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Editorial Foreword

1. Introduction

The Multi Site Teacher Education Research Project (MUSTER) was a four-year project designed to explore the characteristics of those who become teachers, the experience they have of teacher education programmes, the attributes of training institutions and their staff, the effects of training on those who graduate, and the process of induction as newly qualified teachers. It also examined the framework of supply and demand, and the resource constraints which shape teacher education policy. The research was conducted in Ghana, Lesotho, Malawi, South Africa and Trinidad and Tobago by country teams co-ordinated from the Centre for International Education at Sussex with support from the UK Department for International Development. This special double issue of IJED presents a selection of papers drawn from the research.

2. Rationale for the MUSTER study

Teacher education has been until recently a relatively neglected area, in both high and low income[1] countries. However, across the world it is now under closer scrutiny from both policy-makers and researchers. There are calls for reconceptualising the whole process of professional learning rather than just restructuring the programmes (Wideen and Grimmett, 1995, Elliott, 1993). Yet the actual ways in which teachers acquire and use professional knowledge are still not well understood. Smaller-scale qualitative studies on such issues as teacher thinking, teachers' lives, or how trainees progress through training (cf. Goodson, 1992; Calderhead and Shorrock, 1997; Calderhead, 1987), show what a complex area this is, and how strongly it is influenced by personal and situational factors.

Furthermore, in the anglophone world such studies have almost all been carried out in high income countries (e.g. UK, USA, Canada, Australia). If the work of teaching is intimately bound up both with the teacher's identity and sense of self, and the norms, values and expectations of the communities in which teachers serve, such findings may not be directly applicable in different cultural contexts. There may be very different views of cognitive and affective aspects of child development, and of the role teachers can play in shaping learning. Manifestly the resources available can be dramatically different. It is therefore important to try to identify which aspects of teacher education theory and practice developed in high income countries have general relevance, and which carry assumptions about the cultural roles of the teacher, pedagogic preferences, and infrastructure availability that may require rethinking. To this end, research needs to be carried out in each local context.

Beeby pointed out nearly 40 years ago, in the context of planning education for development, that if attempts to change the quality of learning in schools were to be effective, they had to be linked to improvements in the education of teachers (Beeby, 1966). Yet since then this area has received relatively little attention from policy-makers, donors or researchers. Though development agencies have supported a range of teacher education projects, few have contained support for research on process and practice. As a result, the evidence base is weak, and much policy on teacher education has not been grounded in the realities

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[1] This report will use the terms 'low income' and 'high income' to designate, respectively, the less industrialised so-called 'developing' countries, and the industrialised rich countries.

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which shape teacher education systems and their clients.

Perhaps surprisingly, the World Declaration on Education For All (EFA) which emerged from the conference at Jomtien in 1990, devoted scant space to the problems of teachers and teacher education, despite their centrality to the achievement of better learning outcomes. Ten years later at the Global Forum on EFA in Dakar it was clear that in many of the countries which had fallen well short of the goals set at Jomtien, teacher supply and teacher quality were amongst the most important constraints. In Dakar teacher education moved up the agenda of the EFA forum to the extent that the Sub-Saharan Regional Action Plan included as one of ten targets:

> Ensuring that by the year 2015, all teachers have received initial training, and that in-service training programmes are operational. Training should emphasize child-centred approaches and rights and gender-based teaching

But the extensive implications of this target for training systems were not unpacked; nor was the evidence base for the advocacy revealed. The Association for the Development of Education in Africa (ADEA) has ten thematic international Working Groups, one of which is focussed on the teaching profession. However, the objectives of this group are primarily concerned with improvements in the management, employment benefits and professional support for teachers. Initial training does not figure as a primary concern, nor does research on practice. There is little information or development activity which could guide policy and practice in low income countries, especially in Sub-Saharan Africa.

In spite of the general policy belief that training enhances the quality of teaching and student achievement, there is widespread dissatisfaction with teacher education in many low income countries. Substantial resources are devoted to the colleges, but the newly qualified teachers do not appear to possess the knowledge and professional competence required. In some places training programmes persist which are based on models copied from the former colonial powers, even though there are many new demands on teachers stemming from reformed curricula and commitment to EFA. Elsewhere contemporary models from the UK, USA, Australia and New Zealand have been influential, though their impact and feasibility is largely untested in low income countries. Ministries and development agencies trying to devise more efficient and effective programmes have few locally-based research findings to guide them; nor do they have the capacity to assess formatively which strategies are working in the manner intended

The limited evidence available does indeed suggest that attempts to reform teacher education in low income countries using ideas from rich ones have not been very successful. Much seems to have remained at the level of rhetoric rather than being implemented in teacher education institutions or in classrooms. Few countries have developed a teacher education discourse grounded in local realities and local culture. Part of MUSTER's intention was to explore this area in collaboration with local researchers.

Clearly, the contexts in which primary teachers are prepared differ with the level of economic development. For example, in high income countries, where teachers have to be qualified before their first employment, there are clear conceptual and practical differences between pre-service (PRESET) and in-service (INSET). By contrast, in many low income countries teachers begin working in classrooms with no training, and gain initial professional qualifications much later, if at all. In several Commonwealth Caribbean countries this pattern is effectively a policy, and by default it is also the case in many African systems. The curriculum in many Teacher Training Colleges (TTCs) and University Departments of Education (UDEs) in these countries often does not recognise and build on the prior teaching experience trainees possess. Ways of adapting the curriculum to the context need to be explored and evaluated more fully.

Teacher education budgets in most low income countries are heavily constrained and pre-service programmes can be very expensive relative to other forms of education and training. Little information is publicly available about the cost-effec-

tiveness of different training pathways. Teacher shortages are bemoaned, but there has been little analysis of the options available for training the required number at a cost consistent with the country's resources.

Perhaps one reason for the paucity of evaluative research on teacher education is the small number of professionals with the skills to undertake it rigorously. MUSTER sought to assist in building such capacity through work of the kind reported in this special issue. Without this, the mistakes of the past may be repeated, and the innovations of the future will have no secure national base.

The MUSTER project grew out of such concerns. In the next paragraphs we describe the project, sketch its research design and methods, outline how it was undertaken, and then introduce the articles in this Special Issue. This illustrates in a selective way some of the MUSTER findings. The postscript identifies some key issues for the future and also provides some reflections on the process of working collaboratively across six countries.

3. The MUSTER Project and its participants

MUSTER was a six-country North–South collaborative venture between the Centre for International Education (CIE) at the University of Sussex, and teams of researchers in institutions from five countries in Africa and the Caribbean, namely:

- Institute of Education, University of Cape Coast, Ghana
- Institute of Education, National University of Lesotho
- Centre for Educational Research and Training, University of Malawi
- Faculty of Education, University of Durban–Westville, South Africa
- School of Education, University of the West Indies, Trinidad & Tobago.

Academic links were built up over several years between the CIE and these institutions with support from DFID and the British Council. From these a common interest in teacher education emerged. In 1997 the CIE approached the UK Department for International Development (DFID, formerly ODA) with a proposal for a small-scale comparative study into how new teachers acquire professional knowledge and how they develop their roles as teachers in different cultural contexts. In the initial negotiations it was agreed to expand the scope of the research and include in it investigations into policy-related questions of supply and demand and costs. The main aims outlined in the final proposal were to:

- Identify who becomes a teacher, what images, experiences and motivations they bring with them, how these change during training and induction, and how they relate to the role and identity of the teacher.
- Analyse the curricular processes by which new teachers acquire and learn to apply the understanding, skills and attitudes needed to become effective professional practitioners in their local schools.
- Explore the varied patterns of initial qualification, costs, and benefits in the context of supply and demand for teachers
- Gain a deeper understanding of the training colleges, their development and organisation, and the career patterns and perspectives of their staff.

Thus the research arose in part serendipitously from the dialogues established in the link partnerships. The final form it took was influenced both by the suggestions of the funding agency and by the enthusiasms of the researchers. Each of the collaborating institutions was invited to identify a Lead Researcher to take responsibility for the work at national level with a team of colleagues and research assistants. At different times five Sussex faculty members from the Centre for International Education were involved in supporting the project through research advice and short visits to each country. Three research fellows were attached to the project in Sussex and carried out their doctoral research in Ghana and Malawi, working closely with the relevant country teams. (A full list of all participants is given in Appendix 1).

Table 1
Simplified matrix of research questions

Strands	Arena 1: Inputs	Arena 2: Process	Arena 3: Outputs
Becoming a teacher	Who becomes a teacher, why, and what do they bring?	How do trainees experience training programmes?	How do trainees change?
Curriculum	What is to be taught, and how, and what are the underlying pedagogic assumptions?	How is the curriculum delivered?	What are the competencies of the graduating NQTs?
Colleges	How did the training institutions develop and what are the characteristics of the trainers?	How do the lecturers perceive their role? What are colleges like in terms of ethos, management and vision?	What links do colleges have with NQTs and schools receiving them?
Costs and Resources	What are the patterns of supply and demand for primary teachers?	How are resources for training provided and managed? Are systems internally efficient?	What are the costs of training systems. Are these costs affordable if demand is met? If not what are the cost sustainable options?

4. The research process

The Project took four years. The first step was for the local teams to produce a 'baseline study' of teacher education in their country, giving an overview of its history, organisation, financing, and key contemporary issues. The principal researchers then met with the CIE team at a workshop at Sussex in March 1998 to create the overall research framework based on the original proposal. It was agreed to focus on the pre-service training of primary teachers. The main aims were distilled into a series of research questions which were arranged within the three 'arenas' of training: input, process and output. Four strands were identified. These were 'becoming a teacher', 'curriculum issues', 'costs and resources', and colleges. Research enquiries were then developed to address questions located in each cell of the matrix which emerged (Table 1). This simplified matrix only identifies the main research questions. Behind them lie a series of sub-questions used to create particular sub-studies.[2]

The research methods used were chosen to reflect the nature of the questions posed. Both quantitative and qualitative data collection methods were employed as appropriate. The resources available also shaped what was possible within the constraints of time and money. Each principal researcher then adapted the overall research framework to their own context and designed a 'Country Research Plan' detailing the various sub-studies that would take place. This allowed for important variations in research questions and sub-studies to reflect the specificities of different contexts and gave more ownership of parts of the research to the national teams. The overall framework preserved opportunities to make comparisons across countries where these seemed useful.

In 1999, after a year of work on preliminary data collection and analysis, a workshop was held in Durban to present the first draft sub-study reports and to review progress. Here the issues of contrast and comparison became clearer: while there were indeed many common patterns and issues emerging, especially among countries sharing a common colonial heritage, South Africa was experiencing a social and educational transformation that raised different questions, which needed to be researched in different ways. In South Africa therefore, MUSTER took off on a different and more diverse trajectory. In the other MUSTER countries their divergence from the common framework was less striking, partly because in these cases there was a single national system to research, unlike South

[2] More details about methods are given in the Muster Discussion Papers listed in Appendix 2, and in the forthcoming MUSTER report to DFID (Lewin and Stuart, 2002).

Africa. Some commonalities were preserved across countries in the data collection that was survey-based. This focused predominantly on samples of entering and existing trainees and those who were working in schools as Newly Qualified Teachers (NQTs).

The final workshop in Sussex in July 2000 was spent on writing reports, discussing the main issues that had arisen and planning the dissemination of findings. The MUSTER team met again at the 2001 Oxford Conference on Education and Development to present a summary of their findings to an international audience.

5. Overview of the articles

The articles in this issue are drawn from all the research strands, exemplify the different research approaches, and highlight some of the important emerging themes, but they cannot give a full picture of all the findings. These can be found in the series of MUSTER Discussion Papers (see Appendix 2 at the end of this volume), in the Research Reports published by DFID, in a forthcoming book on South Africa, and in locally published monographs and research reports in each country.

The first ten articles are based on data from one or more of the four smaller country sites: Ghana, Lesotho, Malawi and Trinidad & Tobago. Some aspects of the South African research insights are described in the last two articles.

5.1. The context and costs of teacher education

In the first article, Lewin outlines briefly the context in which teacher education takes place in the four smaller countries. The article explores the nature of supply and demand, and links these to analyses of costs to establish the resource implications of meeting targets contained in national plans and the commitments to Education for All. The results are sobering. Only in Trinidad & Tobago is the current system capable of sustaining full enrolment (gross enrolment rate of primary of 100% or more) at current levels of cost. In Ghana and Lesotho (which have conventional fully residential college-based training) and Malawi (which has a high volume mixed college- and school-based system) output would need to grow several-fold to meet demand. This is unlikely to be achieved with current cost structures even with external assistance. The reasons vary but include current levels of under-enrolment (Ghana), high costs and small output (Lesotho), and constraints on the supply of qualified school leavers as well as erratic training output (Malawi). Teacher attrition rates are rising, as a result of HIV/AIDS and migration to other jobs. This appears to be shortening the working lifetimes of trained teachers to an extent that may call into question lengthy periods of initial training. New methods of training that can meet demand at sustainable cost are needed to respond to new needs. Without them enrolment targets at acceptable pupil-teacher ratios will not be met.

5.2. Becoming a teacher

The next two articles report some of the findings concerning ‘who becomes a teacher’. Coultas and Lewin compare data across four countries, based on surveys of students as they enter training. Their findings show that many trainees enter with minimum qualifications, lacking a secure grounding in core subjects, including English which is the medium of instruction in all MUSTER countries. Family background data show there are clear distinctions between those who are upwardly mobile and are the first generation to go beyond the basic education cycle and enter professional employment, and those who are from more educated family backgrounds; the latter are often related to teachers in their immediate and extended families. In many cases, especially where initial training is given to serving teachers, the students already have much practical experience, whose value is seldom recognised in college curricula. The data on the attitudes of trainees gives a preliminary insight into some of their images and aspirations. Although it is not simple to interpret, it reminds us that the attitudes, motives and aspirations of entering students may be quite different from those assumed by the training programmes. All courses need to pay attention to the actual perceptions and dispositions that trainees bring with them, and use these as starting points from which to build.

Akyeampong and Stephens provide a detailed study of entering students in Ghana, using both quantitative and qualitative data, which complements the picture presented in the previous paper. It shows how trainees come with well-developed images of the 'good teacher', which focus particularly on the personal and affective aspects of the role. Their mixed memories of schooling, and in particular their experience of harsh corporal punishment, seem to resonate with other MUSTER data, as very similar stories were told by entering students in Malawi and Lesotho. However, Ghanaian students' career intentions are rather different from those in other countries, which reminds us that teacher education operates within wider policy contexts that can affect outcomes. In Ghana primary teacher training is widely seen as a 'stepping stone' to careers with higher status and rewards. This is largely because of government policy which allows teachers to qualify for paid study leave at the university after three years' service. By contrast, in Malawi lack of other opportunities seems likely to keep primary teachers in post, and in Lesotho the profession is seen as a relatively attractive and stable career, at least for women. In Trinidad & Tobago, where the students are already working as teachers, the training seems to reinforce their perception of primary teaching as a difficult and undervalued job, which they would be glad to leave.

5.3. Curriculum of teacher training

MUSTER sought to study the curriculum as outlined in documents, as conceptualised by tutors, as observed in action, and as experienced by trainees. The findings show much dissatisfaction and the desire for change, but also uncertainly about the direction of change. For example Lesotho's new curriculum was oriented towards more academic study, while Ghana's was moving towards a more practical and school-based course. Many curricula are heavily over-loaded with content, and seem mismatched to the experiences, needs and expectations of the trainees. There are often internal inconsistencies with regard to aims, objectives, pedagogy, teaching-learning materials and assessment.

The case study of the National Teacher Training College (NTTC) in Lesotho, reported by Ntoi and Lefoka from observations, interviews and insider knowledge, exemplifies many of the above points. They show how difficult it is to change when a deep-seated shift in attitudes and practices is needed. Even when individuals advocate the training of teachers as 'reflective practitioners', which should be rooted in a constructivist view of knowledge, the established behaviourist paradigm persists in curriculum design and classroom practice. They single out the role of college management as crucial in the processes of change. This is supported by the studies elsewhere.

It is often said that the practicum should be at the heart of teacher education, but the MUSTER studies show how seldom this is the case. In Ghana trainees experience their short teaching practice (TP) as a 'reality shock' but in trying to 'get things right' for their supervisors, the student teachers are not helped to experiment and develop appropriate strategies. The case of Lesotho shows how difficult it is to give regular support to students scattered over wide geographical areas when time and resources are limited, and schools are unprepared to help. Students here are learning by coping, mainly on their own.

By comparison with the other places, the TP in Trinidad & Tobago is taken very seriously, organised in three blocks totalling nearly 20% of the course, carefully supervised and rigorously assessed. But the study by George and her team suggests that even here the integration of practice and theory did not take place as was intended. The results showed that students were receiving mixed messages. Discrepancies between the college assumptions, and the way tutors actually went about advising students, highlighted some of the weaknesses of the 'technical rationality' model, and indicated the need to prepare trainees more explicitly for 'reflection on practice'.

Much current thinking in teacher education stresses the role of experience in learning to teach, and school-based training is often advocated in both high and low income countries, though for different reasons. In Malawi the problem was that 18 000 untrained primary teachers had been recruited to cope with the influx of pupils when

Free Primary Education was introduced, raising the proportion of unqualified teachers in schools to nearly 50%. Kunje's account of the Malawi Integrated In-service Teacher Education Project (MIITEP) shows the difficulties of setting up a large scale and complex programme in a situation where many schools and colleges lack basic resources, and where staff themselves are underqualified. He concludes that such programmes do have potential, when accompanied by appropriate training and support at the school and district level, but that very careful planning is needed. It is unrealistic to expect such courses to bring fundamental innovations into colleges and schools at the same time.

While Kunje gives a bird's eye view of the scheme, Croft's article reports from the Malawian 'classroots' on an in-depth study of 'good practice' in infant classes. Choosing experienced and well-regarded teachers, she documented the kinds of successful teaching methods they used with large classes in poorly resourced schools, and how MIITEP trainees worked alongside them. Her analysis questions the appropriateness of the imported discourse about child-centred pedagogy, and shows how local teachers can use culturally relevant strategies to facilitate learning. One implication of these two studies is that large-scale school-based training programmes like MIITEP should start with locally accepted good practice and gradually develop new approaches consistent both with the culture and with internationally accepted theories of how children learn.

5.4. The impact of training

The MUSTER research was interested in exploring aspects of the impact of training, since so much criticism is directed at training colleges for producing poor quality teachers. The findings suggest that while training has less effect than its proponents desire, it does have more impact than some of its critics claim. MUSTER surveys indicate that NQTs do value their training; they feel that it has boosted their confidence and sense of identity, has given them some basic knowledge and skills, and, not least, has provided them with materials to use in school. However, the small-scale qualitative studies we carried out were more equivocal. There seemed not to be a great deal of difference between trained and untrained teachers in the classroom. Similarly, heads were often ambivalent, particularly about the attitudes of NQTs. Respondents in Trinidad & Tobago were the most positive about the effects of training, though with reservations.

The two articles below highlight different aspects of the problem, using different research approaches. The article by Akyeampong and Lewin complements and extends the work reported in Coultas and Lewin. Using Ghanaian data they examine how trainees' attitudes to teaching and their perceptions of the problems change over time. The results, using cross-sectional data, are suggestive that trainees' attitudes, as measured by responses to attitude statements, often do not change very much before and after training, and that when they do it may be in directions which are not those anticipated by training curricula. The challenge remains, both for colleges to pay more attention to students' dispositions, and for researchers to develop more sensitive ways of studying the changes.

Though colleges could indeed do much to improve their courses, it could also be argued that support in the first years on the job is an equally vital component of learning to teach and such support could be an important factor in deciding whether or not to remain as a teacher. Virtually none of the Ghanaian teachers in the MUSTER surveys thought they would remain as primary teachers, and Hedges' study of 23 NQTs in Ghana elucidates some of the reasons. These include an insensitive and inefficient bureaucracy, a posting system widely regarded as unfair, lack of induction and orientation in the school, cultural gaps between the largely urban-raised teachers and the rural communities where they were sent, and the opportunities for study leave with pay. This study shows how different aspects of the wider educational system can militate against successful entry into teaching.

5.5. Teacher training colleges and their staff

Primary teacher training in these four countries still takes place in monotechnic institutions that are

often closer to secondary level education than to tertiary ones, and which can be isolated both intellectually and physically from centres of research and innovation. Though many have their roots in missionary and colonial endeavours, all are under central government control and their links to universities are tenuous.

In her article, Stuart argues that the college sector has been greatly neglected, both in terms of funding and of research, and that this has contributed to the slow pace of change in teacher education. There is seldom a career structure for lecturers that would attract, retain and motivate skilled and enthusiastic teachers; most who train primary teachers themselves taught at secondary level; there is no induction or re-orientation, and few opportunities for continuing professional development, with the partial exception of Trinidad and Tobago. Intellectual horizons are narrow; many lecturers have little theoretical understanding of their job and most train as they were trained. Though there is much to be said in favour of specialised professional training institutions, the colleges studied by MUSTER have many constraints which limit the possibilities of using them as a base for reconceptualising initial teacher education.

5.6. Transformation of teacher education in South Africa

As explained earlier, the developmental situation in South Africa is very different to that of other MUSTER countries. The final two articles give some flavour of the changes taking place. Sayed's paper analyses what has happened to teacher education since 1994 from a policy viewpoint, describing the plethora of reports and legislation in the arenas of governance, curriculum, quality assurance and stakeholder participation, and indicating how institutions are responding to the changes. He exemplifies this using a case-study of one particular pathway seldom debated in the international literature: that of the private providers of distance education. Distance Education for teachers has always played a particularly significant role in South Africa, opening a pathway to higher education for students barred by racist laws from studying at prestigious universities. The part-time Further Diploma in Educational Mangement, offered jointly by the University of Pretoria and a private provider, raises concerns about how policy changes are interpreted in ways that allow old patterns to persist under new dispensations. Such problems have an international resonance.

Samuel presents another case-study of change within one teacher education institution—the Faculty of Education at University of Durban–Westville. Although the political and institutional contexts are very different from those in the other MUSTER sites, many similar themes emerge, such as understanding the importance of student background, the problems of balancing the curriculum, and the integration of the practicum. The study also shows how a group of determined teacher educators can re-educate themselves and their colleagues and bring about a radical re-orientation of the curriculum. This may be easier in a university than in a teacher training college where autonomy, agency, and the academic background of staff may all be qualitatively different. Some caution is needed since the innovation described is yet to take hold and prove itself for reasons as much to do with the transitionary nature of teacher education policy in South Africa as the nature of the innovation itself. However, some lessons may be drawn for the management of change in teacher education from the emphasis on the interaction between internal and external pressures for reform.

6. Concluding remark

The challenges that lie ahead for the development of teacher education remain immense. As a complex social activity grounded in context they cannot be reduced with ease to bulleted problems and their solutions. They remain too important to be allowed to remain in the background of the Education for All discourse and the more general debates about how professional knowledge and skill are acquired and applied. This special issue has provided a rich insight into new empirical terri-

tory in different arenas. Many of the studies invite follow up to deepen, extend and generalise their arguments and conclusions. The invitation is to build on the base that has been established.

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