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Trainee teachers' developing values and practice in relation to assessment

Mark Winterbottom[a] *

[a]*Faculty of Education, University of Cambridge, 184 Hills Road, Cambridge, CB2 8PQ, UK*

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Abstract

This study uses a survey methodology to examine trainee teachers' developing values and practice in relation to assessment during their initial teacher education and training. It examines whether the factors underpinning trainees' values and practice change during their ITET year, how the model fit between secondary trainees' practice and qualified teachers' practice develops during trainees' ITET year, and how the model fit between secondary trainees' values and qualified teachers' practice develops during trainees' ITET year.

Keywords: Assessment; teacher education; trainee teacher; learning autonomy.

1. Introduction

This paper explores changes in trainee teachers' values and practice in relation to assessment during their initial education and training (ITET). Trainee teachers are often required to 'make sense' of ideas about summative and formative assessment, the distinctions between which may not be obvious in experienced teachers' classroom practice (Sebatane, 1998; Brookhart, 2001; Harlen, 2005). Increasingly a distinction is drawn between *assessment of learning (AoL)*, and *assessment for learning (AfL)* (Black & Wiliam, 1998; ARG, 1999; Black *et al.*, 2002). The latter occurs when teachers use assessment as part of teaching to enable learning (Singh, 2000). In schools, there remains an apparently conflicting focus between *AfL* and *AoL* (Tierney, 2006). Although *AoL* and *AfL* can have a more synergistic relationship (Wiliam & Black, 1996; Harlen & James, 1997; Wiliam *et al.*, 2004; Harlen, 2005; Roos & Hamilton, 2005), developing that can be difficult due to differences between the two (Black & Wiliam, 2005). Research suggests that *AfL* can be subordinated under the requirements of *AoL* (Tierney, 2006) and students' focus on the performance rewards thereof (Black & Wiliam, 1998). Although Faculty input includes examination of *AfL*, ITET providers are also compelled to engage with mechanisms associated with *AoL* (see Boxall *et al.*, 1999). Schools' and subject departments' approaches also reflect a balance between *AoL* and *AfL*. Tierney (2006) suggests that this balance is influenced by knowledge bases derived from (i) educational research, and (ii) examination of low stakes data from large scale assessments of student achievement carried out by schools and other institutions (e.g.

* Mark Winterbottom. Tel.: +44 1223 336298; fax: +44 1223 767600
E-mail address: mw244@cam.ac.uk

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Sutherland, 2004). However, teachers' practice is likely to be mediated by (iii) school and department policies, themselves influenced by government policy, and (iv) professional development. The effect of such mediating factors will be filtered through (v) teachers' experience and values developed over their careers (Halstead & Taylor, 1996; Delandshere & Jones, 1999; McMillan *et al.*, 2002; Yung, 2002; Marshall & Drummond, 2006; Tierney, 2006) such that they may (a) change their beliefs in response to (iii) or (iv) (see Webb *et al.*, 2004), (b) manipulate the ideas presented to fit within their beliefs, or (c) reject the ideas entirely (James & Pedder, 2006). Trainees are subject to these same influences (although the emphasis on critical analysis of policy, practice and theory that characterizes the PGCE course, may mean that trainees are more receptive to research, and more critically analytical of policy). Trainees encountering AfL approaches may conceptualise them as fundamental to the way in which they enable students' learning, and hence integral to their own educational values, whereas others may reject them completely, or conceptualise them as 'bolt-ons' to their own teaching approach (Gipps, 1994; Perrenoud, 1998). At this level, the effect of a trainees' stage of development in their education and training (Fuller & Bown 1975); Furlong & Maynard, 1995) and trainees' different subject disciplines, may become apparent.

James & Pedder (2006) found distinctions between what experienced teachers reported as ideal (their values and beliefs), and their practice in the classroom, as well as identifying the dimensions underpinning teachers' responses about their values and practice. Like James & Pedder, Winterbottom et al. (2008a, b) also identified similar differences for trainee teachers, examined the dimensions underpinning trainees' values and practice, and examined how trainees cluster into groups based upon these dimensions. Like teachers, trainees' values and practice appeared to be underpinned by three factors: *making learning explicit*, *promoting learning autonomy,* and *performance orientation*. The former two have an explicit focus on learning, whereas the latter is focused on prioritising performance gains. Trainees valued the latter the lowest, but paradoxically, they reported it was a stronger feature of their practice, suggesting they are challenged to negotiate a tension between adopting potentially conflicting practices of *AfL* and *AoL. Promoting learning autonomy* (students take on greater independence over their learning objectives and the assessment of their own and each other's work; James & Pedder, 2006) underpinned trainees' and qualified teachers' values to a similar extent. However, by contrast to its firm underpinning of qualified teachers' reported practice, its underpinning of trainees' reported practice was equivocal. *Making learning explicit* (eliciting, clarifying and responding to evidence of learning, working with students to develop a positive learning orientation, James & Pedder, 2006) was a strong and consistent dimension that underpinned trainees' and qualified teachers' values and practice. They both placed similar and high value on practices associated with *making learning explicit*.

The studies cited above undertook a snapshot of trainee's and teachers' values and practice. However, the way in which trainees' values and practice develop over their initial education and training year (ITET) is interesting. In this study, we examine how the values and practice of secondary trainee teachers develop during the year, by examining the following questions:

1. Do the factors underpinning trainees' values and practice change during their ITET year.
2. How does the model fit between secondary trainees' practice and qualified teachers' practice develop during trainees' ITET year?
3. How does the model fit between secondary trainees' values and qualified teachers' practice develop during trainees' ITET year?

2. Methods

The context for this study is the University of Cambridge secondary PGCE course. This educates trainees to meet and exceed the Standards for Qualified Teacher Status (QTS) (TDA, 2001), whilst developing the critical engagement with evidence and research-based scholarship required on a Masters level course (QAA, 2001). The course comprises a coordinated and complementary experience of Faculty lectures and school placements. Data collection happened during the academic year 2007-2008, during Faculty seminars. We surveyed 245 trainees in September, before they had been exposed to any academic or professional input, at the end of their first professional placement, and at the end of their second professional placement. Trainees completed Section A of the questionnaire developed by James & Pedder (2006), in silence to ensure responses were authentic. The questionnaire was shaped by assumptions developed by MacBeath & Mortimer (2001), and was based upon two Likert scales. It presented trainees with 30 statements (items) about practices related to assessment (see Appendix 1), to which they made two

kinds of response: (i) whether they used a particular practice (never, rarely, often or mostly) (this option was not available in the September data collection as trainees had not started to teach), and (ii) how important they felt it was in enabling students to learn (not at all, limited, important, crucial). They could also indicate if they felt a practice was 'bad'. James & Pedder (2006) assumed that subsequent identification of values-practice gaps indicated that teachers were giving authentic responses about their values and perceptions of their practice. Although our analysis is also based upon this assumption, there is a possibility that trainees would give less authentic responses, because they have stronger perceptions of the 'correct' answers (as a consequence of Faculty input). This could reduce the magnitude of values-practice gaps. We adopted this questionnaire as teachers and schools in James & Pedder's (2006) study were very similar to our own. Like trainees, the teachers lacked any managerial role, and were more likely to be targeted for intervention in relation to assessment practice.

We conducted principal components analysis and structural equation modelling (Kline, 1994) to examine the underlying dimensions underpinning trainees' values and practice responses and how they change during the ITET year. We used exploratory principal components analysis with varimax rotation to derive a model for trainees' values from their responses at the start of the year. We did the same for trainees' practice from their responses at the end of the first placement. Using structural equation modelling, we tested the extent to which their responses at the end of the year complied with these models.

We used structural equation modelling to assess whether the fit between trainees' practice and qualified teachers' practice (James & Pedder, 2006) improved during trainees' ITET year. We did this by testing our data from (a) the end of the first placement, and (b) the end of the second placement against the hypothesized model from James & Pedder (2006). Similarly, we also examined whether trainee teachers' values became more similar to qualified teachers' practice during the year, examining model fit at (a) the start of the first placement, (b) the end of the first placement and (c) the end of the second placement.

3. Analysis of findings

Exploratory factor analysis of trainees' values and practice responses at first assessment (values were first assessed at the start of the course and practice was assessed at the end of the first placement) revealed a factor structure as follows: (1) Values: 3 factors (performance orientation; making learning explicit; promoting learning autonomy), (2) Practice: 2 factors (performance orientation; supporting learning). Values and practice data surveyed at the end of the course were tested against the model defined by this factor structure. The data from the end of the course did not provide a good fit to this model for values or practice, confirming progression in trainees' practice and values (Table 1).

Table 1: Model fit parameters between primary trainee teachers' responses and qualified secondary teachers' responses (For a model to be a good fit to the data, P should be greater than 0.05, Chi-square should be relatively low, and DF should be high. RMSEA should be less than 0.05 and CFI should be in excess of 0.95).

	Values (Sept 07)	**Practice (Jan 08)**
Chi-square	534.93	530.91
DF	272	272
P	<0.001	<0.001
RMSEA	0.065	0.065
CFI	0.800	0.711

The fit between secondary trainee teachers' practice, and the model of qualified secondary teachers' practice, weakened very slightly between the end of the first placement and the end of the second placement and did not provide a good fit in either case (see Table 2).

Table 2: Model fit parameters between primary trainee teachers' responses and qualified secondary teachers' responses (For a model to be a good fit to the data, P should be greater than 0.05, Chi-square should be relatively low, and DF should be high. RMSEA should be less than 0.05 and CFI should be in excess of 0.95).

	End of first placement	**End of second placement**
Chi-square	331.6	356.6
DF	186	186
P	<0.001	<0.001
RMSEA	0.061	0.064
CFI	0.851	0.821

To examine the changes between the end of the first placement and the second placement, we looked at modification indices. The modification indices represent the changes, which would need to be made to the model, to better fit the data. Examining differences in such indices can reveal changes in trainee teachers' thinking. Between January and June, modification indices suggested that trainees' purpose in enabling students to have opportunity for peer assessment became more focused on promoting their learning autonomy, rather than making learning explicit. In January, trainees appeared to associate students knowing how well they had done in relation to previous performance, with being able to compare themselves to their peers; trainees' sense of students 'knowing how they were getting on' was important. However, this had become less important in June. Trainees increasingly saw the value of guidance when allowing students to peer assess. It appeared that trainees recognised students' difficulties in developing their own learning autonomy, and realised they needed to take a more proactive role, using assessment to inform the way in which they facilitated students' developing learning autonomy. In short, trainees' appreciation of the guidance required for promoting learning autonomy may have begun to increase. That said, trainees did appear increasingly concerned with guiding students to learn within a framework of curriculum objectives.

The model fit for secondary trainee teachers' values was strongest at the end of the first placement, and weakening by the end of the course (see Table 3). This indicates that secondary trainees' values increasingly reflect qualified teachers' practice by the end of the first placement, but then appear to diverge again by the end of the second placement.

Table 3: Model fit parameters between secondary trainee teachers' responses and qualified secondary teachers' responses (For a model to be a good fit to the data, P should be less than 0.05, Chi-square should be relatively low, and DF should be high. RMSEA should be less than 0.05 and CFI should be in excess of 0.95).

	Start of the first placement	**End of first placement**	**End of second placement**
Chi-square	358.6	304.7	362.4
DF	186	186	186
P	<0.001	<0.001	<0.001
RMSEA	0.062	0.055	0.065
CFI	0.756	0.794	0.764

Modification indices between September and January appear to reflect trainees developing an increasingly sophisticated understanding of their classroom. As such, we would expect their values to get closer to qualified

teachers' values. This may particularly be the case as trainees may adopt the values of their more experienced colleagues early in their training. There also appears to be an increased focus on pupils' learning autonomy. Examination of modification indices between January and June suggests that trainees increasingly saw the value of guidance when allowing students to peer assess, and an increased focus on monitoring of students choosing their own learning objectives. Likewise, there is an indication of an increasing link between the teacher's role and the students' activity as the year progresses. There may also be an increasingly underpinning role for curriculum objectives during the year.

4. Conclusions

The analysis is still at a preliminary phase. However, it appears that trainees' values and practice in relation to assessment do develop during the year. They appear increasingly sophisticated in their pedagogical judgments, but they do appear to adopt an increasing emphasis in providing guidance to students to help support their learning. The impact of curriculum objectives on their values and practice also appears to become more significant during the year.

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