk as a tool for learning. In the main, their beliefs relating to dialogue were predicated on personal experience and memories of primary education; classrooms were remembered as silent places where any discussion was tightly controlled, and where all assessment was of written work. As Katie expressed it, *'It was just a case of the teacher stood there and you wrote things down'*. Peter, however, articulated a further significant reason based on his conception of the role of the teacher as 'deliverer'

I hadn't thought about the role of talking in classrooms at all, if I'm honest. I hadn't realised the importance of it before I came. In English, I very much thought about being a teacher, delivering the text, reading a poem, but I hadn't...this whole pair...getting the pairs together, having a chat, developing classroom talk. (Peter)

Alone of the trainees, Ben articulated a theoretical underpinning for his understanding, based on a belief set drawn from a background in psychology. Steve, Maeve and Kay, however, drew on experience gained through employment using terms such as 'ownership'. In particular, Kay's experience working with ESL teachers was reflected strongly in her discussion of using pair talk. It seems significant that role play and hot-seating, the only two talk-related strategies mentioned in the English questionnaire, were cited by Ben and Steve, both of whom had a strong belief in the value of talk before joining the course.

Both Peter's reference (above) to 'delivering' the lesson, Amy's response *'Just like Peter, you go in there and you deliver the lesson and you don't really think about...discussion'*, and her explanation of dialogue as a way of *'disseminating all the knowledge'*, indicates that these trainees are at an early stage of epistemological development concerned with transfer of absolute knowledge.

**Investigating changing epistemologies** – The process of teasing out changes in epistemology, and revealing subtle facets which make up the process of 'knowing', was complex. The key factor for most trainees seemed to relate to validation through practice; this was difficult to separate from general classroom anecdotes, but many statements refer to the role of the school in confirming, or developing, an understanding of how talk can be used to support learning. For some trainees, this understanding had become embedded in their practice, across the curriculum, and outside timetabled lessons, demonstrating a more sophisticated level of understanding. For some, an understanding emerged through discussion during the interviews; this has significant links with Kahn's (2006) work on the significance of dialogue between equal partners.

At a simple level, all trainees agreed that talk helps children to focus, communicate and clarify understanding. Much of the discussion can be represented by Peter's experience below, in which he articulates the way that observation of a skilled teacher's practice was the key factor in developing an understanding of the teacher's role as discourse guide, rather than knowledge provider:

Something I saw on teaching practice that made me think more about it was child philosophy. It was all based around English in a way and they just got the children...really talking. They'd read through the text together, then they'd get to a point when they'd say 'we're going to have a discussion as a class about what happens...next'...But it wasn't teacher led at all. She must have trained them cos they would then go off and do this...year four and five would have a really good discussion and some were saying 'Oh, I think he gets taken off by aliens' and somebody else would just chip in at the right point, and they're quite young for that, and say 'Oh, I don't agree with that. I think perhaps, you know, he came out of the ground, so perhaps he'll go back into the ground' and it was just brilliant to watch them all getting stuck in. (Peter)

The trainees who had reached a more sophisticated level of understanding, such as Simon, Annie and Lewis, described a growing ability to hand control of the discussion to the children, to move away from the planning and encourage collaborative learning through discussion, and to embed dialogue in other subjects. Simon, for example, not only learnt to plan for talk, but to move away from his planning when appropriate, *'as my experience has gone on I've been less afraid to kind of...to control the discussion, and get a bit more flexible'*. This was echoed by both Steve and Kay who also reflected a level of comfortableness with uncertainty in discussing their growing confidence in moving away from the lesson plan.

Annie's discussion of her involvement in Chinese Arts Week exemplified a willingness to experiment: *'there were a couple of gaps, so I thought I'll have a go. They were year five six and I thought we'd start off with 'blue', that's the answer, let's see what they come up with'*. Finally, Lewis, who had stated initially that he had never considered the role of talk for learning, demonstrated a deep level of understanding about the importance of the 'Learning to Learn' strategies 'reflectiveness' and 'reciprocity' in a discussion of the absence of noise required by his placement school.

It had not been anticipated that there would be a growth of understanding during the group interview. Evidence for this can, however, be found in the following exchange between Annie and Lewis, and the interjection by Ben, about the significance of sharing learning objectives with children at the start of the lesson:

- Lewis I'm just trying to formulate an idea about putting up learning objectives... I'm not absolutely sure that I agree with it, the use of them in that way all the time. And I can't put my finger on exactly why, but it might be something to do with what you've just said (indicates Annie again)
- Annie Sometimes you feel like 'this is what we're learning today' and you put it up  
There's no intrigue or excitement
- Ben Don't you need a framework of where to shove things into as you're learning them?

It seems that the trainees with a more sophisticated level of understanding were engaged in a deeper level of debate, personifying Schommer's (1994:295) 'uncomfortableness of uncertainty' as they themselves developed learning through dialogue.

**The influence of modelling** – The evident strength of influence exerted by the practice school on the trainees suggested that college sessions might have had no place in developing beliefs or understanding. During the interviews, however, it became clear that there *was* an influence, but that this was often associated with a personal or emotional reaction to the strategy modelled, and that this influenced both personal belief and practice: some of the strongest language used related to this, with Ben and Annie, for example, both referring to the 'horrors' and 'stress' caused by being asked to participate in group storytelling. The conquering of fear, however, appeared to be a significant factor in influencing practice. Annie reflected the mood of the group by concluding

Initially it panicked me, but I actually quite enjoyed doing it, it was quite fun, and I valued it because there's more that I'd like to contribute but I don't always necessarily. (Annie)

The three sessions most often cited as pivotal to developing an understanding of the key role played by dialogue were:

- digital and visual literacy (using short film and discussion groups)
- fiction and oracy in KS1 (developing oral storytelling)
- supporting and challenging the more able language user (using techniques such as visualisation)

All trainees referred to the more pragmatic organisational strategies of talk partners, 'snowballing' (growing from pairs to fours, small groups, and large group discussion) used to encourage talk, and techniques such as jigsawing (creating 'expert' groups with spokespersons). It was also apparent that the teaching strategies designed to foster reciprocity and reflectiveness had played an important role in the trainees' developing beliefs, with several of the group mentioning modelling and a 'role model'. For Kay, enjoyment was paramount as she explained 'You think *'well, I liked that... so it worked with me, or made me remember it more, so I'll try that with the children'*. Although, for some trainees, the use of talk for learning was not validated until a class teacher was also seen to use it, several group members explained that two significant factors gained from taught English sessions were: an understanding that speaking and listening does not mean the teacher speaks and the children listen, and that it is possible to develop strategies to encourage dialogic talk. Maeve expressed it thus:

You have to teach them how to do it. That's what I think we've learnt with you. That once you get it started the teacher doesn't have to say that much, but it's the children who do the talking...it's the idea that they're talking. (Maeve)

The notion of critical literacy and genuine questioning (Alexander, 2004; Myhill, 2004; Smith, 2004; Mercer, 2000) was also a strong thread of the discussion. In particular, a lengthy exchange (of which a small part is presented below) between Simon, Ben and Annie speculated how far my teaching strategy of 'open discussion' was just that, or a device for encouraging 'ownership' and cognitive growth.



Simon     Something that you always do and bring into your lessons, and that you mention, is about...not controlling the discussion. Putting a question out and you would say ...you like to step back and just see it build.

Ben        I'm not sure that I one hundred percent agree with 'there isn't a right or wrong answer'. I sometimes think that you have a very definite agenda and you're going to work your way through ...

The Learning to Learn vocabulary was not used by any trainees, however, and this will be discussed further below.

**Making links with theory** – In attempting to evaluate how far members of the focus group were able to make explicit links with a theoretical underpinning for the use of talk as a cognitive stepping stone, this section is opened with Simon's particularly succinct comment:

There's a lot to be said for that, I think, having looked at it from a purely theoretical point of view...and then going into schools and actually seen that value and that growth that can come from those kinds of discussions. (Simon)

This, however, provides a rather deceptive picture. Despite the fact that L2L theory was fore-grounded in taught sessions, and explicit links made with this perspective as strategies were modelled, the trainees in general offered pragmatic reasons for using dialogic approaches; for example: '*It works*' (Kay); '*Speaking in English is being encouraged...you can't do the speaking bit and be quiet*' (Katie) and '*Common sense*' (Peter). Steve and Amy commented that the best learning happened when children were talking to the teacher since it represented a move away from transmission learning, and Peter went on to assure his group that '*There's good theories behind using speaking*', but failed to mention any. The general level of utterance regarding theory, however, is exemplified by the following interaction between Lewis, Simon and Anna:

Lewis:     Vygotsky springs to mind

Simon:    Social constructivists

Annie:     Learning through interaction, yeah

The exception to this representation of knowledge was provided by Ben who gave a lengthy explanation of Neisser's Analysis by Synthesis where he attempted to explain how he makes sense of the world, returning to the concept later in discussion of how children learn to decode and comprehend through peer discussion. This was completely different in tone, content and level of understanding, to the rest of the group.

...the concept of schemata and how people integrate their information together into the existing knowledge they've got and the new knowledge is added on to it with lots of little links idea of neural networks and some work by Neisser; I don't know if you know him, it's a process called 'Analysis by Synthesis', whereby... you perceive and make sense of the world, by first of all looking for features...But I think it works for all learning. That you have existing schema and it

links to the other stuff, which is why I think cross-curricular studies are good, because the bigger and wider that schema is, and the further the network expands, the easier it is, and the more information you've got, to make an accurate match of the features that you are detecting, that are assailing you at that minute...you are therefore more able to make sense of it and be able to incorporate it, that's why it's called incorporation and assimilation, and assimilate it into the schema.  
(Ben)

Ben's background is in psychology, and it is clear that he understands knowledge to be constructed and contextually evidence-based. Moon's (2004) work based on Baxter Magolda (1992) places Ben at the highest level of critical thinking represented as contextual knowing. As he mentioned neither 'Learning to Learn', or the Social Constructivists, it could be assumed that he accommodated and assimilated the experience of having dialogue modelled as a cognitive stepping stone, without altering his theoretical construct in any way. Significantly, no trainees volunteered 'Learning to Learn' as part of a belief set, and even when prompted maintained a slightly bemused silence. This appears to be significant, since at various points during the sessions found memorable, I stepped outside the role of 'model' and encouraged focused discussion about the strategies, named them precisely, using Claxton's vocabulary of 'reciprocity', and discussed his model of 'split-screen teaching' in which the teaching focuses equally on content, and the precise learning strategy being practised.

### **Understanding the concerns and priorities of the trainees**

In investigating a change in beliefs for the focus group, it is helpful to return to the work of Smith (2005:212) on the lack of impact of training on practice which, he suggests 'may be more apparent than real'. He argues that in order to change beliefs, trainees need their mentors to 'support and praise...in order to reduce cognitive dissonance...[and] affect the trainee teachers' sense of self-efficacy'. Some trainees were clearly preoccupied with school constraints which were perceived as preventing them from using dialogue for cognition. At a basic level, pragmatic problems in 'training' children to discuss were voiced, for example, by Kay: '*cos I tried to do it and they just look straight at you (puts up hand) "I'm ready, I'm ready!" and I'm saying "talk to your partner"*' and Maeve: '*they need to know how to do it, don't they, cos I was with year one and they talked a lot, but they were no good at working in partners*'. The greatest fear, however, seemed to relate to school culture, the reactions of older staff to noise and supervisors commenting adversely on lack of control.

If these fears are examined against Maslow's hierarchy, then the need for safety, belonging and esteem can clearly be seen driving reciprocal determinism. Only Lewis's decision not to participate in teaching art, because he fundamentally disagreed with the school's policy of insisting on silence, indicates that he has moved towards the highest level of personal fulfilment by refusing to reduce tension, or indulge in strategic compliance, as cognitive dissonance theory posits.

### **Informal discussion**

The final meeting with the group took place in July, and comprised a short, informal discussion between eight of the original ten participants. To focus on L2L, and avoid anecdotal reflection about the final practice, it was decided to ask the students to complete a group sorting activity from Moon's (2004) ESCalate paper on critical thinking. This requires reading descriptors of Moon's interpretation of Baxter Magolda's stages of knowing, and, through discussion, to match statements made by fictitious trainees to the appropriate stages. It is not this paper's intention to analyse the resulting interaction between the group members,

since the activity was primarily designed to provide a sense of closure for the participants. It is interesting to note, however, that a debate arose between Lewis, Maeve and Amy over the nature of knowledge in science and maths; both Amy and Maeve were adamant that there was no room for debate in these subjects since facts were facts, and the knowledge fixed. Unsurprisingly, given his interaction during the group interview, Lewis argued that we construct knowledge on the basis of evidence, but that evidence can only be gathered in the context of what is currently known and understood; it is subject to change and cannot be certain. This exchange indicated that Maeve and Amy had not yet moved from an absolutist belief in the nature of knowledge, and that their willingness to engage children in dialogue would depend on the curriculum area.

### **Conclusions: towards the use of dialogue for cognition**

It was clear within the study that the students began from an early stage of epistemological development. We have further identified various factors that were seen to affect the students' growth, in their capacity to use dialogue both within and beyond the classroom, and in their ability to articulate a rationale for their practice – taking us beyond simple agreement that talk is helpful for pupils. A willingness both to experiment and to hand over a measure of control to the pupils were essential (and we note here also the importance in this of confidence in classroom management), but the school certainly was seen to play a key role in validation of practice. The key English sessions themselves were, however, also relevant in both energising the students to try the strategies that were suggested. The relevance of any link with theoretical perspectives from Learning to Learn or any significant shift in personal beliefs about epistemology was correspondingly less apparent. It seems that practical issues, and the immediate needs of teaching, effectively dominate the experience of the students.

These perspectives certainly provide significant scope for adapting practice in future, taking on board the concerns of the participants, while still looking for ways to foster growth in their underpinning rationale; or at least to employ methods that reflect at least in part more sophisticated epistemological outlooks. But if we are to link more fully the teaching in the seminar groups with practice in the classroom then, we need to find further ways to draw learners towards contextual knowing, taking them beyond their comfort zone of knowing' through discussing, problem-solving and 'dialoguing' in a risk-taking, exploratory atmosphere, as Moon (2004) posits.

Wider factors, though, are certainly at work: to create Daly's (2004:197) thinking, talking 'social place[s] where meanings are forged and where the teacher is also the learner, there needs to be a shift in thinking: students need to understand that knowledge is formed through a complex web of social and collaborative interactions between partners. We may speculate, though, that the problems facing Higher Education in terms of student numbers and pressure of time, are paralleled in schools by the perception of the pressure of SATs, tick-boxes and league tables: this might mediate against the creation of an environment which supports critical thinking through the time-consuming process of developing reflection and reciprocity.

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# Chapter 5

## Learning to learn and learning to teach for undergraduate students in Primary Education with History

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### Introduction

At a time when academic or disciplinary-based courses are at risk of being squeezed out of many primary training programmes it is a timely moment to inquire into the relevance that these courses hold for the professional development of new teachers; and not simply as recipients of a body of knowledge germane to a subject curriculum but more importantly in relation to shaping their academic and professional values.

The concept of knowledge construction is fundamental in this debate, given the relationship (as explored in Chapter 3) between student-teachers' knowledge base and effective classroom practice. It is thus paradoxical that subject knowledge as a central pillar in the Primary ITT curriculum is currently under threat among teacher-education providers largely because of political rather than educational imperatives (Brehony, 2005; Menter, 2006). Yet, as Poulson (2001, p. 52) crucially reminds us, 'there is still much to learn about the knowledge which successful teachers do possess (and) about the relationship between knowledge, values and practice'. Nevertheless, promoting student-teachers' critical engagement with epistemological and professional knowledge holds implications for the ways in which they might go on to construe teaching itself and, therefore, for their own 'identities' as teachers.

Clearly this also has implications for the learning environment in the Primary ITT learning environment. The learners' growth in epistemological understanding corresponds with a deeper approach to learning (Moon, 2005). Knowledge as understanding is also embedded in the processes of critical thinking; this involves working with complex ideas and uncertainties, and making judgements lodged in the use of evidence and framed by specific contexts. Graff (2002:27) uses the language of critical thinking 'habits' which are of a kind that do not come readily to many students but are indispensable to intending teachers:

Habits of thinking that are so familiar to academics [?] that we hardly recognize them often seem counter-intuitive [to students]. These habits include the search for hidden meanings in texts and experience generally, the inclination to be contentious and to foment controversy, the tendency to make seemingly obvious assumptions explicit and the general obsession with searching for problems where often there do not seem to be any. The most productive way for teachers to help students cope with these unfamiliar academic habits is to identify these habits in class, inviting students to discuss them and even air their doubts about them.

Expressed in these terms, promoting critical thinking entails a range of pedagogic practice that is conducive to an environment designed to support Learning to Learn – challenging learners beyond their 'comfort zone'; deliberately exposing learners to differing and competing perspectives on a problem; promoting collaborative inquiry set within a classroom atmosphere that embraces risk-taking in the exploration of ideas and argument. These features are representative of the 'scaffolding' that teacher-educators need to provide in order to help students develop sophisticated beliefs about 'knowing' (Brownlee et al, 2001). But, as Brownlee (p.262) further reminds us: 'although most teacher-educators would recognise the importance of helping students to develop sophisticated beliefs about knowing, often teacher education programmes do not provide the scaffolding to facilitate this development'.

'Scaffolding learning' is, however, an overworked and elastic term. Primarily, it involves the provision of meaningful contexts in which knowledge construction takes place: the interplay between conceptual constructs, evidence and application within a disciplinary setting (Goulding et al, 2002). Macleod and Golby (2003) use the descriptor of 'situated practice' which, I believe, is essentially concerned with learning that is built on contexts in which real, legitimate inquiry is conducted. It could be argued that 'scaffolding', as a pedagogic tool conducive to critical thinking, necessarily incorporates learning tasks but not of a kind that invite the rehearsal of rules and routines, typically within a linear sequence, but instead configure the search for meaning through activities that admit uncertainty and competing knowledge claims.

This chapter thus sets out to investigate the attitudes and learning behaviour of a set of undergraduate students, following a Primary Education with History course, at the outset and completion of their first-year programme. It endeavours to measure changes to students' conceptions of learning and any subsequent impact on their own developing professional identity as they progress through a subject-study course in history. The course is built on a distinctive, constructivist pedagogic approach and makes significant use of learning technologies. In summary, this research project focuses on students' learning experiences within the disciplinary domain of history and draws attention to innovative course features that have the potential to influence both students' learning behaviour, and their professional outlook on the practice of teaching.

## **A small-scale practitioner research project**

The research sought to address key questions about the nature of students' epistemological beliefs, changes and stages in the development of their beliefs, the significance of disciplinary contexts to developments and the potential impact of change on students' values in learning and teaching. In particular the investigation aimed to complete the following:



- Identify and measure changes to students' epistemological concepts and values in relation to learning and teaching as the product of their academic experience of history subject study.
- Evaluate the specific benefits of an e-learning design of an introductory module: 'Foundations to History Education' in modifying students' conceptualisations of knowledge.
- Analyse the synergies or dissonance between the disciplinary specific component of academic study within an ITT programme and its subsequent impact on students' professional values and practice as intending teachers.

The research carried out towards these aims is grounded in a rich seam of qualitative and quantitative data, involving a largely phenomenographic approach to delve into any discernible shifts in learners' epistemological and metacognitive perspectives. The data itself relates to 13 undergraduate students in Primary Education with History. These students took two related modules, in particular, during Year 1 of the programme; with the first of these modules most directly relevant:

- HIP100: Foundations to History Education'; a 'blended' online module combining engagement with a structured VLE, asynchronous discussion and a weekly three-hour face-to-face teaching session whose objective pursued an understanding of the epistemological make-up of the discipline and an inquiry into how the discipline is presented and received by a range of audiences and especially that of young children.
- HIP101: a module with a specific historical focus – 'The Making of the English Peoples: Migration and Settlement from Romans to Normans'. The primary objective of this module is not the delivery of a specific corpus of knowledge but to immerse students in the methodological and conceptual procedures of the discipline derived from understandings acquired in HIP100. It also helped to focus the interesting question of whether a deepening epistemological grasp of an academic discipline corresponded with students' broader and expanded conceptions of learning and teaching.

Data was collected at strategic points both prior to and during in the academic year in order to get closer to students' conceptions. An initial audit was conducted in relation to students' conceptions of knowledge, learning and teaching; providing a baseline from which to view any subsequent development. Close analysis of students' observations archived within an online discussion board was particularly productive, and especially in relation to their conceptions of knowledge, as were regularly updated teaching logs, and impromptu recordings of student responses to questions and discussions about their learning behaviour. Text data relating to an analysis of learners' changing conceptions of knowledge, derived from questionnaires, was mapped on to Baxter-Magolda's (1992) conceptual model. Comparative perspectives emerged through data generated through the use of an Approaches and Study Skills Inventory (ASSIST). Recorded focus-group conversation served the purpose of extrapolating and expanding on issues that had emerged in response to questionnaires and in more informal, spontaneous comments and observations which surfaced during scheduled teaching sessions. In making sense of the data, though, it is first of all important for us to outline the nature of the student experience on the relevant two modules; focusing in particular on the first of these.

### **First year history teaching: a distinctive constructivist approach**

The two modules were designed on the basis contemporary constructivist approaches towards learning. Furthermore, in response to claims that learning technologies can make a significant contribution to the learning experience of students by articulating and conveying learning

paradigms and pedagogies, particular emphasis was placed on use of a Virtual Learning Environment (VLE). Kirschner and Davis (2003) and Taylor (2004), for instance, suggest that technology can be effective in the wider, generic sense of persuading student teachers to engage with the deeper aspects of learning. In this connection, Trigwell and Ashwin (2006) also remind us that students are more likely to build their conceptions of and approaches to learning through direct experience of a specific learning environment rather than through instruction in generic conceptions of learning. Structured hypermedia learning environments can support learners in acquiring more complex beliefs about knowledge and more sophisticated metacognitive awareness; for example, by assisting learners to move from a position of holding simple dichotomous views of knowledge to more complex, relativistic conceptions (Bendixen and Hartley, 2003).

The challenge, though, is to find specific ways to ensure that the actual student experience on the course is consonant with these considerations. According to Garrison and Anderson (2003), for online learning design to be effective it has to have ‘cognitive presence’, that is a structure capable of supporting critical thinking. For them critical thinking equates to authenticating existing knowledge and generating new knowledge. They also argue this is synonymous with inquiry, creativity and risk taking in its promotion of divergent as well as convergent thinking.

We require pedagogic strategies that deliver on such a structure, and that thus shape the student experience. The use of a ‘triggering’ event is a particularly effective device – a problem drawn from authentic contexts, shaped by the teacher and taken forward by learners in framing issues, questions and constructive ideas relevant to individual needs and interests. Linked to the use of ‘triggering’ events, sat within meaningful contexts, is Bennett and Lockyer’s (2004) thinking on the importance of distilling challenge from context. This approach resonates with problem-based strategies appropriate to teacher-education (McPhee, 2002; Wheeler et al., 2005) and avoids the easily defaulted position (Tam, 2000; Koper and Oliver, 2004) that many learning designs adopt: an ‘objective-rational’ design that has a systematic, linear-sequential goal of transmitting pre-selected knowledge. The structuring of a cohesive sequence of source-related tasks, supported by specific instructional activity, facilitated the integration of *new* knowledge and ensured its application (Boud and Prosser, 2003; Mays and de Freitas, 2004; Oliver, 2005; Taylor, 2006). Design also recognised that collaborative discourse is crucial to widening learners’ perspectives and their ability to ‘self-author’ their own knowledge construction, which, of course, is central to a social constructivist approach (Koper and Oliver, 2004; Conole and Dyke, 2004; Beijaard, 2004; Moon, 2005).

The design features behind the VLE employed on ‘Foundations to History Education’ thus had a pedagogic concern with more student-centred approaches to learning and a focus on key issues: firstly, an understanding of how historical knowledge is created and the extent to which representations of the past to a variety of audiences must capture a legitimate concern with genuine processes of historical thinking and working; and, secondly, communicating the relationship between a model of learning in higher education and the personalisation of values in teaching and learning that may hold wider professional application. The learning environment, therefore, was principally a site where students were actively negotiating an identity for themselves. It is consonant with what can be viewed as effective practice within a disciplinary setting that sees learning in the discipline as ‘shared space’ in which personal construction of understanding takes place and arises out of encounters with disciplinary practice (Anderson and Day, 2005). The programme structure is summarised in Figure 5.1.

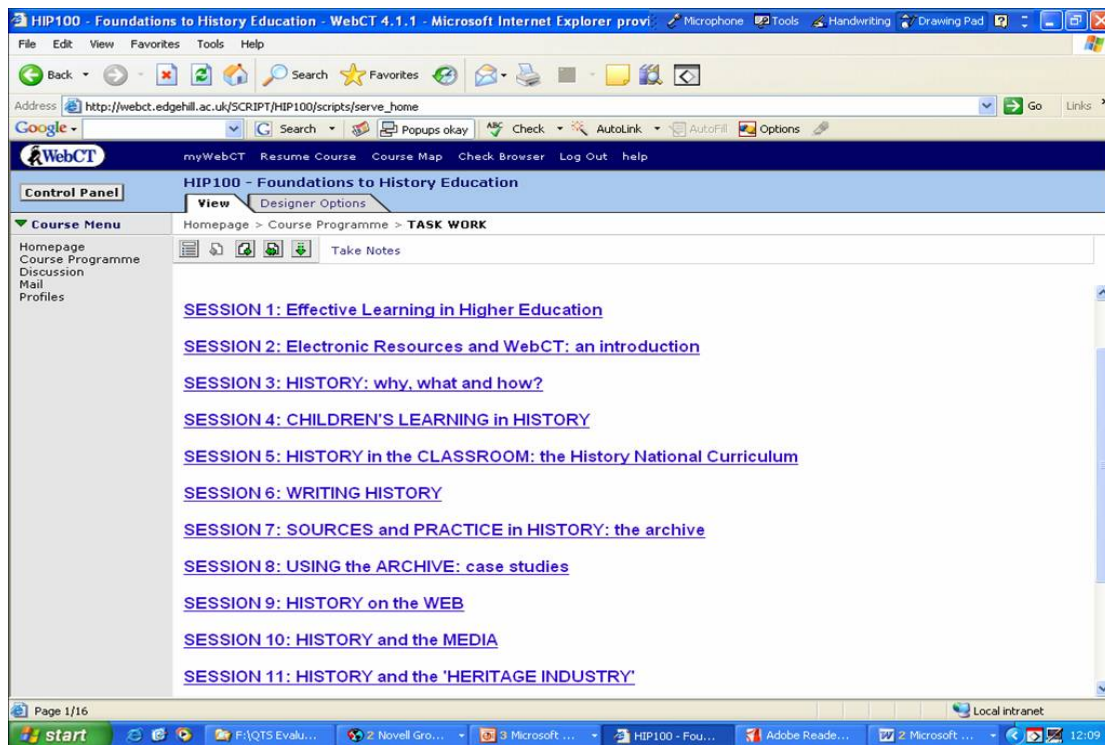


Figure 5.1 Foundations to History Education

The design to this VLE essentially has a linear structure to it in the sense of providing a strong ‘steer’ to students’ thinking as they progress through a series of interrelated issues (Oliver, 2002). It deliberately encourages a degree of contingent thinking in recognising the complexities and situated nature of issues and practice (Taylor, 2004). The embedded tasks also captured Boud and Prosser’s (2002) design features to learning design. These tasks acknowledge a learning context in presenting focused problems and issues within a wider academic and professional context; they promote learner engagement by building on prior knowledge and understanding, enabling learners to experience concepts and issues of the course in a variety of ways, and through collaborative approaches; they build in learner challenge by encouraging learners’ involvement in questioning knowledge and experience and critiquing the limits to knowledge; and they invite practice by encouraging participation in the ‘discourse’ of an academic subject in both conventional and online settings. In summary these tasks focus not simply on the conveyance of subject knowledge but on the component parts of knowledge construction and learners as knowledge constructors.

Each session therefore contained hyperlinked resources and instructional tools that ‘problematise’ the relationship between working in the discipline and evaluations of how the subject is presented and utilised by various audiences and especially young children. For example one activity prompted students to revisit their initial assumptions about the dichotomy between academic knowledge as discovery and pedagogic knowledge that applied to the classroom setting within the context of a deeper understanding of working in the discipline and the kinds of historical thinking which children are capable of demonstrating. In summary, learning tasks invited students to build their own conceptual ‘architecture’ in terms of assimilating information into an organised structure that held personal meaning. This is the foundation on which the building blocks of collaborative learning and higher order cognitive skills can be constructed.

## Student perspectives on knowledge, learning and teaching

In investigating a change in students' conceptions of learning and any impact on their growing professional identity, linked to the provision of a L2L environment, it was necessary to examine students' prior experiences of learning. Prosser and Trigwell (1999) argue that these prior experiences and preconceptions of learning can be seen as the most significant influences on the ways in which students adapt to the demands of a higher education. Meeting this challenge of HE was self-evident in the responses of a set of first-year students, embarking on a Primary Education with History programme. Categorisation on the basis of an initial audit (Table 5.1) illustrates their perception of the purpose of their academic course in history as preparation for their teaching identity.

Category	Number of references
Acquisition of a body of knowledge	9
Pedagogic skills in teaching history in schools	9
Methodology and conceptual base to the subject	4

Table 5.1 Initial conceptions of subject study and its professional value

Most students adopted one of two polarised positions: (a) subject study was seen either as an academic pursuit (acquisition of a body of knowledge) or (b) as entirely concerned with classroom practice (pedagogic skills). For example:

'Before coming to college I believed that that the subject area of the course would only influence the knowledge of history I had, and it would do little to prepare me as a teacher'. (Acquisition of body of knowledge)

'I had not anticipated that the history course would prepare me to become a teacher, that it was just a matter of learning history facts'. (Acquisition of body of knowledge)

'I anticipated the course to be very child driven and reflective on children's history and how it is that they view the events of the past'. (Pedagogic skills)

'I thought that the learning would just be factual information on the specific topics taught in the National Curriculum rather than studying history at degree level exploring the evidence and interpretations in depth'. (Pedagogic skills)

'I thought it would be just what we would be teaching, what the children would need to learn'. (Pedagogic skills)

As evident in Table 5.1, many students perceived the benefits of the course as relating directly to knowledge acquisition and transfer; this, I believe, impacted on their perceptions of the way in which an academic course might contribute to professional development. Of particular note is the virtual absence of any student recognition of the relationship between 'learning in the discipline' and how that might inform classroom practice. Where such a relationship was loosely recognised it was confined to 'enhancing personal interest which would transfer into the classroom'.

## Growth in epistemological understanding

The results of the subsequent audit carried out towards the end of their academic course are presented in Table 5.2; allowing us to explore possible growth in students' epistemological and metacognitive awareness. Specifically, the audit took the form of capturing students' responses to a series of questions about their conceptions of the purposes and values of learning and the ways in which their subject study course and its e-learning component had contributed to their perceptions of how they might have changed as learners. While the questions in the audit address these issues more directly at the broad level we can see a significant difference between this table and the earlier Table 5.1, where perceived benefits were confined to knowledge transfer and acquisition, setting boundaries as to how an academic course might contribute to professional development.

Category	Number of references
Deeper cognitive and metacognitive awareness	18
The value of collaborative engagement	8
Improved organisational skills	3
Extended knowledge of subject matter	3
Other	6

Table 5.2 Audit of Learning Outcomes

In examining the synergetic relationship between learners' epistemological understanding, their level of critical thinking and their values in learning, Moon (2004: 42) offers a useful starting point and an incisive proposition. 'As a learner becomes more sophisticated in the manner in which she conceives of knowledge', Moon argues, 'we can say she that she becomes more flexible in the manner in which she works with knowledge – and more flexible in the way in which she sees knowledge is used by others'. The process of learning, Moon emphasises, is not about accumulating the materials of learning, but about the process of changing conceptions. It is this which is at the heart of 'meaningfulness' from the learners' perspective. We can see at the broad level flexibility in relation to learning in these responses in Table 5.3. which categorises examples of conceptual engagement with knowledge construction among the first-year cohort who were reaching the closing stages of their subject study course.

In particular, this table places a phenomenographic interpretation on levels of learners' conceptualisation of knowledge within the academic domain of historical study in order to capture the range and depth of their critical engagement with knowledge construction. It focuses on what learners experienced and not primarily on what teaching or, indeed, what technology intended (Boud and Prosser, 2002). It borrows from Baxter-Magolda's taxonomy (1996) and her interest in the emergence of the student 'voice' as knowledge constructors. She identifies four hierarchical domains of 'knowing' ranging from an 'absolutist' position which construes formal learning as a matter of the uncritical absorption of 'expert' knowledge to an apex of 'contextual knowing' which embraces the verification of alternative perspectives mediated through evidence. 'Contextual knowing' can be viewed not only as a central tenet of historical thinking but the key to autonomous being. Clinchy (2004) offers a similar though flatter spectrum of development from 'subjectivism' which she associates with learners' resistance to change and 'connected knowing' which she associates with learners' 'openness to transformation'.

We see in this table instances of conceptual engagement with knowledge construction among the first-year cohort who were reaching the closing stages of their subject study course. Baxter-Magolda's own findings suggested that only a very small percentage of undergraduates could be expected to reach the level of contextual/relativist thinking. However, in relation to this study, there was a measure of reassurance that responses not only had a wide distribution but also were located largely within the higher order categories that would indicate deeper engagement with ideas about knowledge and critical thinking. Some responses straddled the boundaries but close analysis would safely place c.70 per cent of responses within the higher range of independent/relativist thinking. A significant number make explicit reference to the relationship between epistemological growth grounded in the discipline and wider critical empowerment.

Conceptualisation of knowledge in the discipline	Learners' experiences matching the given conceptualisation
Dualist/Absolutist	As a learner I do not feel I have changed a lot. It is my choice to be here, to listen and to learn from experts.
Transitional	<p>I think I have changed as a learner especially in relation to history because I have learned there is more to the subject than the facts. Although I might not be able to write it all down correctly I am able to look at things in more depth now instead of looking for what may be the obvious answer.</p> <p>I think that I have changed as a learner in that I am not just memorizing facts, I'm learning the skills needed to evaluate sources and interrogate evidence.</p> <p>I am becoming aware that answers aren't always as important as I have believed them to be. Part of learning is about the questions which are asked which lead to the developing of thought.</p>
Independence of Knowing	<p>Although I still write up my lesson notes to ensure that they are legible for whenever they are looked at again, they follow no set format and are done in a way that will allow me to engage with the thoughts I and others have raised on numerous occasions.</p> <p>I was originally expecting a similar approach to A Level where I expected to learn a collection of facts/events in chronological order and recite these, with additional critical comments from relevant historians, to pass a set of examinations; whereas now I am forced to think for myself what I make of the facts and not just remember the opinion of others.</p> <p>I think I have changed as a learner because I now feel more confident with my own ideas, I am no longer relying on what I already know. Instead of feeling spoon-fed I feel I am thinking for myself and that I have had some input into the group. I am now more focused with my learning and I enjoy it a lot more. In learning I value being encouraged to think for myself and, to give myself confidence, I value feeling good when I have learned something new. In learning it is important to know that the answer you give is not necessarily right or wrong, it is your idea or analysis; it might be improved in a lot of ways but at least you have tried and that is a good thing.</p>
Contextual/Relativist	<p>I believe that I have changed as a learner as I believe that I have changed my attitude towards reading for further understanding and knowledge. I now believe that learning is a process of discovery and relying on yourself to make some clear decisions about history, what it means to yourself and how there will always be unanswered questions to deal with. I think that is true of knowledge in general.</p> <p>My ideas about learning have changed because I am now expected to analyse and 'read between the lines' in everything and to link one point to another. I am now encouraged to discuss ideas with others in the group to expand my own knowledge and understanding and to finish with a better idea because I have talked about it but also to go back to it in the light of new information.</p> <p>It's all about deconstructing it and piecing it back together, reaching a certain point, going off on tangents and coming back again.</p>

Table 5.3 Self-reports of student experience, linked to Baxter-Magolda

Nevertheless, this tantalising glimpse does not tell the full story. At the same point in their journey students were also asked to respond to the Approaches and Study Skills Inventory

(ASSIST) developed by Entwistle *et al* (1999). Their responses revealed a different twist to their learning behaviour.

Most students were comfortable with inventory statements that elicited their sense of deep approaches to learning and teaching. Conversely, students placed a low value on statements that encapsulated overtly surface/apathetic approaches. Nor is there any surprise in the strength of students' sense of strategic awareness given their level of professional commitment and motivation. There is a close correlation between these findings and the simultaneous phenomenographic study. However, tensions surfaced in the dissonance that was apparent in expressions of preferences for teaching. It is a reminder (Prosser and Trigwell) that students, and especially intending teachers, are alert to perceptions of competing demands on their role and that they will make strategic decisions to modify their learning behaviour in response to their conceptions of how their academic and professional achievement will be monitored and assessed. Given the technocratic and political pressures on the ITT curriculum, these tensions will remain persistently problematical for both teacher-educators and student-teachers. Indeed, a very recent study (MacLellan & Soden, 2007) suggests that student-teachers prefer clinging to the notion that effective learning is linked to having new knowledge made available to them.

(N=13) Factor	I Deep	II Strategic	III Surface
<b>Approaches to Studying</b>			
<b>Deep Approach</b>			
Seeking Meaning	.71		
Relating Ideas	.72		
Use of Evidence	.75		
Interest in Ideas	.76		
<b>Strategic Approach</b>			
Organised studying		.65	
Time Management		.61	
Demands		.70	
Monitoring Effectiveness		.78	
Achievement Motivation		.74	
<b>Surface Apathetic Approach</b>			
Lack of Purpose			.32
Unrelated Memorising			.49
Syllabus Boundness			.63
Fear of Failure			.71
<b>Preferences for Teaching</b>			
Encourages Understanding	.77		
Transmits Information			.76

Table 5.4 Factor-pattern matrix for conceptions, approaches and preferences for teaching (ASSIST)

## Exploring factors contributing to epistemological growth

It is clearly important also to explore some of the underpinning features of the course that may have contributed to these outcomes, including the shift towards a more holistic relationship between knowledge construction in the discipline and learning. We make no attempt here to separate out and measure the specific contribution of one pedagogic approach, such as e-learning. It was clear, however, that a tightly focused e-learning design contributed to the interplay of ideas about the epistemological characteristics of the discipline and children's engagement with the subject. Furthermore, within this process, significant value was attached to the discussion forum offered by WebCT. In the audit that considered how students valued the specific on-line dimension to their course almost 60% of all responses made reference to the way in which collaborative engagement with the ideas of others reinforced and, for some, introduced a conception of history as interpretation and argumentation.

“The ideas discussed helped me to deepen my knowledge of history and to build up a knowledge base of how children learn (and) the different ways we can teach.”

“Reading other people's views allowed me to question and evaluate their thoughts, as they did mine, and gave me a deeper understanding of what history education should be about.”

“I think about things a lot more. I think that I question what I have been taught before in history. Things aren't always as black and white as teachers make them out to be and which I always accepted.”

More broadly, what is of crucial importance is how course design and delivery, incorporating a range of learning encounters in the discipline, impacted on students' developing sense of their role as intending teachers. Table 5.5, which presents data from the audit of professional outcomes, captures the *emphases* expressed by students' responses to the question of whether and how their perception of their role as future classroom practitioners had changed as a result of their own learning experience in a subject study domain.

Category	Number of Responses
More reflective about their own and children's learning	15
More confident as a presenter and communicator	4
More organised	2
Greater commitment and enthusiasm	3

Table 5.5 Audit of Professional Outcomes

We cannot infer from this table that the categories attracting a relatively low number of responses did not matter to students. Instead, the table highlights what was to the fore of what they had come to value in relation to their own professional awareness and purposes as a direct result of their course. It is further apparent from extracts responses in the audit that it was the teaching approach employed on the course which led to growth in a number of distinct ways:

- Teaching is a matter of critical thinking, resilience and confidence.

My academic course made me realise that when you make a mistake you can think back and say that didn't work, what do I have to do to change it and make it better?; try again and not give up.



- Effective teaching embraces that nascent sense of ‘strategic alertness’ to classroom learning opportunities previously alluded to by Entwistle (2000).

I can begin to see and understand how ways of teaching are constantly changing in order to improve education for children....I am starting to trust my own instinct when it comes to learning to be a teacher.

With some teachers the attitude is ‘this is what I am going to teach you today’ whereas in history it’s this is what we are going to find out together as a class.

As a learner I have developed questioning and thinking skills and it is these skills which I can use as an intending teacher. I hope that I can use these skills to provide children with the opportunities to enjoy and develop their learning and knowledge in history.

I am more confident in what I will be teaching children and how to approach it better. I have come to appreciate that, for children, history is a hard subject to understand and that it will and should be challenging for them, but you can’t plan for every challenge.

- Cognitive skills acquired in an academic domain hold personal meaning but also have a transferable value into the wider realm of teaching:

Learning in History has helped me with PVP (Professional Values and Practice) when you write assignments about how children think and about government concerns with children’s education.

I hope I am a similar person as a teacher compared to what I am as a learner, because I like to teach in the way I have been taught.

It’s your lesson evaluations in school as well. I think the experience of learning in history helps me to stand back from a lesson and ask whether that was any good; what would I change. It helps you to detach from it.

It is clear here that the students focus on the course as a whole, rather than one or more of its features, in identifying what has shaped their own growth. Indeed, we see here ways in which the students have come to value a certain opportunism in their teaching, stemming in part from features in their own learning such as the freedom and ability to pursue a line of questioning.

## Conclusions

This study suggests that a significant shift took place in students’ attitudes by the end of the course towards a more holistic relationship between the experience of knowledge construction in the discipline and learning values and behaviour. We have attributed this shift to a holistic learning experience in which learning technologies have played a significant role.

Critical thinking lies at the heart of knowledge construction in an academic domain such as history. Explicit attention, therefore, has to be drawn to the cognitive skills that make critical thinking possible and, especially, the framing and interrogation of ideas, the interrogatory tools of questioning and the validation of judgements against a body of information. In this, the modelling and scaffolding of such cognitive skills is vital to learners’ own ‘authorship’. We have seen in this course ways in which this can occur, given a holistic focus on learning design and on the tools located within learning technologies. Learning is derivative of personal experience, and knowledge construction involves active and collaborative participation on the part of learner.

There is of course a danger in extrapolating findings from a case-study of this kind – grounded as it was in a small first year group and within a specific academic context – to

draw more widely applicable conclusions. A more comprehensive view, for instance, would emerge from research into the learning experience of the entire first-year cohort of ITT students distributed across a number of subject-study disciplines.

Nevertheless, it has been argued that academic study is highly relevant to an ITT curriculum that looks beyond the limited horizons of 'meeting the standards'. Such study can be instrumental in re-orienting the epistemological conceptions and learning values of intending teachers. These broader purposes, clearly articulated through an academic as well as a professional programme, have wider generic relevance to the future vocational needs of intending teachers (Kreber, 2007).

But tensions also remain between the extraneous requirements for compliance and the ethos of a higher education which promotes more critical, creative and autonomous engagement with knowledge; as students themselves indicated in this study:

I feel I am more my own person in history whereas in PVP I sometimes feel as someone at the receiving end of being told what a teacher should do and what children should do and learn, and I find that difficult to get my head round.

I feel that all these restraints are there to rein you in...you've got that on your mind a lot of the time, that you can't delve too far into something if you've got all these other objectives you need to be doing.

These observations remind us that professional reflection and development, and evidence-based practice itself, should not be confined to technocratic inquiries into 'what works' but should have a primary focus on educational purpose and values (Biesta, 2007). This study suggests that the emergence of professional values and identity should be seen as connected to knowledge growth, not as an alternative. Unfortunately the emphasis on specified knowledge and externally imposed curriculum requirements has often displaced rather than complemented such a focus (Burn, 2006; Smith, 2007). There is a gap to be closed in preparing teachers in their purposes, values, identities and practices as professionals, lifelong learners and potential agents of change (Day, 2004). The dissonance is captured even more succinctly by another student who asked, "How many kinds of teacher am I expected to be?" Her question holds implications for the ITT curriculum, the formative role of academic study and, clearly, for research investigation of a more longitudinal kind.

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# Chapter 6

## Developing a thinking skills approach with secondary postgraduate trainee teachers

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### Introduction

In trying to understand how beginning history teachers become effective history teachers we are working with a series of complimentary models. One important model of effectiveness links to the idea of the teacher as reflective practitioner. The other element lies in an understanding of the professional craft knowledge of the subject teacher.

Peter John attempted to define the professional craft knowledge of history teachers in 1991, his ideas, influenced by Shulman provided a subject specific definition for school history and for history teachers. He identified a readily understandable body of information – Subject Knowledge which might be described as the sum total of accumulated knowledge and understanding. This might be reduced to dates, events, personalities eras etc but it is undoubtedly the series of historical constructs which a history teacher brings to the subject in school. Beyond this understandable ‘Subject Knowledge’ is the ‘Knowledge of Teaching History’. This is the professional craft knowledge of the history teacher and includes:

- Pedagogic content knowledge
- Curriculum Knowledge
- Organisational Knowledge.

Beginning history teachers therefore have a difficult task both in trying to understand the complex nature of professional craft knowledge and acquiring that professional craft knowledge. It might be reasonable to suggest that the stages by which this craft knowledge is acquired or develops is dependant upon experience and developing the ability to reflect on ones own practice and the practice of others. In some respects the professional craft knowledge appears to be exclusive, even mysterious; this might be explained by the distinctions and definitions of different kinds of historical knowledge. Both Shulman and John (working from Shulman's ideas) imply that knowledge is simple and complex. John's definition of 'Subject Knowledge might be summarized, albeit crudely, as facts which are accumulated over the years whilst pedagogic content knowledge is more complex and more exclusive, the domain of experienced history teachers. In this construction of knowledge the understanding of the new graduates beginning history teacher education course is less significant, it is only one element of the baggage of historical understanding which has been accumulated over the period of his or her undergraduate studies. More recent work by Husbands, Kitson and Pendry (2003) focused on the work of experienced history teachers in an attempt to provide an understanding of the 'way history teachers work in the classrooms and the different sorts of expertise on which they work' (p IX). What makes the transition from history graduate to history teacher so difficult are essentially misconceptions about the nature of 'school' history and the role of the history teacher. Interviews conducted with beginning history teachers suggest that there is a tendency to view school history as simple knowledge – facts, dates, personalities; the role of the teacher is assumed to be that of an intermediary simply transmitting or transferring that knowledge. (see section: Initial Epistemological Understanding) That history, even in schools, is concept heavy can be difficult for beginning teachers to appreciate, developing an understanding of the way the conceptual structures of history both organize the discipline and provide direction to lessons is perhaps the biggest obstacle that new history teachers face in becoming effective classroom practitioners. This lack of understanding or awareness might be thought understandable in new entrants to the profession but the similarities between the QAA history benchmark statements and the Key Concepts and Key Skills which are at the heart of the History National Curriculum (Appendix 2). The similarity between the QAA benchmark statements and the National Curriculum Key concepts played a significant role in the development of this research project. If it were possible to engage beginning history teachers with their own thinking about the nature of history, might this enable them to plan and teach more effectively? If we succeed in engaging beginning teachers with their own thinking about the nature of the discipline would this enable them to teach history in a more thinking way?

A significant number of secondary schools now employ an approach to teaching that is commonly referred to as 'thinking skills'. The text by Fisher *Thinking through History* (2000) provides a particular focus for this approach, modelling as it does a series of thinking activities rather than examining specific historical events, periods or personalities. The Schools History Project website: 'Thinking History' not only demonstrates thinking activities but serves as a place where ideas about thinking skills activities are exchanged by practising history teachers (Dawson 2004).

Since 2003, the History PGCE programme at Edge Hill University has incorporated thinking skills activities into its taught sessions. Course evaluations, however, highlighted a tension between the views of the beginning teachers and course tutors. Although the group felt that thinking skills sessions were valuable, there was little evidence, based on tutors' lesson observations, that they were using this approach in any systematic way. Even in history departments within partner schools where thinking skills were embedded in the teaching and learning, it was evident that the beginning teachers viewed a thinking skills activity as a series of clever teaching strategies rather than a considered approach to student learning. This might link to a lack of experience and confidence, but earlier research suggests a corresponding lack of awareness amongst prospective candidates for the course about how they had learnt history

and the conceptual constructions which underpinned its study at degree level (Phillips 2006). If history graduates are inadequately equipped to articulate how they thought historically, perhaps they would find it even more difficult to understand and replicate historical thinking in the history classroom.

It is important, though, if a thinking skills approach is to be adopted more widely, whether in secondary schools at large or on other History PGCE programmes, that we gain further insight into how to develop the attitudes and understanding of beginning teachers. This chapter thus investigates the developing ideas of a History PGCE cohort of forty trainees (see Appendix 1 for cohort profile) at Edge Hill University during the first term of the academic year 2006-2007<sup>ii</sup>. These developing ideas are considered in relation to changes that were made in the course for this academic year, which involved specifically introducing the students to ideas about metacognition and the epistemology of history as an academic discipline and as a subject in the school curriculum. It was hoped that this would provide a more secure basis for introducing thinking skills activities into the classroom.

It is clear already that there is significant overlap with between this thinking skills approach and Learning to Learn; and indeed with critical thinking, a term which also has resonance in the context of History. It describes the ability or capacity to work with complex ideas and to use evidence to make and justify reasonable judgements. It might also involve an awareness of bias and an ability to comment in a thoughtful way; although an historian might prefer the term 'perspective' rather than bias. For History, the resonance lies in the fact that the definitions of critical thinking are very similar to the process of historical enquiry and describes to a greater or lesser degree historical methodology. Given this subject context we will thus refer most frequently to the term 'thinking skills', and to a lesser extent critical thinking, rather than focusing more directly on Learning to Learn. This still allows us, however, to explore conceptions and practice that falls within the family of learning practices associated with Learning to Learn. We thus consider the characteristics of conditions that foster deeper ways of engaging learners within knowledge construction; covering also the knowledge required to teach history; and we further discuss the potential for an enhanced relationship between critical thinking and subject pedagogy.

## **Investigating the basis for using thinking skills in the classroom**

Our intention, at least initially, is to explore the underpinning basis for the use by beginning teachers of thinking skills activities within the classroom. We thus focus quite directly on three specific aspects of the course, enabling us also to collate a rich set of qualitative data that focuses on the students' perspective in relation to these issues. While the investigation is thus tightly focused, our qualitative approach still allows us to explore the central issues laid out above.

In an attempt to develop the epistemological awareness, students on the PGCE are required to undertake a number of pre-course tasks, with a Virtual Learning Environment discussion forum facilitating the students' responses to a series of prompts (see Appendix 3). The first of these, for instance, required the group to consider how their history degrees enabled them to become graduate historians. It was suggested that they might need to define for themselves the skills and qualities or attitudes of mind which a graduate historian should possess. The associated responses, as captured on the VLE, provide our first data set. The intention was to develop a series of exchanges which both explored and developed the group's understanding of graduate subject knowledge. The time of year; July and August, and the group's unfamiliarity with e. learning strategies meant that the exchanges were less developed. Nevertheless their individual contributions provided a range of views about the nature of history and their awareness of how they developed as learners. In analysing the first set of responses we attempted to link comments to the QAA benchmark statements, in their subsequent comments we were looking for evidence of reflection.

The initial period of the PGCE programme, meanwhile, is based within the university, and aims to provide a series of introductions to the pedagogy of history teaching. One session provides an explicit introduction to thinking skills and the cohort are given a guide to thinking skills which includes a rationale and a description of the process of developing activities and approaches in the history classroom. This session concludes with a demonstration of a thinking skills lesson in which the cohort of students takes on the role of pupils. This explicit modelling enables them to both experience the 'lesson' from a student's point of view but also allows them to understand the activities from a teacher's perspective. This session is then followed by a series of thinking skills activities that require the students to engage with ideas of metacognition (see Appendix 4). The subsequent plenary required each member of the group to reflect on or evaluate the session and post up their views in a discussion forum. The individual contributions were also printed off and brought back to the classroom. Each group was also required to use KSU2 to sum up the significant trends, and the consequences of the economic developments they had been illustrating in their timeline. Over the weekend they were also asked to reflect on the reflections – or evaluate the evaluations. A series of stages are thus built into this reflective exercise, allowing time for more considered responses. The records resulting from this extended exercise give us a detailed student view on the associated aspect of the course.

The final stage of this inquiry focuses on an assignment which pulled a number of these threads together. The group had to select one of the conceptual structures in the history National Curriculum, the KSUs, and explore what the concept or process involved. The activity explicitly engaged them with the epistemology of history: history as an academic discipline and history as a subject in the secondary curriculum. In this respect there was a requirement to engage with academic and professional literature to develop a more conscious understanding of the nature of history. The activity was developed as a series of stages. The first requirement was to explore and reflect upon the nature of their chosen historical concept. This activity was undertaken before the group had any significant school experience and was designed with two objectives in mind. The first enabled the group to develop an informed understanding of the particular concept. This was formed from their graduate construction of the discipline of history and an exploration of relevant academic and professional literature. It was felt that this approach would achieve the second objective: informing their understanding of the way this concept might be taught in the classroom. This initial activity might be regarded as a formative process as the group were required to post their initial ideas in a discussion forum. This enabled the course tutor to provide individual and group feedback and suggest further areas to explore (see Appendix 5) Analysis in relation to this aspect of the course is carried out both in relation to the student work and in relation to comments made by the course tutor on this work. The second stage of this exercise related to classroom observation; and the final stage of this activity required the cohort to plan and teach a single lesson with the chosen concept acting as a learning objective. These stages were then pulled together by each student in a single summative assignment.

## **Initial epistemological understanding**

The first of the pre-course discussions addressed the way in which their history degrees enabled them to become graduate historians. The students' responses narrated changes which took place over the course of their *undergraduate* studies<sup>iii</sup>, as we may see in the following extracts from the online discussions:

I didn't have a gap year before university so I went from being sort of spoon fed information and making notes and writing essays from a small number of sources straight into a different world! (Ge)

Going from college to Uni is a big shock when you go from one text book and being told what happened. (L)



At school I never touched on the Glorious Revolution and its consequences – I stopped at the Civil War and only resurfaced in 1906 with the Liberal landslide victory. Where had the Conservative and Liberal parties come from? (K)

These views on the transition from school or college to university reflect an absolutist approach to history; in Booth's hierarchy this might correspond to the pre or uni-structural stage but it is clear that the three respondents above felt that history at university was making different demands of them in terms of how they viewed the subject and how they were expected to perform as a history undergraduate. Some felt the task of an undergraduate is to distinguish between right and wrong versions of history, with history seen simply as 'information':

I found myself wanting to go and wanting to look for things that may prove my own ideas right or wrong. I feel this is a sign of a historian. Presentations were in-depth and tested your historical knowledge to a large extent. (Ge)

Again more advanced ideas reflected, in a very direct manner, notions of critical and reflective thinking. Perhaps more significant were the comments which revealed an understanding of the conceptual ideas which shape the nature of the discipline:

The main point of my degree was to give me an outlook on information that causes me to analyse it critically ... I quickly got into the habit of examining books from the point of view of who wrote them and in which year. ... Modules on sources and methods made me think about the validity of material and the potential for bias that the author may possess. Over the course I started to instinctively question the conclusions of any author and tried to find comparisons where possible. It seems to me that developing an ability to critically analyse material is one factor that separates someone who is interested in history from a graduate historian. (Gr)

The second and third prompts asked the group to focus on becoming effective learners and what contribution teaching made to their own learning. The group were less confident with this topic and there were fewer responses. Some believed that they had responded to all three prompts in the one comment. The comments were all descriptive either providing accounts of the physical processes of sitting down with sources or assertions that seminars were good learning experiences. In these instances they indicated that group or collaborative learning was important.

I learnt how to particularise, as well as generalise (we were often given different areas within a particular topic to look at), and how to question and be questioned. Sharing knowledge amongst a group really highlighted the never-ending possibilities in approaching a discussion-topic - I acquired knowledge through a variety of perspectives, not least those of my tutors, and left university with a knowledge of histories (e.g. women's history), rather than one grand narrative. (K)

In terms of teaching the group were able to recognise what was ineffective: seminars where discussion was just expected to happen – lectures that were 'almost pointless'. The assessment by K of her experience of being taught at University is different:

Teaching was an undoubtedly an important element of my degree. Lectures helped stamp the course with an imprint of personality (I learnt to reflect on and respond to an individual's particular interpretative approach) and helped me to recognise long-term trends and patterns, continuity and change etc., but despite this invaluable opportunity to tap into specialist knowledge, I came away from university more grateful that I'd been taught how to learn. As a history graduate I can listen, engage with and respect the reasoned views of others. (K)

These discussions appear to be significant for two reasons. First they demonstrate that the group are capable of developing a critical and reflective approach to their own thinking, they are also able to articulate what it means to be a graduate historian as opposed to simply describing the modules they studied as part of their degree. As beginning teachers they are also demonstrating a rudimentary awareness of effective teaching and learning. In terms of the quality of responses, there was a higher degree of reflection in the comments relating to what it means to be a history graduate whilst comments focusing on teaching and learning tended to be more descriptive. This awareness of the contrasting but also complimentary role of history graduate and history teacher is something that became more apparent in later discussions.

## **Modelling teaching activities to develop metacognition**

The instructions for the timeline activity made it clear that this was an activity which required them to solve, in groups of around 10 students, a problem by using their abilities as history graduates. At the end of the session the links to subject pedagogy were made explicit demonstrating how the conceptual ideas and structures they had been working with were also a significant part of the history national curriculum. The activity was set in the context of an introduction to planning and the role and purpose of the conceptual structures of the national curriculum in devising learning objectives for lessons. Whilst beginning teachers are able to understand the nature of the KSUs as conceptual and procedural tools they find it more difficult to understand how they can be used to give purpose and direction to learning objectives.

As might be expected from a 'mixed ability' group there were a range of responses. A significant minority in the group, (20%) felt more comfortable simply commenting on how they felt that the exercise had developed referring to difficulties in agreeing the allocation of tasks to views referred to above which looked at the task in terms of a KS3 classroom. Many comments began by describing the way that the group set about tackling the activity and commenting on the learning which began to take place when the timeline was being constructed. They also viewed the timeline activity as managing a vast amount of content and did not necessarily pay much regard to the conceptual framework provided in the instructions.

However, whilst the focus of the activity was not specifically concerned with teaching methodologies it is clear that the group as a whole appeared to have appreciated that some of the initial difficulties that they faced were down to the group size and to the 'discussions' that focused on organising the task:

As a lesson I'd have made the group sizes smaller and made the objectives of the exercise clearer. The lesson would have also had to have been structured so as to take into account the length of time in a lesson. How much could this accomplish in 50 mins? Group activities have their benefits, notably the combination of different opinions and viewpoints. (PK)

Such comments demonstrate an ability to move between learning and teaching situations. It may be relevant here to note Kember's views (2001) about 'novice' and 'expert' where learners make progress from one state to the other in a way that is anything but regular or predictable. This was therefore an unexpected but interesting outcome. The level of reflection also differs between the simple observations that group sizes were too large to more considered reflections which demonstrated the ability to relate the nature of the task to the history classroom in a very specific manner.

Where the initial responses focused more on the pedagogy of history teaching, it demonstrated an element of critical reflection in terms of working with complex ideas, the ability to use evidence and to make or argue for reasonable judgements and an ability to comment in a thoughtful way. Reflections expressed the view that the activity had helped

them to understand how the KSUs work and how the conceptual structures inherent in the KSUs provide a focus for teaching and learning. The more reflective comments tended to be more individual. MB's views were interesting because they demonstrate an awareness of what kind of learning is more (or less) effective:

I found that the basic concept of devising a time-line to incorporate the information we were given was of limited value, as much of the data could not easily be fitted in chronologically. Rather, we were dealing with on-going trends. For me, it is an open question what format might have worked better in this case. Any suggestions?

For my own learning style, I found the final assignment (writing a half page) a very effective way to pull all the strands of my understanding together. This might not suit everyone, however. Nonetheless, a mix of teaching methods is presumably a good way to help different pupils to benefit from the ones that most suit their individual learning styles. (MB)

The second paragraph perhaps explains why MB found the timeline activity less than satisfactory. Compiling the paragraph summarising the evidence presented in the timeline was, he felt a more effective activity. RH appreciated the way that the graphic nature of the timeline enabled new 'subject knowledge' to be assimilated, more than that the conceptual frameworks made the material more 'digestible':

Working with unfamiliar material in an active context was an easy way to gain subject knowledge, and reference to work done by other members of the group facilitated an analytical approach that could be used in a classroom.

The timeline was one way of structuring the material in an easily digestible format, although much of the material we were working with was not conducive to placing at a specific point in time. Nevertheless a timeline presented in a simple graphic format that aided the explanation and analysis of changes over time. (RH)

Finally the timeline was all about the bigger picture and this was highlighted by KM who specifically referred to the longer time span, the idea that deep historical understanding comes from being able to understand the longer term patterns and trends.

The exercise based on 'Earthly Necessities' by Keith Wrightson gave me plenty of scope to develop both by subject knowledge (socio-economic change between 1650 and 1750) and skills of historical enquiry.... This involved identifying key themes, such as demographic change and agricultural/ industrial advances, which threaded these facts together. After targeting a specific area - in our case demographic change - we had to decide which the most important facts to include were, and this involved analysing their significance, both in terms of what preceded and what succeeded them. We felt that both general and specific facts were necessary to describe the period 1650-1750 in terms of demographic change. We identified areas of both continuity and change, but from our work could see an overall pattern emerging, and this was one of general population increase, and mass urbanisation. (KM)

The post session reflections, meanwhile, required the group to use their timelines to summarise the main social and economic trends relevant to their particular period. This emphasised the conceptual structure of the enquiry and linked, in a very explicit way, the same conceptual structures – significance, cause and consequence, similarity and difference which are part of KSU2. The comments by MB above in this summary exercise are valuable. Whilst he felt that the activity itself did not suit his own 'learning style' the timeline did enable him to assimilate the range of ideas which were presented in a very incisive and articulate manner.<sup>iv</sup>

## **The role of epistemology and criticality**

The final stage of this inquiry focuses on a summative assignment which pulled a number of threads together from the course, involving each group selecting one of the conceptual structures in the history National Curriculum, and exploring what the structure involved; with students then writing an individual report on the basis of their group discussions<sup>v</sup>. We present here a selection of the work of two students, along with an initial attempt to analyse the beginning teachers understanding and engagement with critical thinking and subject epistemology. A further, more systematic, analysis that identifies themes across the students' work as a whole would be of further value, although here we picked out extracts that highlight key themes raised elsewhere within the study.

The first issue that we highlight in this way concerns the concept of causation; with a connection evident between understanding a concept and practice in the classroom. We see, for instance, EB displaying a high level response which recognises that concepts are blurred – that causation needs to be explained **and** that explanation might take the form of an 'account' of causes. The way this is understanding links to professional literature is also significant as is the awareness that this links to everyday practice in the classroom:

'Whenever 'explanation' or 'causation' creeps into our learning objectives it is actually very difficult to identify what we want pupils to do.' (Counsell 1998 : 2)

Clearly, individual teachers need to look hard at their learning objectives and lesson plans and work out exactly what they want the pupils to achieve. (EB)

There are further a number of dilemmas for EB: understanding causation is a difficult concept for pupils to grasp and needs to be taught **but** successful learning depends upon pupils having a sound appreciation of 'the history' Understanding or 'knowing' the story is important and by developing this understanding 'meaning' can be established. EB thus displays a grasp of history and how historical understanding might be constructed:

Personally, I feel that there is an important balance to achieve here. Pupils cannot understand the causes of an event unless they understand the concept of causation to begin with. They will never be able to produce a meaningful analysis of the causes of an event unless they have been trained to do so. However, this 'training' should not get in the way of the history; the concept and content should work in partnership to enable a pupil to develop a rounded understanding of the topic. (EB)

The link with epistemology is clearly relevant here. A similar connection is evident in a further extract, where, working from personal epistemological beliefs, NG realises that a conceptual element of the National Curriculum is problematic:

Professional authors on the subject of teaching history appear to regard comparison as an issue which is difficult to understand and relatively difficult to teach. Asking a KS3 class to compare different societies requires these students to have a relatively sound understanding of two or more periods. It also requires pupils (and teachers) to step outside of the traditional view of history as a series of events, which should be learnt chronologically and separately. (NG)

The first barrier to understanding is the contextual understanding of pupils – they need to have a wide ranging understanding of different histories. The second barrier is the way that history tends to be taught. For such an approach to be successful NG believes that comparative history has to be taught in a more direct way.

The second stage of the exercise underpinning this assignment comprised classroom observation. With the agreement of mentors, the students had to observe a lesson being taught which had, as its focus the specific KSU. It was hoped that they would be able to relate their initial reflections on the nature of this concept to observed practice. The intention was that their observations would be based on a firm understanding of the concept and what teaching

and learning about this concept might involve. Initial observations by beginning teachers inevitably focus on the superficial elements of a lesson but a developed understanding of the conceptual structure of the discipline informed their observations and enabled them to develop a more critical perspective. Formative comments by the subject tutor suggested a framework for observations which suggested ways of working from preconceptions to impressions to informed reflection on observed practice.

We see in the students' work evidence of critical thinking in relation to this classroom teaching. EB, for instance, was aware of the successes of the lesson – which conceptual understanding was developing at the same time as pupils' historical understanding. There was also a level of critical awareness that the pupils' conceptual understanding needed to be developed further.

One thing that this lesson lacked was the opportunity for pupils to attack the concept of causation itself. There was no point in it where pupils categorised causes or tried to put them in order of importance. Pupils grasped the idea of causation but did not explore it in any depth. This enabled the pupils to accept that the causes of the poor urban living conditions were many and complex, with no dull 'ranking' exercises. (EB)

Meanwhile there is evidence also of criticality in the work of NG. The importance of time charts / lines has already been identified as a personal aid to understanding but we further see this linked to professional literature. NG also recognised that there was likely to be a number of different views but significantly the role of discussion in developing understanding was seen as important:

Use of 'illustrated time-charts. . .', is cited (Haydn: p117) as an effective way of allowing pupils to identify and comprehend change in an overall context. However the importance of discussion in analysing how and why the trends and patterns emerged should not be underestimated. Pupils produced remarkably different conclusions and opinions from the work, and thus class discussion about these differences was imperative in encouraging pupils to think about the different ways in which history can be interpreted depending on your prejudice or standpoint upon issues. Pupils themselves discussed highly complicated areas of historical theory, guided my teacher input and formulated individual and interesting conclusions to the lesson. (NG)

The final stage of the activity underpinning this assignment required the cohort of students to plan and teach a single lesson with the chosen concept acting as a learning objective. In terms of their own professional development the activity was designed to demonstrate how learning objectives and subject specific concepts are inextricably linked. In terms of developing a critical and reflective approach it was intended that the lesson planning task would illustrate how the conceptual elements of history, both as an academic discipline and as a curriculum subject, provide a framework for learning objectives. The previous stages of this assignment also helped to inform their initial planning. Their theoretical understanding and their developing practical awareness also provided a sound base to begin reflecting on their own practice.

We see in the complete assignment that EB, for instance, as a result of critical reflection, is able to relate what happened in the lesson to professional literature. This in turn has enabled E to develop an informed and critical approach to teaching.

Once the pupils had fully grasped the idea of causation, it was time to allow them to apply their skills to historical content. My aim was to enable the pupils to transfer the skills they had acquired to historical content, as outlined by Vaughan Clark: 'The use of patterning and repetition of the type of task can also help the pupils to see these skills as transferable to different historical contexts.' (Clark 2001 : 27) (EB)

Taken as a whole, EB's assignment indicates that significant learning has occurred, with a good understanding of the conceptual elements of the History National Curriculum, a critical awareness of the problems which teachers face when trying to teach these concepts but more significantly the capacity to evaluate the effectiveness of teaching and learning in a highly reflective way.

NB meanwhile was able to employ a number of techniques that demonstrated an ability to employ a thinking skills approach directly within the classroom:

As pupil's final assessment for the module involves writing a Roman Story set in a place in the Empire, I decided to incorporate five places into the lesson from all over the empire as this uses KSU2d. I also looked at the places over a 50 year span of the year their story has to be set in. The format of the lesson can be seen on the lesson plan, but essentially involved pupils being put into five groups, each looking at a place within the empire. ... Pupils were then given a 'living graph' worksheet (see resources) as drawing this out themselves would have taken a while and we discussed how they worked. Pupils then needed to fill in a key with a colour for the three elements and using a source pack per group needed to decide how happy or sad they would have been in each location during the fifty-year period we looked at. ... The final part of the lesson involved a discussion about where would have been the safest, most entertaining and comfortable places to live, we also talked about these as a combination, e.g. 'Was it more important to be safe and comfortable but not entertained?' (NG)

We see well tried thinking skills techniques at work here, but also an appreciation of the ways in which a relatively simple pupil task can be extended to address conceptual issues. This would move pupil learning beyond simple reconstruction of the past and develop awareness that history involves different perspectives which can be affected both by time and by geography. The comparative element of this task therefore becomes more important. This shows a developing level of sophisticated thinking in terms of what pupils are expected to learn. It also continues to demonstrate a real understanding of the nature of historical knowledge. Again the account of the discussion reveals a significant level of conceptual awareness where aspects of life in the Roman Empire could be compared across time and place; the variable aspects of life could also be combined, enabling pupils' to develop a series of layered understandings.

While these extracts are selective, we gain insight into the more sophisticated understanding that is in evidence towards the end of the course, displaying as it does ways in which the use of a thinking skills approach is underpinned by personal beliefs about the nature of knowledge within the field of history, and also by a willingness to engage in critical reflection on the use of the approach within the classroom. This provides illuminating detail in exploring the underpinning basis for inducting beginning teachers into a thinking skills approach.

## Conclusions

There is a desired 'end product' for history graduates on a PGCE programme: beginning teachers who are critically reflective, who are able to analyse their practice, set targets for their own development with an ability to plan for their pupils' future learning. But experience indicates that the route to arrive at such an elevated state of being or consciousness is fraught with difficulty. A model of the professional craft knowledge of history teachers suggested by John (1991) assumes that knowledge is largely fact driven and determined by classroom experience. But there is little or no acknowledgement of the conceptual knowledge and understanding that graduate historians arrive with at the start of their PGCE year.

Certainly PGCE students occupy a different or unusual position: 'experts' within a subject discipline and novices in the professional field of teacher education but that is not the whole

picture. The evidence suggests that graduate historians' understanding of their subject epistemology is not well developed. They have been taught – or they have discovered, how to become graduate historians but they are not necessarily self conscious about how they might think like graduate historians. Current models of initial teacher education often require beginning teachers to audit their subject knowledge at the beginning of a PGCE year but these are often simplistic and designed to highlight what the graduate does not know. Such audits take little or no account of the history graduates' skills and attitudes of mind and how these might connect with subject specific pedagogy. The marked similarity between the epistemology of history as an academic discipline and the conceptual structures of history in the school curriculum provides a natural starting point for developing the critical thinking of beginning history teachers and the fostering of a Learning to Learn philosophy in post graduate teacher education.

While we recognise the limitations of this present study, it has been clear that both personal beliefs about epistemology and the readiness to explore critical perspectives, in relation to both the discipline itself and to teaching, play an important role in underpinning the use of a thinking skills approach within the classroom. We see that to develop students' metacognitive ability, and to enable students to follow a Learning to Learn philosophy in their own practice as teachers, pedagogic approaches used within ITT need to make more effective use of such strategies as: tutor modelling and the development of rich tasks; careful attention should also be paid to the overall coherence of these tasks, sitting them within a real life context. It is also important that we allow time and space for reflection.

We have sought to raise awareness of how beginning teachers' distinctive disciplinary 'knowledge' of history, informed as this is transferable to the secondary school history curriculum and, more specifically, the effective teaching of it. But it remains essential that we further explore the mechanisms by which beginning teachers might become critical and reflective by the end of their PGCE year.

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## Appendix 1 : Cohort Profile

**Cohort size:** 40 – interviewed between Nov 05 & June 06

**University:**

Redbrick	17
1960s	11
New Universities	5
H.E. & Even Newer Universities	7

**Degree Classification:**

2i	=	21
2ii	=	19

**Age Profile:** Mature = 15

### Geographical Origins:

New	6,	Moved to region to undertake PGCE
Stayers	3	Moved to University in NW and undertaking PGCE in NW
Returners	2,	Returning to NW to undertake PGCE
N.W. based	29	1 <sup>st</sup> degree and PGCE in NW

### Degree Profile

Chronological		Geographical		Types		Degree	
Medieval	32%	British	72%	Hist Theory	32%	Single hon	24
Early modern	45%	European	65%	Genres	12%	Joint hon	9
18th Century	40%	USA	47%	Dissertation	37%	Combined hon	4
19-20 Century	72%					Am Studies	1
						Archaeology	1
						M.A.	1

## Appendix 2

### Comparison of Degree Learning Outcomes and Key Concepts & Key Skills

QAA Benchmark Statement	Knowledge Skills & Understanding
<p>ix. awareness of continuity and change over extended time spans</p> <p>viii. a command of comparative perspectives, which may include the ability to compare the histories of different countries, societies, or cultures</p> <p>ix. awareness of continuity and change over extended time spans</p> <p>viii. a command of comparative perspectives, which may include the ability to compare the histories of different countries, societies, or cultures</p>	<p><b>2 Knowledge and understanding of events, people and changes in the past</b></p> <p>2.a to describe and analyse the relationships between the characteristic features of the periods and societies studied including the experiences and range of ideas, beliefs and attitudes of men, women and children in the past</p> <p>2.b about the social, cultural, religious and ethnic diversity of the societies studied both in Britain and the wider world</p> <p>2.c to analyse and explain the reasons for, and results of, the historical events, situations and changes in the periods studied</p> <p>2.d to identify trends, both within and across different periods, and links between local, British, European and world history</p>
<p>v. an understanding of the varieties of approaches to understanding, constructing, and interpreting the past;</p>	<p><b>3. Historical interpretation</b></p> <p>a. how and why historical events, people, situations and changes have been interpreted in different ways</p> <p>b. to evaluate interpretations.</p>
<p>iii. an ability to read, analyse, and reflect critically and contextually upon historical texts [12 (ii), 18];</p> <p>iv. an appreciation of the complexity of reconstructing the past, the problematic and varied nature of historical evidence</p>	<p><b>4. Historical enquiry</b></p> <p>a. identify, select and use a range of appropriate sources of information including oral accounts, documents, printed sources, the media, artefacts, pictures, photographs, music, museums, buildings and sites, and ICT-based sources as a basis for independent historical enquiries</p> <p>b. evaluate the sources used, select and record information relevant to the enquiry and reach conclusions.</p>
<p>ii. the ability to develop and sustain historical arguments in a variety of literary forms, formulating appropriate questions and utilizing</p>	<p><b>5) Organisation &amp; communication:</b></p> <p>a. recall, prioritise and select historical information</p> <p>b. accurately select and use chronological</p>

<p>evidence</p> <p>xi. an ability to design, research, and present a sustained and independently-conceived piece of historical writing</p> <p>xiii.ix clarity, fluency, and coherence in written &amp; oral expression</p> <p>xv. the ability to work collaboratively and to participate in group discussion</p>	<p>conventions and historical vocabulary appropriate to the periods studied to organise historical information</p> <p>c. communicate their knowledge and understanding of history, using a range of techniques, including spoken language, structured narratives, substantiated explanations and the use of ICT.</p>
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### **Appendix 3. Pre-course discussion forum prompts.**

Subject Knowledge Discussion: Starting the Course.

This is the first in a sequence of discussions about the nature of subject knowledge. By contributing to this discussion you will, hopefully, become more aware of the nature of learning history. The subject knowledge audit is in many ways an unsatisfactory way of measuring the way your subject knowledge develops over the course of your PGCE year. The way the QTT Standards are written - and 'tested' by Ofsted focus on content:•  
what topics have you taught?

- how did you learn the facts?
- what books / reading helped you to understand the facts?

This view of subject knowledge requires you to account for the history you did at University. If we asked you to write about the history you did for your degree you would describe the content of the courses or modules, you would rightly claim to have varying degrees of expertise or competence in early history or modern history (or early modern); additionally you may have detailed understanding of regional history or womens' history.

We want you to develop an understanding of effective learning in the history classroom and therefore the first stage in this discussion is to ask you to reflect upon what you learnt during your degree. The point already made is that this is not about the content of your degree but about your learning processes over the course of your degree.

#### **Discussion Point 1:**

How did your history degree enable you to become a graduate historian? You may need to define for yourself the skills and qualities or attitudes of mind which a graduate historian should possess and then try to match these up to your graduate skills and understanding.

#### **Discussion Point 2:**

How did you become an effective learner? Again this is more than accumulating facts or making notes from a text. How did your degree help you to develop the skills and understanding identified in 1 above. Are you able to identify particularly effective activities which had a marked impact on the development of your "graduate-ness"?

#### **Discussion Point 3:**

What contribution did teaching make to the development of your "graduateness"?

#### **Structuring your responses.**

Rather than stating 'seminars were effective' you need to develop a reflective and analytical approach:

- What happened in seminars?
- How were discussions / activities structured ?
- What contribution did tutors or fellow students make to developing your understanding.

#### **Posting your responses.**

Begin with your own views / responses to the 3 discussion points. This discussion requires more than a single contribution. Effective learning is also about interacting with points made or issues raised by other members of the group.

Participating in these subject knowledge discussions is also a way of demonstrating that you are meeting elements of the Subject Knowledge and Understanding QTT Standards.

## Appendix 4 Timeline Activity

Keith Wrightson: 'Earthly Necessities, Economic Lives in Early Modern Britain' 2002.

This is a wide ranging summary of economic and social development from the end of the 15<sup>th</sup> century to the middle of the 18<sup>th</sup>. You will be using summaries of the text to produce a linked series of timelines for the period.

You will be working across a more closely defined time period:

- 1470 – 1550.
- 1520 – 1580.
- 1580 – 1650
- 1650 – 1750.

You will be expected to identify significant social and economic changes which characterise your period, you will need to be able to:

1. Identify characteristic features at the beginning and end of you period.
2. Identify significant patterns, trends and changes.
3. Analyse the nature of the causal factors.
4. Analyse the results of changes.
5. Identify the significance of changes in the short and longer term.

Wrightson's book is an evidence rich survey of changing patterns of the social and economic life of England, Wales and Scotland during this period. Your second task requires you to separate out the social and the economic changes and developments. At the same time you must be able to demonstrate how and where economic developments directly impact upon society.

You will be working with continuous rolls of paper which will enable you to depict the developments in a linear manner. In this way the history becomes more dynamic. You need to think about the ways that you show how the concepts identified 1-5 above can be depicted and tracked across your period.

The exercise is designed to make you more aware of your graduate history skills. You are not at this stage trying to create a worksheet for KS3 pupils

## **Appendix 5: Phased development of epistemological understanding**

### Stage 1 Sept October

- Reflecting on the nature of a historical concept or skill:
- Demonstrating ability to link graduate understanding to academic literature.
- Exploring links between graduate construction of understanding and professional knowledge / literature.

### Stage 2: early November

- Observing mentor teaching historical concept / skill
- Attempt to relate observations to professional / academic literature.
- Develop an element of critical reflection in observation.
- Guidance suggested working from impression / preconception to reality.

### Stage 3: early December

- Prepare and teach own lesson with focus on teaching historical concept / skill
- Attempt to link evaluations to professional / academic literature.
- Develop critical reflection in evaluations.
- Guidance suggested focus on expectations of teaching concept with link to reality of teaching this concept.

**Appendix 6. Fig 2. Epistemology and Progression in Historical Understanding (adapted from Booth & Moon)**

Stage	Description – student understanding	Characteristics	Baxter Magolda’s Domains
Pre-structural	History is about learning things about the past	A superficial view of history, sees subject as received knowledge, believes that there is a single, simple received or correct view.	Absolute Knowing – seeking or absorbing knowledge: dualist view where knowledge is either right or wrong Teachers seen as source of knowledge / information
Uni-structural	History is about getting the facts and putting them down in an orderly fashion	Sees history as simple sequence of events, has an understanding of evidence as information & that history is created by putting facts together. The result is a series of simple narratives	
Multi-structural	Understanding in is about seeing what historians views are and how they differ	Understands that historians have different views, that these can be shaped by the way evidence might be selected or that historians hold different views. Understanding history is simply about knowing or listing these different views. A more advanced understanding at this level might indicate similarities and differences. No real appreciation that differences might be explained / understood by historiographical tradition	Transitional Knowing: a perception that knowledge might be less or more ‘correct’, that knowledge might be uncertain, by inference it might be possible to prove one view is more ‘right’ and that it is possible to arrive at a conclusion
Relational	Understanding is about comparing and contrasting interpretations, understanding how different historians views fit together and reaching an independent conclusion	Developing a more sophisticated understanding of history, a more systematic series of connections are created, awareness that there is a process in creating historical understanding which is as significant as the process.	Independent Knowing: Knowledge might be right or wrong but it is possible, based on evidence to have a view of an event or to make independent judgements.
Extended	Understanding is seeing different perspectives from the past and the present. How views are a product of their time and shaped by changing ideas and ideals.	Developing a level of original thinking, begins to see that history is mediated by the wider world and by the self. Understands that questions raised in historical enquiry have wider implications. Ability to engage in critical reflection and self reflection on the discipline	Contextual Knowing. Knowledge is constructed, it is tentative, based on available evidence and can be relativistic. Teachers seen as facilitators in the development of knowledge





# Chapter 7

## Conclusions towards an enabling framework for the ITT provider

### Reflection

Before drawing conclusions towards an enabling framework for the ITT provider, it is appropriate to pause for thought and to reflect on the project itself as an act of 'research' in its own right – the important point being that the initial impetus for the research and the process of carrying out the research itself gives insights into how an enabling framework might best be promoted. As discussed earlier in Chapter 2, the situation with ITT provided a challenging environment within which to conduct a project advocating the Learning to Learn agenda – the purpose of which being to contribute to a body of knowledge that shapes and guides the pedagogy of ITT. The project, particularly at its start, was bitty and fractured; emphasis was effectively placed on the project leader as enthusiastic 'outsider' passing on information to a small group of interested individuals. Furthermore, communication of L2L ideas was more akin to one-off events rather than it being holistic, coherent and integrated as part of whole school staff development. Whilst evidence of thinking on tutor practice was captured in an initial questionnaire and during the staff development days themselves, the data was drawn on, primarily, to act as an impetus for vision and experimentation with one's own practice *only*. Such levels of investigation, whilst important, are not necessarily viewed as 'research', the purpose of which is to inform public knowledge. Here, evidence gathering methods and conclusions are verified by those outside of context and appropriate critical use is made of the relevant literature[CS1].

With a view to re-energising the project, members of the emerging project team met with Professor Guy Claxton (an advocate of L2L with an interest in the use and application of it within the ITT context). During this meeting Claxton posited the notions of 'will' and 'imagination', 'rock thinking' versus 'water thinking' and 'smart ways of trapping people' as important ideas to consider when pursuing such a project. He confirmed the worth of individuals carrying out action research into their own practice, the accumulative effect being potentially interesting to disseminate.

Elliott (2000) indeed argues that educational research (as opposed to research on education) is itself best viewed as a form of action research[CS2] directed towards the moral/practical ends of education rather than the discovery of disinterested facts about education' – practice is thus placed in a central role; and the challenge is rather to ensure the relevance of investigation into one's own practice to the practice of others.

An external advisor to the project, Dr Peter Kahn, also provided strategic support to the project team as an external advisor; in addition to his role in contributing to this report. As part[CS3] of his meeting with the project team he explained how one's ability to introduce new initiatives depends in significant part on the strength of one's networks. The challenge, therefore, Peter argued, is to establish a clear focus on relationships with colleagues. This input drew significantly on work by Gustavsen (2001), who draws out the relevance of social organisation in determining capacity for initiating, developing and putting ideas into effect. Peter also paid attention to the importance of persevering with a development, and to be mindful of how our belief in our capacity to make a difference influences the success or not of a proposed development; and here he drew on such notions as self theories (see Dweck, 1999, for instance). Of particular note, too, was the importance Peter placed on the role of dialogue as a central factor in enabling reflection on learning, and, also, through social constructivist theories in enabling learning itself[CS4].

Dr Jenny Moon, was also invited to support the project team at one of our cross-institutional face-to-face days on the use of 'reflective journals' and to discuss how 'reflection' can be viewed as the *best possible*

*representation of learning*. Her expertise in the area of 'reflection' was sought after since the project team were encouraged to keep a reflective journal as a primary tool for data collection. Furthermore, the tutors, to varying degrees, were exploring the use and application of 'reflection' in their programmes of study as a focus for their action research.

While progress was slow in relation to the initial outcomes of the overall project, it is evident that with the practitioner investigations, the project, has moved to a deeper level involving 'assimilation'. Here the emphasis shifts from receiving information to taking action within ITT programmes, albeit on a more modest scale than originally envisaged. The shift to this second stage of the project has individual members of staff offering their own commitment to Learning to Learn practices. It is this commitment that led the project forward, rather than any institutional commitment, constrained as such commitment seems to have been by the environment for ITT. The initial phase of the project did, however, help to shape the focus of the four practitioner investigations that followed, highlighting issues of relevance to do with: (1) a focus on content within ITT and NC; (2) trainee's beliefs about what counts as knowledge and their conceptions of learning; (3) relationships between 'trainees as learners' and 'trainees as teachers'; (4) tensions between tutors' espoused teaching philosophy and actual practice; and (5) individual tutor's resilience and resourcefulness in responding to a constrained environment.

While it is clearly possible for individual ITT practitioners to move forward their own investigations into the use of Learning to Learn perspectives, if we are to embed such perspectives more fully across ITT provision then it is essential that we engage both entire programmes and indeed whole Schools or Faculties well. We thus conclude the report by considering, more briefly, these issues; in attempting to develop an epistemic culture that supports Learning to Learn, which, as Claxton argues, has 'to do with thinking, knowing and learning'.

In taking this approach to our conclusion, rather than in seeking to draw together different strands from the individual studies, we thus effectively allow each of the practitioner studies to stand on their own as individual responses. Nonetheless these studies have exposed important connections between trainee teachers' epistemological beliefs, conceptions of learning, and the conceptions underpinning their pedagogy when working with children in school. In this we have seen the underpinning of various beliefs and conceptions, as well as fundamental issues such as dialogue, self-identity, and the influence of the emerging professional context of practice. Yet, to date, these issues have received little attention within research on Learning to Learn (L2L), given its more immediate focus within the school setting. Further more extended or systematic research will clearly be of value in exploring these issues further, as we believe that the climate is now ripe for such research.

We thus move on now to consider ideas towards an enabling framework for embedding the Learning to Learn agenda within ITT. Ultimately, our intention is to help ITT practitioners develop a conceptual and analytical framework for investigating and evaluating the learning of trainee teachers with the aim of understanding more about the ways their capacity to learn may be developed. This, we do, by raising a series of rhetorical key questions (see below). Our approach is informed by one of the most authoritative accounts of learning and its application to education *How people learn: brain, mind, experience and school*, edited by the cognitive scientists Bransford, Brown and Cocking (2000). They state that learning theory raises implications about the design of effective learning environments which they describe as: learner centred; knowledge centred; assessment centred; and community centred; each is derived from, and is compatible with, research. Indeed, their discussion on the enabling framework is cognisant of the nature of learning/learning theory that is associated with the promotion of L2L as discussed in Part One (e.g. Rawson, 2000; Moon, 2006; Poerksen, 2005). Furthermore, Bransford, Browns and Cocking's (2000) notion of an effective learning environment reflects the pedagogic insights emerging from the series of investigations into actual ITT practice (as set out in Part Two). Alongside this framework we provide a series of prompts or reflective cues to simulate deliberation.

In taking this framework further, we believe that it will be particularly important to consider ways in which it might align with the revised QTS standards. If the deliberation that we seek to stimulate in our concluding observations is actually to result, then it is important also that such thinking links to the concerns held by those with responsibility for shaping the wider learning environment; and the characteristics of funding and regulation within ITT will clearly influence these concerns.

Here, however, we conclude by considering the framework under Bransford, Brown and Cocking's (2000, pp 12 - 14) ideas about the four interrelated attributes of effective learning (to learn) environments. We follow this by offering a further set of reflective cues that address the Learning to Learn agenda more directly. This agenda sits most directly within the notion of a learner-centred environment, paying attention as this does to the capacities of the learner. However, such capabilities are also essential to the development of understanding, as we have seen earlier within this report; and thus to the possibility of a knowledge-centred environment. And if we consider more specifically the development of these capabilities then assessment and the social context are also relevant.

### **L2L in ITT – towards the establishment of an ‘enabling framework’**

*Learner-centred* refers to environments that pay careful attention to the knowledge, skills, attitudes and beliefs that learners bring to the educational setting. It relates to the concept of diagnostic teaching, which starts from the structure of the () [student's] knowledge. It is well established in cognitive science that learners always know something about the issue at hand and what they know is always their starting point for making sense. If the teacher's starting point is very different, then teacher and learner swiftly part company. The best students will then struggle to remember what the teacher teaches – and forget it quickly after any test or examination. Long term understanding comes through learner-centred teaching or provision.

#### **Key questions:**

1. What strategies are used to ascertain learners' pre-existing subject knowledge, including potential misconstructions?
2. What strategies are used to ascertain learners' personal beliefs about knowledge and their conceptions of learning?
3. What strategies are used to develop their beliefs about knowledge and conceptions of learning?

*Knowledge-centred* environments provide for learners' understanding rather than mere performance. In understanding, students learn how to use and apply their skills and they also learn the structure of subjects as well as the content. They learn how a subject works and what its big ideas are. This involves approaches to teaching that help students 'learn the landscape' of the disciplines in the curriculum. This is analogous to learning to live in an environment: you learn your way around, you learn what resources are available and you learn how to use those resources in conducting your activities productively and enjoyably.

#### **Key questions:**

1. How are subject/discipline-related thinking skills and techniques introduced and developed?
2. What strategies are used to develop learners' understanding of the particular epistemology and language of the subject/discipline?
3. What opportunities are available for the learners to reflect upon their individual thinking skills and their ability to transfer knowledge to new contexts or to develop new knowledge structures?

*Assessment-centred* environments are strong in formative feedback to learners. It is crucial to, and well exemplified by [the notion of] assessment for learning...

**Key question:**

1. What assessment and/or evaluation opportunities, including self-assessment, peer assessment, formative and summative assessment, are used for the purposes of:
  - motivation
  - informing
  - providing feedback
  - facilitate learning

*Community-centred* environments recognise that classrooms are embedded in a larger community of homes, businesses etc and that connection should be made explicit in the design of learning experiences. There is a norm that people will learn from one another and will try to improve their learning. Implications of this concept include building good home/family support for learners and learning and maximising the capacity of students to use in school that which they experience out of school. Also implied is the employment in school of a wide range of out-of-school experts as teacher supplements.

**Key questions:**

2. How do you become aware of the reasons for learners choosing your programmes?
3. In your experience, what are the principal factors influencing learners' choices?
4. What, in your experience, are the principal barriers to learners' participation and their development, once they are on the course?
5. What, in your opinion, characterises successful learning communities?
6. What strategies are used to encourage the development of learning communities and how do these facilitate the development of new knowledge?

**Further reflective cues for specific aspects of L2L**

*Affective and cognitive capabilities*

The notion of L2L, as set out by the Education Council within the European Union, places[CS5] emphasis on key competencies/qualities, both affective and cognitive, for lifelong learning being developed and adopted.

- To what degree does your curriculum promote social skills such as 'learning relationships', 'motivation', 'confidence', 'learning strategies', and the ability to overcome obstacles'?
- To what degree does your curriculum promote cognitive abilities to do with the 'capacity to gain', 'process and assimilate new knowledge' and 'organising one's own learning'?
- To what degree does your curriculum combine the social and cognitive dimensions of L2L?
- To what extent does your curriculum build on prior learning and life experience and emphasise the multiple environments where this competence can be utilised?

*Meta-cognition*

The DEMOS report places meta-cognition at the core of family practices that they identified as comprising L2L. Meta-cognition, here, is described as the capacity to monitor, evaluate, control and change how one thinks and learns.

- How does your curriculum promote this higher level of learning?

### *Personal learning*

Rawson develops the position that L2L, to be effective, involves far greater depth of personal learning than skill development alone and that there are important pedagogic implications relevant to the encouragement of this deeper level of learning.

- In what ways does your curriculum involve learners in a self-reflexive process of learning: a conscious examination of his or her learning processes?

### *Critical thinking*

Inextricably linked to higher order learning is the concept of critical thinking. Brookfield views critical thinking as a process that involves identifying and challenging assumptions, questioning the status quo and exploring alternatives. Brookfield's approach typifies the 'pedagogical approach' to critical thinking. He argues that critical thinking should be fostered through the engagement of students' interests and motivations via a facilitated environment. Barnett discusses critical thinking in terms of taking a critical stance – an acquired disposition towards knowledge and action – the implication being that students as learners embark on a developmental journey towards being critical. Thus, it is important to consider how learners are being supported towards becoming more 'critical beings'.

A number of key questions can be asked in respect of the promotion of critical thinking:

- In what ways does our teaching enable learners to become increasingly autonomous and co-constructors of knowledge and understanding?
- How does our teaching encourage learners to make use of knowledge, skills and experience gained beyond the structured learning environment?
- How do the tasks and the feedback provided foster critical thinking?
- How are learners encouraged to develop their understanding of what is meant by 'knowledge' (both generically and as it relates to their subject/discipline)?
- In what way does our teaching challenge the learners to move beyond their 'comfort zone of knowing' and engage in higher order thinking?
- In what ways are learners enabled to feel confident to explore new ideas and to take risks?
- What opportunities are available for tutors to model critical thinking?
- How is assessment used in order to validate the importance of critical thinking and to assist learners to further develop their critical thinking skills?
- What use is made of formative and summative feedback to enable learners to become more aware of their critical thinking skills and assist continued development?
- What principle techniques are employed in facilitating the development of critical thinking skills?

### *Dispositions of the powerful learner*

Claxton describes a powerful learner in terms of 'the Explorer', 'the Investigator', 'the Skeptic', 'the Finder-Outer'.

- What attributes/dispositions do you associate with being a successful learner?
- How do you help learners to see the relevancy of their learning and to develop the confidence (willingness) to engage with the learning when the usual support mechanisms are not available?

### *Epistemic culture*

Claxton posits the notion of an epistemic culture as a particular setting towards the promotion of learning capacity i.e. L2L. Key aspects of an epistemic culture are concerned with the (1) language of learning deployed, (2) the careful selection and use of activities towards a potentiating milieu, (3) split screen thinking towards tasks/activities, (4) wild topics, (5) transparency of curriculum goals towards the promotion of L2L and involvement of students as epistemic co-workers, (6) application, and (7) progression.

Claxton's notion of an epistemic culture is closely allied to a radical constructivist model of learning. Here, (1) learners are viewed as active autonomous makers of knowledge, (2) knowledge is not simply transferred, (3) tutors are not seen as the guardians of truth and certainty, and (4) emphasis is placed on the role of dialogue. Four key role models:

socratic teaching; moderator; cooperative researcher; and perturbation agent are discussed in respect of a radical constructivist curriculum:

- How does your teaching reflect these?

*Drawing responses together*

Draw on your responses to the above to identify and develop the fundamental purposes and underpinning philosophy of your I2L curriculum. Your statement should clearly explain how teaching and learning takes place, what the end goals are for students, and how the philosophy is enacted in practice.

## **References**

Bransford, J.; Brown, A.; and Cocking, R. (2000) (Eds) *How People Learn: Brain, Mind, Experience, and School Committee on Developments in the Science of Learning*. Commission on Behavioral and Social Sciences and Education of the National Research Council National Academy Press, USA

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Elliott J (2000) Doing action research - doing practical philosophy, *Prospero* 6(3/4) 82-100

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# Appendix 1

## ESCalate project

September 2006 – July 2007

### A Critical Exploration of a Learning to Learn Perspective and its Pedagogical Impact on Teaching in ITT

#### Aim of the project:

The aim of the project is to critically explore how the notion of ‘learning-to-learn’ - a family of learning practices that enhances one’s capacity to learn, can be evoked in Initial Teacher Training.

#### Objectives of the project:

1. To identify current pedagogic thinking and practice within ITT
2. To introduce ITT tutors to what learning looks like in the context of lifelong learning and to move towards establishing a shared L2L vision for the type of learning environment and the type of learners we wish to promote within a 21<sup>st</sup> century ITT curriculum
3. To identify any gaps and/or tensions between this vision (see above) and what is currently happening within ITT
4. To identify ‘champions’ or ‘improvement team’ to test out L2L ideas within their own practice and disseminate findings/evaluations
5. To draw on experts in the field of learning about learning, lifelong learning and learning power (and partnership schools familiar with models of L2L and the notion of lifelong learning) to support the Project Leader with the presentation of ideas and practice at a L2L in ITT type conference
6. To develop (interactive) artifact(s) for use with trainees, tutors & school-based mentors

#### Rationale

L2L in preparation for a lifetime of change is increasingly being posited as a main function of education. More specifically, learning in the 21<sup>st</sup> Century is demanding a shift in educational outcomes from what’s worth ‘knowing’ to what’s worth ‘being’. This cultural shift demands a particular view of intelligence to do with *knowing what to do when you don’t know what to do* (Piaget) ie ‘problem solving’. Closely allied to the promotion of a L2L curriculum is an understanding and valuing of research, and to an extent the development of skills of doing research, as being central to what *all* students should experience in higher education. The learning to learn (L2L) rhetoric and its association with ‘inquiry-based’ or ‘research-



informed' teaching has implications for the way we go about planning, assessing, evaluating and tracking for learning. Engagement with the project will bring together our passion as teachers about devising better ways in which our trainees might become more effective learners and the rapid advances that are being made in how learning is understood.

### **Project journey will cover three core components:**

**What?** (Content and context) – the research focus and associated theoretical perspectives

**So what?** (The alignment of theory and practice) - consideration of their (focus & theory) significance for the individual tutors' unique circumstances

**Now what?** (Reflection on (practice) ideas and theory and projection to the future) – analysis of implications of the content, processes and approaches to teaching for learning and projection into future practice.

### **Stages of journey**

1. Collecting and sharing Tutor voices of (pedagogic) experience – 'what we think works'
2. Reflections on T for L theory and research into/on practice via selected L2L readings and introduction to Claxton's notion of Building Learning Power (BLP) as a L2L strategy.
3. Elaboration of (L2L pedagogic) principles in terms of own context and reflections on the journey so far, to include components that are:
  - derived/created
  - adopted
  - adapted
  - developed
  - rejected
4. Towards an ideal pedagogic position posited – collating response to the journey re: 'kind of learners' & 'kind of learning environment'
5. Small scale action-research based projects proposed
6. Artefact(s) created comprising principles & the 'how to' and exemplification
7. Using the artefact(s) to extend repertoire:
  - 'for sharing with students'
  - 'for cpd in schools'

‘for management’ – towards practical application/programme design

‘for leadership’ – vision statements re pedagogy and ITT/TCPD

8. Outcomes:

Process written up for dissemination, prefaced in literature & artefact(s), and informed by critical evaluation from Guy Claxton (international scholar), Mark Schofield (H of TLD), Linda Rush & Laura Osborne (Project Leaders) and participants themselves (ITT tutors (across 4 HEIs) & students).

**Benefits:**

- Use of existing ESCalate money to promote professional development - to experiment and to ask questions about the use of BLP (and related L2L thinking) as a useful vehicle to add value to the pedagogic repertoire in ITT
- Opportunity to work with an international scholar and across ITT institutions (eg The College of St Mark & St John, Liverpool Hope University, University of Chester)
- The promotion of allegiances and a synergy between individuals within the Faculty/School and across institutions
- The capturing of an artefact articulating a L2L pedagogic position
- Articulation of a distinctive, declared pedagogic position for Edge Hill.
- RDAP output

**Timescale and Action:**

Action/Journey Step	Timescale	Costs
Identification of ‘champions’ <i>Note: 20 ‘champions’ have been identified across three HEIs</i>	By July 2006 (Note: Steps 1 – 4 have been completed via a series of staff development days)	
Away-day for self-selected ‘champions’ or ‘improvement team’ (across all four institutions) - this day would cement cross-institutional relationships between likeminded	November 2006	Payment for external speaker(s) to assist ‘champions’ with their approach to data collection & analysis (e.g. Dr. Jenny Moon/Dr. Peter Khan) <i>Note: Mindful of the difficulties of</i>

<p>team members eg managers, subject/phase specialists, aspects of L2L/BLP to be focused on etc. Most importantly, to assist tutors with their critical reflections on their L2L/BLP ‘experiments’, time could be spent during this day inducting tutors into the concept of ‘reflection’ and a range of reflective models that could be drawn on to capture on-going reflection (ie raw data).</p>		<p>meeting up, the Project Leaders are currently proposing the setting up of a web page/portal to assist with the distribution of relevant L2L literature amongst the self-selected ‘champions’. The portal will also allow for online discussion &amp; easy communication between individuals across institutions. It is anticipated that each ‘champion’ will produce a 500 word synopsis (for peer review) of their particular interest, leading towards a proposal outlining their (4-6 month) action research project (for further peer review).</p>
<p>Periodic meetings (intra-collegiate &amp; inter-collegiate) - to allow for the peer review of practice during the course of the year.</p>	<p>October 2006 – May 2007 (small-scale partnerships)</p> <p>February 2007 – Away-day for all project team members (supported by external presentations)</p>	<ul style="list-style-type: none"> <li>• Payment for external presenters who have applied L2L theory to practice (e.g. Professor Lin Norton).</li> <li>• Travel to proposed venue</li> </ul>
<p>Development of artefact(s) for use with trainees, tutors &amp; school-based mentors</p>	<p>February 2006 – May 2007</p>	<ul style="list-style-type: none"> <li>• Transcription and analysis of interviews with team members</li> </ul>
<p>L2L in ITT symposium</p>	<p>July 2007</p>	<ul style="list-style-type: none"> <li>• Venue</li> <li>• Refreshments &amp; food</li> <li>• Key-note speaker(s)</li> </ul>

## Appendix 2

We would like all staff within the School to have the opportunity to influence and hence feel ownership of the Learning Teaching and Assessment strategy – particularly the philosophy which underpins the key principles on which it is based. The staff development day on X will provide us with an opportunity to re-examine our guiding principles – the first stage of the process is for you to provide us with your thoughts on the following. Bullet points will do. Could you please return this as soon as possible – immediate thoughts are probably more important than considered ones at this stage.

**Please respond to any or all of the following questions:**

**1. How would you describe your philosophy of teaching and learning?**

•

**2. What do you think the School's strengths and weaknesses are in relation to teaching, learning and assessment?**

**3. What were the main influences upon the development of your teaching and assessment strategies?**

**4. How do you try to meet the needs of the different students in your groups?**

**5. Do you use any distinctive teaching strategies?**

•

**6. Are there any distinctive assessment strategies that you use?**

•

**7. What do you think the role of student feedback should be?**

•

**8. To what extent do you think that you are delivering a fixed curriculum?**

•

Many thanks for your time in answering questions.

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<sup>i</sup> Thus while we focus on epistemology in large part in this report, we must also make note elsewhere that a focus on epistemology alone will be insufficient. Research and practice in relation to embedding L2L within ITT also needs to address issues that concern ontology, and the development of the entire person. This offers a further research agenda.

<sup>ii</sup> How many students were involved?

<sup>iii</sup> Can you give any feeling for the overall volume of response generated, and the method of analysis? (Or perhaps overall comments on the method of analysis could be included in the earlier section that is on methodology? )

<sup>iv</sup> We could provide his incisive comments here if word count allows.

<sup>v</sup> Is this what happened?