INDUCTION FOR SECONDARY MATHEMATICS ITE TUTORS WORKING GROUP REPORT

Sue Pope, St. Martin's College, Lancaster
Linda Haggarty, Open University
Keith Jones, University of Southampton

Becoming a mathematics teacher educator with responsibility for the education of trainee teachers is an under-researched area. This report looks at some key issues that effect new mathematics teacher educators, including how the role has changed, whether the emphasis is on 'training' (in consonance with UK Government terminology) or on education (and what the difference might be), about how people learn to become teachers, and about what is known about teacher educators and how people become teacher educators. The report argues that there are huge opportunities for researching all aspects of teacher education.

PREAMBLE

BSRLM along with AMET, ATM and MA have been funded by the TTA to produce an induction pack for new ITE tutors in mathematics. The pack is intended to include 'the best advice which experienced subject specialist trainers in ITT in England can produce' (TTA, 2003). One of the areas to be addressed in the pack is research and BSRLM has agreed to support the development of material in this area. The working group[1] is intended to allow as many people with the appropriate expertise who wish to contribute to be able to do so. To date the working group has met twice. In September 2003 a one-day induction course at King's College took place for new or relatively new mathematics ITE tutors. This paper is based on one of the sessions of that day prepared by Linda Haggarty.

INTRODUCTION

Teacher education has changed dramatically since the late 1980s. Before that, ITE tutors generally decided for themselves what a PGCE programme would look like, individual courses would be unlikely to be inspected, and students gained their qualification largely without reference to any national 'standards'. Since the late 1980s, teacher education has emerged as a key issue in government education policy and, as Furlong *et al* (2000) say, it has increasingly become a major site for ideological struggle between government and others, especially those in higher education, with an interest in the professional formation of teachers. The part played by research in these reforms has been small, whether it be in respect of informing what needed to be changed, in identifying what seemed to be likely solutions, or in evaluating the outcomes of the reforms. This is despite the fact that there is a

[1]Anyone wishing to contribute to the materials is very welcome to attend meetings of the working group or contact Sue Pope at s.pope@ucsm.ac.uk

substantial body of research in teacher education (see, for example, McNamara, Jaworski, Rowland, Hogden & Prestage 2002).

Tutors on teacher preparation courses may wish to reflect upon the following questions:

1. Are you a teacher trainer or a teacher educator – and how might this influence what you do?
2. Are Standards, the TTA, and Ofsted generally welcomed by those in Higher Education?
3. What do we know about how people learn to become teachers?
4. What do we know about teacher educators and how people become teacher educators?

ARE YOU A TEACHER TRAINER OR A TEACHER EDUCATOR – AND HOW MIGHT THIS INFLUENCE WHAT YOU DO?

There will be some teacher educators who believe that students need to be told how to teach. From this perspective, students should be informed of the correct method for a particular situation and acquire the associated craft skills. Having been told, student teachers put those skills into practice in the classroom. If the students have been properly trained, then they will put those skills into practice effectively and pupils will learn.

Calderhead (2001) says "there has been a trend for government agencies to claim that it is well known which teaching approaches and strategies 'work' and to make clear prescriptions for teachers' practice". In this conception of teaching, little rationale exists for substantial teacher education courses. If teaching can be routinised in this way, then only modest training needs to be put in place to tell student teachers how to apply each set of routines. Associated with the language of 'training', we have the managerial language of 'providers' who 'deliver' this training.

There will be other teacher educators who say that teaching is not like that. They will say that it is much more complex; there aren't simple rules. It has more to do with being educated about a range of theoretical and practical ideas and then drawing on them intelligently to make decisions in particular circumstances. From this perspective there needs to be an emphasis on the appropriateness of teaching decisions which are informed by theoretical ideas, contextual demands, and values. Teaching is seen as an intellectually challenging task in which teachers continually examine and refine their practice.

Two comments from the US are interesting here. The first tells us that the pendulum can shift…

> The complexity of teaching and the variability of the context work together to help justify the view of the teacher as a thinking, decision-making, reflective and autonomous professional. Because teaching is complex, and contexts vary, teachers themselves need to make decisions and reflect on their situations and teaching in order to act appropriately

> in their classrooms. Training in particular practices is no longer the dominant approach to teacher education and staff development; training has given way to education, and the focus is on developing ways of thinking and exposing teachers to many different strategies. (Richardson and Placier, 2001)

The second hints at the danger to teachers of over-prescription:

> Because low standards for entry into teaching have been commonplace, the resulting unevenness in the capacities of teachers has led many to perceive, accurately, that a substantial number of teachers seem unable to make sound judgements about curriculum and teaching methods on their own. As a result, prescribed teaching behaviours appear to some to be necessary and warranted. And if the prescribed structures for teaching make it appear mechanical and thoughtless, unexciting and low-skilled in nature, then any need for greater knowledge and skill may seem to have been obviated by the routinized nature of the job. Prospective entrants looking for challenging work will be dissuaded from seeking it in the teaching profession. (Darling-Hammond, 2001, p761)

So the language used – either of 'training' or 'education' - is seen by many teacher educators as important. As a tutor in ITE, to what extent do you tell students how it should be - suggesting that if they behave as you tell them then it will work, or do you educate students to make their own decisions informed by theory, research and reflections on practical experience?

ARE STANDARDS, THE TTA, AND OFSTED GENERALLY WELCOMED BY THOSE IN HIGHER EDUCATION?

Only a decade ago, there was no TTA and no Ofsted. These organisations have had a massive influence on the types of courses offered (GRTP, flexible, traditional..); on curriculum (in the 90s a NC for ITE was introduced); on competencies (or standards) describing what beginning teachers need to know – and therefore prescribing what must be covered in courses.

As Ofsted increasingly tightened its grip on ITE courses it became increasingly effective in achieving conformity to government legislation. Furlong *et al* (2000) comment in the 90's…

> …government, through the work of the TTA and Ofsted, had developed a system of initial teacher education that was highly responsive to policy changes. In the course of just 15 years, the system had been moved from one of diversity and autonomy to one of homogeneity and central control. What the government, and particularly the TTA, had wanted was a common system with common standards and procedures no matter who was providing the training or where; this was how the TTA defined quality. By the end of the 1990s this had been largely achieved.

Whilst HM Chief Inspector for Schools said that inspections of ITE courses (Ofsted, 2003): 'I think we can claim that the process of inspection, linked to funding, has kept everyone on their toes…'

Nevertheless, there is little research available about the effect of standards on beginning teachers – but there are issues:

- Do they represent the sum total of what beginning teachers need to achieve? How about being able to research their own practice? How about liking mathematics? Do these matter?
- Are the ITE standards too ambitious? Well, they are pitched at a level that asks student teachers to do things that most existing teachers do not do. Being able to identify apprpopriate learning objectives and plan effectively can take some students most of their course to achieve.

DfES (2002) says the most recent standards do not set a curriculum, nor do they specify how training should be organised or run. Given their specificity, however, together with regular Ofsted inspections to assess the extent to which trainers are 'compliant' with requirements, it is perhaps not surprising that there is little room left for any movement away from what seems very close in practice to a prescribed curriculum.

Government satisfaction with the outcomes of this are expressed through remarks made by HMCI (Ofsted, 2003) '…there can be little doubt that things like the Standards for QTS and the ITT National Curricula brought greater breadth and rigour to the training process and to the assessment of trainees'.

However, recent research on student teachers in primary schools in England carried out by Edwards and Protheroe (2003) points to 'a focus on performance in national tests, backed by inspection strategies, together with performance standards for beginning teachers, is forcing attention on the performance of the student teachers as deliverers of the curriculum' (p228) at the expense of attention on concern for learning.

HOW MUCH IS KNOWN ABOUT HOW STUDENTS LEARN TO BECOME TEACHERS?

We know (Haggarty 1995, 2002) that:

- Many students think they can teach when they join the course. They envisage an apprenticeship model for becoming a teacher and they believe that teaching is about telling and that learning is about memorising.
- They each want to learn about different things from each other at different times – they have different agendas. Some want to learn about classroom management, some don't – naïve optimism!
- Their somewhat limited view of teaching means that they often see much of what happens in the HEI as irrelevant in the early stages. '*..pupil motivation?? I'll motivate them with my charisma*…'. This may present tutors with challenges.

- When they're in school and have problems of their own, they are keen to learn if they haven't done so before. This has implications for the person who visits the students in school.
- Many have an idealised view of a particular teacher (or amalgam of teachers) whom they want to be like. Teachers in school who don't behave like that may come in for a lot of criticism!
- In mathematics, there may be obstacles to learning when HEI input is in significant conflict with school practice, and the student is not helped to come to terms with this.

Learning to teach is complex, and is intellectually challenging for tutors as we help students to learn.

WHAT DO WE KNOW ABOUT TEACHER EDUCATORS?

The role of the university tutor has changed dramatically as imposed changes and funding arrangements have taken hold. Whitehead *et al* (1996) describe difficulties for teacher education tutors vividly in two comments from a paper in which they report on data gathered from 53 HEIs:

> The impact of the transfer of resources from higher education institutions to schools is … having a marked effect on the structure of the workforce and the nature of staff activity in faculties of education, with a significant number of skilled teacher educators taking early retirement. These are frequently being replaced by a casualized and transient workforce of temporary, hourly-paid staff and by large numbers of school-based co-ordinators, subject mentors and class teachers contracted in, often on an annual basis, through partnership agreements. Whitehead *et al* (1996)

> The reduction of staff in faculties is reducing the research base of faculties, as a reduction in full-time staff tends to lead to a narrower range of research interests. Furthermore, casualization is having an impact on the remaining permanent staff, with an increasing proportion of their time spent managing the work of others, for example inducting staff into their roles, and assuring quality in what is often a geographically dispersed workforce. This move into more managerialist and bureaucratic activity for the remaining core of full-time, permanent staff is likely to have a negative impact on the time they can devote to teaching and research, with detrimental consequences for both. Whitehead *et al* (1996)

In some HEIs temporary staff are expected to be managers of even more temporary staff! The resulting overload on HEI staff involved in teacher education leads to what could be described as intensification – the increased pressures and reduced support that are part of the ITE tutors' working lives - a term more usually used to describe the working lives of teachers. Apple and Jungck (1991) see this lack of time as "a chronic sense of work overload" and Apple (1988), for example, argues that intensification can lead to inability to keep up with one's field, to teachers reducing the *quality*, not the quantity, of service provided to people, and to the cutting of

corners, since “there is so much to do that simply accomplishing what is specified requires nearly all of one's efforts”. Certainly, there is little time left to reflect on what is to be achieved when so much time is spent keeping up with government, TTA and Ofsted documentation.

CONCLUSION - SO WHERE DOES THIS GET US?

There are long-running tensions and struggles about how to help student teachers learn, about what tutors might want them to learn, and about how student teachers are assessed and courses are evaluated. There are huge opportunities for researching aspects of teacher education.

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BSRLM is associated with an e-mail list in operation to facilitate effective communication between members and others in mathematics education worldwide. To join this list, send the single word message <subscribe> to <maths-education-request@nottingham.ac.uk>

For details of BSRLM contact:

Julian Williams, Chair BSRLM, Faculty of Education, University of Manchester, Oxford Road, Manchester, M13 9PL
(*tel*) 0161 275 3409
(*fax*) 0161 275 3484
e-mail: julian.williams@man.ac.uk

Linda Haggarty, Secretary BSRLM, Centre for Research and Development in Teacher Education, Faculty of Education and Language Studies, Open University, Walton Wall Milton Keynes MK7 6AA
(*tel*) 01908 274066
(*fax*) 01908 652218
e-mail:l.haggarty@open.ac.uk

Sue Pope, Treasurer BSRLM, St. Martin's College, Bowerham Road, Lancaster LA1 3JD
(*tel)* 01524 384383
(*fax*) 01524 384327
e-mail: s.pope@ucsm.ac.uk

For details of membership contact:

Olwen McNamara, Membership Secretary BSRLM, Faculty of Education, University of Manchester, Oxford Road, Manchester, M13 9PL
(*tel*) 0161 275 3500
e-mail: olwen.mcnamara@man.ac.uk

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