

Theories of learning and the Teacher Educator

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Abstract

Teacher Educators in the Further Education (FE) sector are charged with ensuring that trainees understand and are able to apply learning theory. Their own development needs in this regard are unknown. The overall objective of a two stage project undertaken for the Huddersfield University Distributed Centre for Excellence in Teacher Training (HUDCETT) was to work towards the development and utilisation of Continuing Professional Development (CPD) systems and resources for Teacher Educators. Stage 1 of the project, reported here, aimed to identify current practice within teacher education communities in terms of the delivery of learning theory, and also to identify related CPD needs. Research findings draw attention to the wide range of theory covered in teacher education for the sector, with individual trainees receiving widely varying curricula as it relates to learning theory. The majority of Teacher Educators surveyed valued both practice and research evidence in determining the choice of theory to cover in their delivery. The survey also indicated that for some of them, an awareness of research evidence exerted no influence. For several, theories were selected because they were the ones best understood by the Teacher Educator concerned. There was evidence that a minority of Teacher Educators subscribed to claims made about learning lacking a robust evidence base. A variety of CPD and support measures were valued by the Teacher Educators surveyed, with one of the measures most highly valued emphasising the importance for Teacher Educators of collaborative group learning.

Key words

Further Education Sector; Teacher Educator; Learning Theory; Practice and Research Evidence; Continuing Professional Development.

Background

Government reform of Initial Teacher Training (ITI) involves the requirement that teachers across the Lifelong Learning Sector (LLS) should be appropriately qualified. There is no similar requirement for the Teacher Educators who are charged with the delivery of their training. The qualifications, experience and qualities necessary to undertake the role of Teacher Educator have nowhere been fully articulated. A professional development framework for the identification of the necessary qualifications and experience of Teacher Educators was proposed in *Equipping our Teachers* (DfES, 2004); this has yet to be developed.

New Lifelong Learning UK (LLUK) professional standards for FE teachers and the related mandatory units of assessment for teaching qualifications draw attention to the role of learning theory. For instance, the standards specify (AP 4.1) that teachers in the sector will:

'Use relevant theories of learning to support the development of practice in learning and teaching.'

(LLUK, 2006: p. 4)

The units of assessment include the following trainee learning outcome:

'Understand the application of theories and principles of learning and communication to inclusive practice.'

(LLUK, 2007: p. 20)

Which theories and which principles, however, are not specified. The development needs of Teacher Educators charged with ensuring that teachers in the sector *'understand the application of theories and principles of learning'* (ibid) are unknown. The overall objective of this HUDCETT project was to work towards the development and utilisation of CPD systems and resources for Teacher Educators. Aims of the first stage of the project, reported here, included the identification of current practice within teacher education communities with regard to the delivery of learning theory, and related CPD needs.

Teacher Educator knowledge, theories and principles of learning

Guidelines for the induction of newly appointed Teacher Educators from the Higher Education Academy (HEA) subject centre for education, ESCalate, highlight the benefit of some explicit consideration of a range of inter-related elements, including the need to address learning theory (Boyd et al, 2007: p. 13). However, talking about the place of theory in initial teacher education for the FE sector, Harkin (2005) notes that *'there is no statement of ... what learning theory should be included'* (p. 165); he draws attention to the *'potentially bewildering abundance'* of learning theory to which trainees – and Teacher Educators – may turn (p. 171). He provides as an example the 50-plus major learning theories identified on the Teaching into Practice website (Kearsley, 2009: <http://tip.psychology.org>) and observes:

'Teachers and teacher trainers are not equipped to judge the validity and reliability of these theories, although they may regard some as more useful in practice than others ... theories that do not help teachers in their practice will be disregarded by them and what counts as a "useful" theory among the many on offer will ... always vary between teachers and remain contentious.'

(Harkin, 2005: pp. 171-172)

Earlier research into communities of practice undertaken for the Consortium for Post-Compulsory Education and Training (CPCET) at the University of Huddersfield drew attention to the broad range of curriculum areas from which Teacher Educators in the Lifelong Learning Sector are drawn (Noel, 2006). Many of the Teacher Educators interviewed during the course of that research had told of some initial anxiety when faced with teaching aspects of the teacher education curriculum, which now may involve teaching up to and including Level 6. One of the interviewees had remarked that:

"I'm sure it was very, very thin – the level of what I was doing... it must have been...because I didn't know then what I know now in terms of theoretical aspects..."

(interview transcript)

The absence of an informed consensus about learning theory in teacher education is well exemplified by the persistent appeal for many – teachers and Teacher Educators alike - of learning style theory (Nixon et al, 2007), in spite of a lack of any robust evidence in support (Coffield et al, 2004). Similarly, the Organisation for Economic Co-operation and Development (OECD) reports on the growth of misconceptions about the brain – leading to an acceptance within education of what they describe as 'neuromyths' (OECD, 2007). They note that:

"They are relevant to education as many have been developed as ideas about, or approaches to, how we learn. These misconceptions often have their origins in some aspect of sound science, which makes identifying and refuting them more difficult. As they are incomplete, extrapolated beyond the evidence, or plain false, they need to be dispelled in order to prevent education running into a series of dead ends."

(OECD, 2007: p. 16)

The Director of the Centre for Neuroscience in Education at the University of Cambridge Faculty of Education has found that many teachers subscribe to such mythology, basing aspects of their practice upon it, and accepting dubious claims made '*as neuroscientific fact*' (Goswami, 2006: p. 406). It has been argued that ideas about learning are subject to fashion, and that sometimes particular concepts may be promoted politically, in the absence of any shared understanding of their meaning, and without the provision of research evidence in their support (Bartlett and Burton, 2007). A number of these ideas have been for the most part accepted uncritically within the education community. 'Brain-based learning' is identified as an example of what these writers describe as '*"the emperor's new clothes" syndrome*' (p. 192). They conclude:

"Psychological research continues to develop and refine theoretical ideas about learning but educators must resist reductionist attempts to produce neat, digestible, commercialised chunks of pedagogy from them. Teachers, students and education professionals will enjoy a fascinating perspective on psychopedagogy as long as a critical, enquiring approach is taken to their theoretical or empirical basis and to their political provenance."

(Bartlett and Burton, 2007: pp. 191-192)

In 2004, David Miliband, then Minister for School Standards, commissioned the independent think tank Demos to undertake work on the issue of learning. The ensuing project, chaired by David Hargreaves, led to the publication of the report *About Learning* (2005). The project team drew a distinction between two types of evidence about learning, upon which different professionals rely. On the one hand there is the evidence that results from formal research, i.e. scientific evidence, valued by cognitive scientists, and on the other hand there is the evidence gained from and valued by teachers themselves in relation to their own practice, i.e. practice evidence. The report draws attention to the following:

"Whether teachers come to use an explicit, elaborate and expert view of learning depends more upon chance than on a planned sequence of initial training and continual professional development in which teachers are helped to develop their expertise in learning in the light of the latest advances in cognitive science and in professional practice."

(Hargreaves, 2005: p. 5)

Methodology

Focus group discussions took place with Teacher Educators from three University of Huddersfield CPCET teams and one other university partnership team. The discussions involved a total of 11 Teacher Educators based across the North of England. Findings from the focus group discussions were used to inform the design of a questionnaire used in a survey of Teacher Educators. The Teacher Educators involved in the survey came from the University of Huddersfield CPCET and from a number of other university teams. It is not possible to specify which or how many universities this involved as questionnaires distributed at conferences and events were not always returned with identifying information. Questionnaires had been made available electronically and some were distributed in paper form. In total, 39 valid questionnaires were completed, returned and analysed using the Statistical Package for Social Sciences (SPSS) software package. Of those people returning questionnaires, around two thirds were full-time Teacher Educators and almost three quarters of them had taught in teacher education for at least six years. They were employed by a range of colleges and universities across England, delivering the teaching awards of at least four Higher Education Institutions (HEIs). Respondents came from a variety of original subject specialisms, with the highest numbers from a background of languages, teaching English to speakers of other languages, skills for life and/or provision for learners with learning difficulties and/or disabilities, followed by equal numbers from social science and humanities and business and management. There were smaller numbers from other specialist areas. Around 80 per cent held a higher degree – and for almost half this was a Masters in Education. Just over a quarter of them held a qualification in psychology at or above Level 3. Five of them did not indicate possession of a teaching qualification.

Research findings

An overview of findings from the research follows; these are discussed in more detail in the following section. Findings relate to the results of the questionnaire survey, unless otherwise stated.

The majority of Teacher Educators surveyed value practice evidence and evidence that results from formal research, i.e. scientific evidence, in determining the choice of theory to cover in their delivery. However, the survey also reveals that for some of them, an awareness of research evidence exerts *no* influence, indicating perhaps a lack of awareness of the relevant research evidence. For over a quarter, theories are selected – to some extent, because they are the ones best understood by the Teacher Educator.

Identification of learning theory in use

The questionnaire, by use of an open question, asked that respondents identify the theories and principles of learning that they considered of *key* importance in their delivery of teacher education. A total of 51 theories and 36 theorists were identified, and although inevitably there was overlap between the two, the range was extremely wide. Tables 1 and 2 show the theories and theorists identified by 25 per cent or more of questionnaire respondents. Almost half the theories and theorists specified were identified by a sole respondent.

Table 1: Theories most identified by questionnaire respondents

Theories most often identified	% questionnaire respondents specifying theory
Behaviourism	54% (n = 21)
Cognitivism	54% (n = 21)
Humanism	54% (n = 21)
Constructivism	31% (n = 12)
Experiential teaching/learning	28% (n = 11)

Table 2: Theorists most identified by questionnaire respondents

Theorists most often identified	% questionnaire respondents specifying theorist
Kolb	28% (n = 11)
Maslow	26% (n = 10)

As an open question had been used to ask Teacher Educators to specify which key theories and principles of learning each of them covered in their delivery, it was predicted – correctly – that their response would indicate a profusion of theory. In order to arrive at some understanding of the rationale for this, a subsequent question asked respondents to rate the influence of a range of factors in determining the choices they made; the factors specified included those that had been highlighted within focus group discussions. Table 3 draws attention to the relative importance of those factors.

Table 3: The relative influence of a range of factors in determining the coverage of theory

Reasons for choices made about which <u>key</u> theories and principles of learning to cover (in order of greatest influence)	% respondents rating item either 4 or 5 (where 5 = very much influences choice)
1. Aware of research evidence supporting key theories	74%
2. (joint) Supported by evidence from experience about how people learn (joint) Initial Teacher Education (ITE) trainee need	72%
4. Assessment criteria for assignment work	67%
5. Enjoyment of teaching these particular theories	64%
6. Trainee enjoyment in learning about these particular theories	62%
7. Promoted through course indicative reading	61.5%
8. Theories specifically identified in course documentation	49%
9. ITE custom and practice	44%
10. Guidance from ITE colleagues (college/university)	41%
11. Theories are those included in own ITE	31%
12. Theories best understood	26% (no score of 5 for this)

Support required

Survey respondents were invited to rate a range of CPD and/or support measures in terms of value for the Teacher Educator with regard to their effective teaching of theories and principles of learning. Measures included on the

questionnaire were framed to take account of points made in the focus group discussions. With the exception of one item - part-time accredited course provision - each other measure was rated very highly by the majority of respondents (Table 4).

Table 4: The relative value of different types of CPD and/or support measures

Types of CPD and/or support measures rated by survey respondents (in order of greatest value)	% of respondents rating item either 4 or 5 (where 5 = of great value)
1. Dedicated opportunity for sharing of practice	90%
2. Detailed guidance on key texts – e.g. recommended books and journal articles, etc	79.5%
3. A course reader, regularly updated, with a focus upon theories and principles of learning	77%
4. Focused conference or workshop provision	74%
5. A Teacher Educator practitioner learning research group	72%
6. A Teacher Educator forum to determine jointly key learning theory to be covered – supported by subject experts	69%
7. CETT-created resources to display in teaching rooms	67%
8. Detailed guidance in relation to curriculum planning and delivery – e.g. sample lesson plans and teaching resources	64%
9. Part-time accredited course provision	31%

Discussion

Research findings reveal an extensive range of theory covered in teacher education programmes, with theory from psychology dominating. The majority of Teacher Educators who contributed to the research held no qualification in this subject. Teacher Educators were positive about highlighting emerging findings from neuroscience, although few did so. They were positive about a range of CPD strategies.

During 2006 and 2007, the Institute for Learning (IfL) and partners held a series of symposia, initiated by Joe Harkin [then] of Oxford Brookes University. The first symposium considered the questions of what theoretical knowledge should be introduced in initial teacher education for the post-16 sector, and what should be developed subsequently through post-qualification professional development. The symposium report noted that:

‘... there is a high degree of diversity in the range of theory included in Initial Teacher Training programmes. What is included is generally dependent on the range of current knowledge and preferences of the Teacher Educators, who come from a multiplicity of backgrounds and where even a particular depth of understanding cannot be assumed.’

[no longer available online]

This observation resonates with the results of the research reported here. As noted, focus group discussion and findings from the questionnaire survey revealed the myriad of learning theory covered in teacher education for the sector. A majority of the Teacher Educators surveyed identified the same three theories as key; however, this was a relatively small majority (54 per cent) and judging by the number of additional theories, theorists and writers also identified as key by others, or by a sole respondent, it is clear that individual trainees across the sector are provided with a widely varying curriculum as it relates to learning theory. Theories and/or theorists from psychology were mentioned the most frequently – this mirrors Harkin’s findings (2005), with behaviourism, cognitivism and humanism the theories most often seen as key and most likely to form a part of the initial teacher education curriculum. There was no explicit reference to the more recent multidisciplinary approach promoted through the learning sciences.

The Demos report (Hargreaves, 2005) draws attention to the value of both scientific research-based evidence and to evidence gained from the experience of teaching practice in relation to the development of an understanding of how people learn. Questionnaire findings highlighted the value that very many of the Teacher Educators surveyed also place upon both these types of evidence in determining the choice of theory to cover in their delivery. However, the survey also reveals that for over 15 per cent of them, an awareness of research evidence exerts *no* influence upon choices made. This may indicate that they do not value research evidence – or perhaps, and more likely, that they are not always aware of the relevant research evidence. This is further suggested by the finding that for 26 per cent of those surveyed, one of the factors exerting some influence is that the theories selected are those best understood. One Teacher Educator taking part in the focus group discussions had freely admitted that she didn’t quite ‘get’ some theory. With regard to staff delivering teacher education in FE, these findings may help to provide more focus upon a related issue. In a survey of staff attitudes regarding the delivery of HE in FE, FE staff raised the question of how they might effectively undertake scholarly activity. Harwood and Harwood (2004) draw attention to their finding that:

‘Teaching a large percentage of HE on a FE contract typically meant teaching in the region of 25 hr/week. This was seen as too heavy a commitment, with little or no time allowed for preparation and updating of subject knowledge.’

(pp. 161-2)

This is an issue that needs to be addressed. With regard to the importance for the teacher of developing an awareness of research-based evidence, Darling-Hammond and Bransford (2007) provide an interesting analogy. In their discussion about teacher preparation, they argue:

'... we've heard that eggs are harmful to cholesterol levels and then that they are not ... We expect our doctors to know enough to help us interpret these studies as they apply to our own health. In like fashion, among the major commitments and skills new teachers need to develop are the habits of mind to check continually the evidence base (both from their own practices and from the research literature) in order to evaluate their practices and work constantly to improve.'

(p. 22)

Teacher education programmes have a key role to play here. Teacher Educators are well positioned initially to promote the development of such habits of mind in their trainees, and also to model this approach in their own teaching practice. Clearly to do so, Teacher Educators themselves require the *'explicit, elaborate and expert view of learning'* to which Hargreaves has drawn attention (2005: p. 5). Psychology was judged to have a place in teacher education by the great majority of those completing the questionnaire and by each of the focus group discussion participants. One survey respondent noted the importance of placing *'psychological explanations of learning in their social and ideological contexts'*, and this has been identified as a more recent paradigm within psychology (Tusting and Barton, 2003: p. 6). An examination of responses to the open question about which key theories and theorists Teacher Educators cover in their delivery indicates that many of those identified belong to an earlier paradigm within psychology that *'sees learning as principally concerning processes going on within an individual'* (ibid: p. 6). However, what became evident from the analysis of research findings was that learning theory actually covered in practice on teacher education programmes was very much concerned with psychology, irrespective of which of the two paradigms involved. Both the survey and the focus group discussions indicate that the majority of Teacher Educators have no qualification at any level in psychology. It may be supposed that the knowledge and understanding they have acquired in this regard was gained – at least initially – during the course of their own Initial Teacher Training, which if undertaken in the not too distant past, is also likely to have involved Teacher Educators not themselves qualified in psychology. A larger survey of Teacher Educators completed for the CPCET in 2006 drew attention to the subject specific backgrounds from which Teacher Educators were most likely to be drawn (Noel, 2006). Relatively few of them were from a social science and humanities background (13 per cent).

Teacher education should draw attention to emerging findings from neuroscience as they relate to education. This was the view of a majority of those surveyed. However, examination of the content identified as key by survey respondents provides little evidence that this is happening in practice. A review of the literature clearly indicates that findings from neuroscientific research might usefully inform teacher education with reference to a range of important issues, for instance *'lifelong learning; ageing; holistic approaches to education; the nature of adolescence; ages for particular forms of learning and the curriculum; addressing the "3 Ds" (dyslexia, dyscalculia, and dementia); and assessment and selection issues'* (OECD/CERI, 2008: p. 1. See also Blakemore and Frith, 2005; Goswami, 2006; Hall, 2005; Howard-Jones, 2008; OECD, 2007). Survey findings also reveal some evidence of the acceptance by a minority of Teacher Educators of certain misconceptions about the brain. *'Neuromythology'* clearly has no place within teacher education and needs to be dispelled.

All of the CPD/support measures except one were identified as having value for well over half of the survey respondents. The exception was that of part-time accredited course provision. This is unsurprising in so far as it relates to the many Teacher Educators based in FE. A University Teaching Quality Enhancement funded project which sought to examine the CPD requirements of staff involved in the delivery of HE in FE made clear that FE staff workloads and, although to a lesser extent, a lack of support from FE management created significant barriers to course attendance (Noel, 2009). Two of the three support measures most frequently accorded the maximum value by survey respondents emphasise the importance for Teacher Educators of collaborative group learning i.e. dedicated opportunity for sharing of practice and a Teacher Educator forum to determine jointly key learning theory to be covered. Research from the learning sciences has established that collaborative group learning is an important characteristic of *'the most effective learning environments'* (Sawyer, 2008: p. 9) and it could be that through the facilitation of such an approach, a number of the other support measures valued might be progressed.

The questionnaire was completed by rather fewer respondents than had been anticipated, probably because of the time in the academic year that the survey took place. However, the inclusion of data gained through focus group discussion and the involvement of Teacher Educators from at least four HEIs did provide significant data, certainly worthy of analysis and highlighting the potential for additional further research. In this regard, it is interesting to note the three year research study completed by the Centre of Excellence at the University of Sunderland (SUNCETT), which has resulted in the development and validation of a Master's degree for Teacher Educators *'which recognises and aims to address, shortcomings in their professional development'* (Gregson and Nixon, 2010: p. 1).

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