

## **WHO TRAINS THE NEW TEACHERS? - SUPPORTING TUTORS NEW TO INITIAL TEACHER EDUCATION IN MATHEMATICS**

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*While many countries face challenges in preparing sufficient high quality mathematics teachers, the issue of the supply and quality of those who train new teachers can get overlooked. In England, the needs of new mathematics education tutors in Universities is being recognised by the Teacher Training Agency (TTA), the Government body responsible for the recruitment and training of teachers. This paper reports on the award of a grant to a group of UK professional subject associations for mathematics to produce materials and provide induction support for University tutors new to initial teacher education (ITE). One major outcome of the project is a website developed to support new (and existing) ITE tutors. Data from questionnaires to new tutors reveal that the induction support is much appreciated.*

### **INTRODUCTION**

As the Programme Committee for the ICMI Study into the Professional Education and Development of Teachers of Mathematics make clear “all countries face challenges in preparing and maintaining a high quality teaching force of professionals who can teach mathematics effectively, and who can help prepare young people for successful adult lives and for participation in the development and progress of society” (ICMI Study 15 Programme Committee, 2004: 191). One key issue that is sometimes overlooked when considering these considerable challenges relates to the supply and training of those individuals whose task it is to train the new teachers.

In countries such as the UK, where there remain long-standing difficulties in ensuring that sufficient numbers of well-qualified new mathematics teachers enter the profession, there can be similar difficulties in the supply of well-qualified mathematics teacher educators in Universities. For example, a recent national inquiry into mathematics teaching in the UK noted with alarm that “respondents to the Inquiry ... expressed anxieties about the future capacity and availability of suitably qualified mathematics educators in higher education to deliver quality ITT [initial teacher training] and provide ongoing CPD [continuing professional development] (Smith, 2004: para 2.29).

The problem of the quality and supply of well-qualified mathematics teacher educators in Universities is being recognised, albeit only recently, by the UK Teacher Training Agency (TTA), the Government body responsible for the recruitment and training of teachers. In 2003 the TTA awarded grants to professional subject associations to produce materials and provide induction support for tutors new to ITE [initial teacher education]. For mathematics, this task is being undertaken by a small group of people from four UK associations: the Association of Mathematics Education Teachers (AMET), the Association of Teachers of

Mathematics (ATM), the British Society for Research into the Learning of Mathematics (BSRLM), and the Mathematical Association (MA). In this paper we report on the outcomes of the project to date and share aspirations for the future.

## **TEACHER EDUCATION IN ENGLAND**

Teacher education in England has changed dramatically over the last 20 years, as government education policy has become more concerned with, and prescriptive about, the professional preparation of teachers (Furlong *et al.* 2000). All initial teacher education (ITE) provision is now regularly inspected by the Office for Standards in Education (Ofsted) using Standards produced by the Teacher Training Agency (TTA) as a yardstick (DfES & TTA, 2002).

At one time, entering higher education as an ITE tutor was considered a positive career move as the salaries were higher and there would be opportunities to pursue 'research and scholarly activity'. Whilst there is still the expectation that ITE tutors undertake such activity, the salaries of school teachers have improved considerably in recent years, outpacing those of University staff, and now the prospect of moving into Higher Education does not have the same financial appeal. This makes it more difficult to recruit well-qualified and experienced colleagues from school to work as ITE tutors. Nationally, many institutions find they may have to advertise more than once and may fail to make a suitable appointment at all. The introduction of 'Golden Hellos' for tutors new to higher education, which involves substantial payments during their first 3 years in post, is indicative of a problem that is not unique to education (HEFCE, 2003).

Alongside the relative decline in salaries in the Higher Education sector, there has been a reduction in the amount of funding to Higher Education institutions, even as student numbers have increased substantially. This has led to tutors having to do 'more with less' - a recent survey of Higher Education institutions in the UK established that ITE in England is under-funded by around 20% (DfES, 2004). Whitehead *et al* (1996) describe problems that full-time tutors are beginning to have as more part-time staff are used to teach ITE students, and visit them in school, whilst full-time tutors take on managerial and bureaucratic roles. It is not unusual for new tutors to be employed on a part-time basis when a full-time tutor leaves.

In an attempt to support those new to the role of ITE tutor, the TTA awarded contracts to produce support materials and run induction events for tutors new to ITE in most secondary subjects in 2003. There was relatively little prescription about what was to be produced. Mathematics was unique in that four professional subject associations collaborated to produce the bid and are now responsible for ensuring that materials are generated and made available over the two year life of the project. In the following sections we highlight what has been done within the project to date and identify ways in which this initiative could be sustained and further developed.

## **INDUCTING NEW TUTORS**

The role of ITE tutor is a demanding one (Sinkinson, 1996). The principal route into mathematics teaching in England is a 36-week PGCE [Post-Graduate Certificate in

Education] course, of which 24 weeks are spent in school. When not teaching new trainee teachers, ITE tutors are invariably teaching on other courses as well as visiting PGCE students in their placement schools. The induction events which have been run as part of the project have focused on what it means to be an ITE tutor, and aspects of the role including working with beginning teachers and working with colleagues in school (see Pope, Haggarty & Jones, 2003). The induction events have been run at the beginning of the academic year (in the UK, this is in September) in the hope that tutors can attend before their courses start, which is not always the case. In both 2003 and 2004, about 20 tutors who were either new, or relatively new, attended. As well as the opportunity to work on what their new role involved, tutors valued meeting with other new tutors and finding out about different courses across the country.

Feedback from tutors who attended the 2003 course were used to inform the 2004 course, in particular the time for tutor-tutor discussion was increased and more time was given to considering in more detail the different ways of working with beginning teachers and assessing their progress.

### **NEW TUTORS, ONE YEAR ON**

In summer 2004, delegates to the first induction event (in September 2003) received a follow up questionnaire to ascertain how the year had gone. There were thirteen responses. All the respondents taught on a secondary PGCE course but some also taught on undergraduate courses, primary courses, courses for teachers of 7- 14 year olds and courses for teaching assistants. Just six were on permanent full-time contracts and three were on permanent part-time contracts. Nine had been in post for just one year and the others were completing their second year. Prior to starting work as an ITE tutor, eight had been school teachers (six full-time) and three had some prior experience of tutoring in Higher Education on a part-time basis (they now worked as part-time ITE tutors).

Overwhelmingly, tutors reported that what they most enjoyed was working with their students. They also felt well supported by their colleagues in the Higher Education institution. Other aspects that more than one tutor identified as being enjoyable and rewarding were working with school-based colleagues and the flexibility and range of opportunities that their new role offered. Five tutors had begun to get involved in research activity, an expectation of the role but not always one that is easy to 'fit in' to the role of a beginning ITE tutor.

Tutors found that they developed new skills, including skills appropriate to working with adult learners and skills in personal use of ICT [information and communications technology]. Many also felt that they had got better at keeping up to date with education initiatives and reading around mathematics education issues. They were also aware of learning to cope in a Higher Education institution and adapting to the practices of assessment and quality assurance in the institution.

On the negative side, many tutors felt frustrated that they were unable to do the job as well as they would like because there was insufficient time. Some felt torn

between teaching and research, others found the bureaucracy and external expectations frustrating.

Despite a modest bursary to support new tutors in attending education conferences and events of the professional associations, only six new tutors took up such opportunities. Some tutors commented that many of these events take place at weekends, or during school holidays, and that family commitments made it very difficult to attend. One set of events that six tutors identified as valuable are termly meetings for ITE tutors to keep up to date with the National Strategy for lower secondary school (a government initiative intended to raise standards in 11-14 education, DfES, 2000-4).

The tutors who responded to the questionnaire were positive about the job and were looking forward to developing aspects of their work in the forthcoming year. It is intended to follow up 2004 course participants in a similar way.

### **SUPPORTING NEW TUTORS**

One of the main outcomes of the project is a website ([www.itemaths.org.uk](http://www.itemaths.org.uk)), developed to support new (and existing) ITE tutors. It contains links to other sites of potential interest and support, information about discussion lists, and an archive of articles. Many of the articles have been especially written for the website by experienced ITE tutors and are designed to share approaches to working with beginning teachers, interview and selection procedures, bibliographies and approaches to working with teachers who take a major responsibility for the beginning teacher's development whilst they are in school, and much more.

The TTA have hosted regular meetings for those involved in the project to facilitate sharing of different approaches to the task. As well as the subject-specific support there have been a number of initiatives looking at cross-curricular issues such as diversity ([www.multiverse.ac.uk](http://www.multiverse.ac.uk)) and behaviour management ([www.behaviour4learning.ac.uk](http://www.behaviour4learning.ac.uk)). These latter sites are also intended to be helpful to beginning teachers.

Current priorities for further developing the *itemaths* website include support for beginning researchers (led by BSRLM) and developing the AMET website to include electronic versions of papers from the AMET journal *Mathematics Education Review* (MER). This journal includes many articles written by ITE tutors about their role and associated issues – see, for example, Bloomfield & Scott-Baumann, 1997; Haylock, 2002. Articles provided in electronic format on the *itemaths* website have been classified to make them more accessible to tutors. New tutors are encouraged to become members of AMET and other professional subject associations as a means of support.

### **CONCLUSION**

New tutors to ITE value the support that the project has made available to them. Other tutors are using the website as they find it a useful gateway to mathematics education websites. Requests have already been made to the TTA to continue

funding the maintenance and development of the website once the project is officially finished.

Many tutors believe that the induction event is particularly valuable in providing an opportunity to think about their wider role and some of the fundamental issues, as well as sharing pragmatic concerns about ways of working. It will be interesting to see if funding to support the induction events is continued, it has been requested.

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