



Faculty of Education and Language Studies

**Challenging the assumptions about teacher  
education and training in Sub-Saharan Africa:  
a new role for open learning and ICT**

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## Introduction

In the small teachers' room of a primary school on the edge of Maseru, the capital of Lesotho, is the visible evidence of the global challenge to provide universal, primary education. The school roll, neatly printed by hand, shows the first and second grade classes with 210 and 205 children. The third grade has 98. Three years ago Lesotho introduced free primary education, and enrolments doubled. The school continues to wait for extra classrooms. The 205 six-year-olds in grade 2 cram into a space that would, uncomfortably, take 40 in many parts of the world. Two teachers are allocated to the grade, neither is qualified.

Two and a half thousand miles to the north, in Rwanda, enrolment in primary education barely tops fifty per cent in many parts of the country. The buildings are poor and the classrooms crowded. Children sit five or six on a bench designed for three. They have no shoes. There are no books. Dog-eared cardboard 'slates' serve as writing paper. The teacher has no qualifications. Her education finished at the end of primary school.

Only 7% of the Rwandan population goes on to secondary school. Sister Josephine, the headteacher of a girls secondary school in Rwamgna, sixty kilometres from the capital Kigali, speaks quietly. She has 230 girls in her school. Half of them are orphans. Many saw their parents killed by machete in the genocide that ripped through Rwanda in just 100 days in 1994. 'We watch the girls carefully', she says, 'sometimes the memories become too much. But our support has to be on an individual basis. Every girl responds in a different way. And now we have HIV/AIDS. On top of everything, some of the girls are testing positive.'

In a stuffy, dim classroom twenty miles north of the luxurious Luxor Hilton on the Nile in Egypt, three nine year old girls sharing a single desk, excitedly answer questions about the time, working with small clocks they have each constructed out of scraps of cardboard carefully saved by their young teacher. Her teaching has encouraged more pupils than usual to attend classes at the school this term. Egypt's population is 71.1m; it is one of nine high-population countries targeted for improving literacy under an international initiative. More than 30 million of its adults are non-literate and 1 million girls are estimated to be out of school. Although the official net enrolment rate is 80% for boys and girls, household surveys tell a different story. In Upper Egypt school attendance rates vary between 67% in Assuit /Sohag and less than 55% in the surrounding rural areas (Watkins, 2000).

Places like this, however, exist across the globe in rural and urban communities. And these places have teachers, usually poorly paid, often unqualified, and frequently without any form of support to grapple with the huge challenges they face. This paper is about those teachers and millions of others who, on a daily basis, carry out their work in, too frequently, undignified circumstances.

In this paper we want to make a number of interrelated arguments. First, that the nature and quality of teacher education and training is going to be a key element in expanding educational systems to achieve universal primary education (UPE). Second, we suggest, that the existing institutions of teacher education, mostly created

in the mid years of the last century, will be unable to meet the needs of the twenty-first. For us, therefore, it follows that new forms of school-based, supported, open learning programmes will be the only logistically feasible and economically sound means of educating the millions of unqualified and underqualified teachers within the primary sector. New programmes, we suggest, will need to exploit the potential of information and communication technologies. We believe that such technologies can offer training and support of a type and cost hitherto impossible to consider. We point, however, to a number of impediments to the development of innovative teacher training policy and practice, including the regulatory constraints that inhibit developments in many countries. Finally we argue for a radical reconsideration of the traditional divide between pre-service and in-service training. Teacher education, we propose, is a career-long process. Although the rhetoric of this assertion is, we observe, gaining widespread acceptance, the translation into practice lags some way behind.

## **Teachers and the challenge to achieve universal primary education**

The statistics and analyses that inform the UPE agenda make salutary reading. Despite strenuous efforts over the last decade, over 100 million children are without primary schooling and 60% of these are girls. These children are spread across the continents. National statistics in country after country illustrate the global problems. In Thailand, for example, of 16.4 million children and young people aged between three and seventeen, only 12 million attend school (Rangsitpol, 1997). Only 10–15% of children in rural areas have the opportunity to move from primary to secondary schools.

In this paper we want to concentrate on Sub-Saharan Africa where, in almost all respects, the challenge of providing UPE is at its greatest.

This region is one of the most educationally challenged parts of the world. A news release from UNESCO's Institute of Statistics (12 April, 2002) states that four out of every ten primary-age children in sub-Saharan Africa do not go to school. Of those who do, only a small proportion reach a basic level of skills. The number of primary school-age children in the region grew from over 82 million in 1990 to 106 million by 2000. It is projected to rise to 139 million by 2015 (UNESCO, 2000).

The number of children out of school in Sub-Saharan Africa also rose in the 1990s. In 1998, there were 42 million out of school. In almost one third of countries, 60 per cent or more of children were out of school, and in more than half of countries, at least 30 per cent were out of school. Added to this the poor quality of much schooling leads to children leaving school with inadequate skills, and results in repetition and completion rates such that a World Bank evaluation has shown many countries must devote as much as 50 per cent more resources than others to produce a primary school graduate (World Bank, 2000).

Despite these additional resources teacher training systems have been unable to keep pace with expanding primary teaching numbers. Lewin (2002) in a major research study of teacher education policy and practice in low income countries has

demonstrated the growing imbalance between the output of trained teachers and the demands as primary provision is expanded.

Table 1, from a UNESCO report (UNESCO, 2000), provides a breakdown of the number of teachers and their qualifications in eleven eastern and southern African countries.

**Table 1**  
**Number of primary teachers 1998**

	<b>(in thousands):</b>		<b>Percentage of trained teachers:</b>		
	<b>Total:</b>	<b>Female:</b>	<b>Total:</b>	<b>Male:</b>	<b>Female:</b>
Botswana	11,7	9,5	92	87	93
Kenya	192,3	80,9	97	96	97
Lesotho	14,5	11,6	44	41	45
Malawi	34,4	13,9	54	57	49
Namibia	12,0	8,0	29	29	29
South Africa	223,0	174,2	63	66	62
Swaziland	6,4	4,8	91	89	92
Tanzania	106,3	46,8	44	44	44
Uganda	109,7	35,8	-	-	-
Zambia	34,8	16,5	89	86	92
Zimbabwe	59,9	28,3	-	-	-
<b>Total</b>	<b>805,0</b>	<b>430,3</b>	<b>average 67%</b>	<b>average 66%</b>	<b>average 67%</b>

A third of existing teachers are untrained. Thousands of teachers are being recruited each year to the regions primary schools with inadequate subject knowledge and little or no pedagogic preparation.

Teacher supply, as well, is crucially affected by the impact of the HIV/Aids epidemic. UNICEF estimates that 860,000 children in sub-Saharan Africa lost their teachers to Aids in 1999 (UNICEF, 2000). In Kenya more teachers are dying annually from Aids than teachers qualifying from the teacher training system (Remy, 2002).

A study in Namibia (Melaney, 2000) has shown that where the supply of new teachers remains constant at 1000 the shortfall of teachers with the impact of Aids calculated in will be 7,161 by 2010. But this overall statistic, as in many parts of sub-Saharan

Africa, masks acute internal disparities. In Namibia, particularly high infection rates exist in the northern regions of Ondangwa East and Ondangwa West. These regions also have particularly high pupil teacher ratios. As the study observes, unless the Ministry of Education is able to increase the number of teachers in training from highly affected regions, the impacts of the disease will likely affect its ability to achieve its target pupil–teacher ratios in those areas with resulting effects on access and quality of education.

Predicting the consequences for education systems of the demographic changes consequent on HIV/Aids is a complex task. A World Bank study (World Bank, 2000) looked at a number of national case studies. It was estimated, for example, in Zimbabwe, that 3.2% of the available teacher labour would be lost to Aids morbidity each year over the period 2000–2010.

It is not our aim to analyse the demographic consequences of HIV/Aids on education systems and teachers in particular. It is clear, however, that this represents a further challenge to an already unstable teacher education and training context. And policy development, it appears, is struggling to keep pace. Lewin (2002), using research in the region, have concluded that policy on teacher education is fragmented, incomplete and more often than not simply under-developed.

### **Key elements in developing school-based training schemes**

What is clear from this analysis is that the institutions of teacher education created in the twentieth century will be unable to cope with the scale and urgency of demand required in the twenty-first (Moon, 2000). These were mostly ‘bricks and mortar’ institutions, offering a traditional college-based course in the foundations of education and some practical experience. These institutions did, and do, concentrate on pre-service, initial training with only limited involvement in the career-long development of teachers. In making this point we are not suggesting the redundancy of such institutions. We want to suggest, however, if they have a role to play in meeting the development challenge, they will have to change their purpose and function.

It seems inevitable to us that most teacher education provision will become school based. The resources just do not exist to take millions of teachers away from their classes. Course structures, therefore, will also need to be more flexible with teachers acquiring the knowledge and skills, individually and with others, to develop their own professional learning.

School based training, we argue, is essential for all teachers. The unqualified and underqualified clearly need training opportunities. The qualified need career-long opportunities, not the least to understand how but to implement the new curriculum policies being pursued by most countries. In the primary sector the increasing emphasis on literacy, numeracy and a range of life skills is making new demands on teachers. And teachers form a key part of the campaign to reduce and eradicate HIV/Aids.

Our experience suggests that such training needs to be strongly conceptualised and planned and we want to suggest six key elements that must be included:

- the need for a clear articulation of the expected outcomes of training with a clear focus on the improvement of classroom practice;
- school-based support from more experienced educational staff (school inspectors, teacher trainers, experienced teachers working in school clusters are just three examples of where the support can come from);
- clear assessment and quality assurance structures so that the teachers know what they have to do and the system is self-monitoring in terms of effectiveness;
- material resource support that explicitly guides the teachers in trying out and experimenting with improved strategies within the classroom;
- school and Principal guidance to ensure that teacher training contributes not just to individual performance but to school improvement as a whole.

We also believe that access to new interactive technologies if for many now, and many more in the immediate future, be of enormous potential in significantly enhancing and enriching the continuing professional development of teachers. Recent experience in Egypt and South Africa (Leach and Moon, 2002; Leach and Power, 2002) and in other parts of the world is showing how access to resources and access to new forms of discourse and dialogue can be promoted through many of the new interactive technologies becoming available. The evolution of the cell phone, for example, into a multi-purpose, internet accessing device has, we believe, huge potential for teacher education.

The key task for programme developers is not merely to ensure that each of these key elements is present, but what the interrelation of the elements is and how these, in combination, are sensitive to local context and strongly focussed on improving classroom practice.

## **Impediments to progress**

For nearly ten years we have worked collaboratively on projects in South Africa and in other parts of the continent. A number of stumbling blocks impede the development of new types of training.

First there is the erroneous perception that school-based teacher education can be equated with old style distance education (the correspondence courses that provided a cheap means of training across much of the region, and in some respects still do). Supported school-based training using state-of-the-art technologies bears no relation to that old, much-discredited model. And if support is provided, as we argue it should be, the term distance education becomes something of a misnomer.

Second, as institutions and countries have moved towards the inevitable acceptance that school-based models must be devised, there has been far too heavy a reliance on the models and structures used in traditional pre-service teacher training courses. It is logistically impossible, for example, to take a ten-credit campus college course and try to translate it into a school-based model. Too often as well, course designers treat unqualified or under-qualified teachers ‘as if’ they were new pre-service entrants to

training. The prior knowledge of teachers, whatever their qualifications, needs to be given prominence in the planning and production of courses. In this respect national or institutional regulatory guidelines for conventional college or university based courses are too often indiscriminately applied to school-based courses. Teachers, for example, in some instances can be hugely inconvenienced by requests to travel far too frequently to sit examinations at some centre a long distance away. We came across one qualification upgrading programme recently where teachers in remote rural schools were obliged to leave their families and travel to the city area to do a 'supervised' teaching practice!

Third, the lock step equation of 'one year's full-time study must equal two years part-time study' is seriously inhibiting the new and urgent forms of school-based training that must be introduced in the coming decade. Upgrading qualifications, for example, from Certificate level are being planned to extend over six, sometimes more, years. We seriously question whether teachers with a number of years of classroom experience really need to spend as many years acquiring the competence to successfully teach the primary curriculum. Although there is an increasing acceptance that outcomes rather than input processes should drive teacher education, it remains difficult to shift many in the teacher education community away from an unquestioned belief that teachers in schools must have the same number of hours and years as a campus student. A further consequence of this is the way that resources become extensively tied up in one segment of the teaching force whilst the number of teachers without any access to training continues to expand.

Fourthly, programmes are designed in such a way that large chunks seem irrelevant to the class teacher. Teaching educational theory or subject knowledge without making it meaningful to the daily task of the teacher represents a wasted opportunity. Many qualification upgrading programmes, however, because of the orientation towards the traditional 'educational foundation' curriculum of campus courses give little attention to the teachers' daily task. We recently came across an upgrading course, in a country introducing a new primary level curriculum in literacy and numeracy, which made no mention of the new teaching requirements.

Fifthly, in most countries there is little policy reflection on the balance of time and resources between pre-service training and ongoing continuing professional development. This is not an issue unique to Sub-Saharan Africa. In a context, however, where resources are limited and need expanding rapidly there must be a question mark over continuing with traditional models. Is it appropriate to give some primary teachers three or four years campus-based training whilst others, sometimes a majority, receive none? Is there not a case for providing an intensive foundation course for greater numbers and linking this to better resourced and strongly conceptualised models of supported school-based training?

Finally there is the issue of technology. In Sub-Saharan Africa, if you look at the situation at the end of the 1990s connectivity and access is poor. Filip (2000), for example, has produced an analysis that includes the following:

- For every 1000 inhabitants, telephone mainlines are accessible to about 1 inhabitant in Nigeria, 9 in Kenya, and 41 in Botswana. This compares to accessibility to about 75 per thousand in Brazil, 166 in Malaysia, and 335 in Bulgaria. The average number of mainlines per person is about 18.5 per 1000 in Africa, compared to 60.2 in Asia, 303.8 in North and South America, and 343.8 in Europe. The density of cellular channels is about 1.7 per 1000 persons in Africa, compared to 13.5 in Asia, 69.2 in the Americas, and 117 in Europe. Most telephone lines and cellular hubs are concentrated in urban areas.
- 53 African countries have access to the Internet and this is generally confined to capital cities. The African ratio of 1:5,000 Internet users compares poorly to the 1:40 worldwide ratio, 1:6 ratio in Europe and North America. Moreover, the majority of Africa's one million Internet users reside in South Africa. In 1999, the Republic of Congo, Eritrea, and Somalia were still without local Internet service.

The same analysis shows that in 1999 only a small proportion of the African population, for example, could afford telephone or Internet services. The average total cost of using a local dial-up Internet account for five hours a month in Africa is about \$60 (including usage fees and telephone time, but not telephone line rental). Internet Service Provider (ISP) charges vary greatly, between \$10 and \$100 a month, reflecting different levels of maturity of the markets, the presence or absence of competition, varying tariff policies, and different national policies on access to international telecommunications bandwidth.

As has been seen elsewhere in the world, however, governmental and commercial changes in telecommunications policies can have a significant impact on access to new technologies. Faiola and Buckley (2000) have shown the significance in Latin America of policy changes. In Brazil competition brought internet rates down from \$40 a month in 1997 to \$10 in 1999. In Chile, government regulations in 1999 forced rates down by 70% with the average cost for 20 hours falling from \$18 to \$15.

In the African region similar processes are underway and we confidently believe that medium and long-term planning must incorporate ICT into the plans for school-based training. All across the region technological connectivity is expanding. Yet in many countries, and in segments of the international development and donor community, resistance to planning to exploit the potential for technologies is met. We believe that communication technologies have enormous potential for teacher education. Some, however, would have us wait until the last school in the last district has a source of power before seeing this as an option. And we are deeply critical of those in the international community who argue that the new technologies are not for much of sub-Saharan Africa 'yet'. We note with interest the influential analysis of Amartya Sen (2001) which critiques the belief dominant in many policy circles that some forms of human development and progress are a kind of luxury that only rich countries can afford. Since our basic freedoms require knowledge and educational skills, designing the opportunities of these to any group is immediately contrary to the basic conditions of such freedom and implies for such a group an 'unfreedom'. The question, therefore, is not whether or not to use new forms of communication, but rather how, and how quickly?



## **An architecture for teacher development**

This is not the first time that rapid changes in forms of communication have had the potential to significantly impact on our ambitions for educational and social progress. The printing press, the telegraph, the telephone all, in an earlier age, changed conceptions of the world. The end of the nineteenth century, for example, was a moment of rapid change. Not only was the world in the nineteenth century coming to be united in a net of steel, telegraph wires, and ideologies of progress, but also, and perhaps more significant, for the first time in history growing numbers of people in societies around the world – societies that differed greatly in structure, cultural practice, and historical experience – were coming to the realisation that their daily experience and the structural conditions of that experience were drifting apart. It was in the nineteenth century that, for the first time, self and society were beginning to be interrelated in a global milieu, one in which people's understanding of themselves and sense of the social world could no longer be identified as exclusively tied to only one place, only one tradition (Erlmann, 1999). Such changes in everyday perceptions of time, place and identity were so sweeping that Robertson (1992) speaks of it as a 'take-off phase' of globalisation in which the globalising tendencies of earlier ages gave way to a single inexorable form. On the ground, however, Erlmann (1999) has suggested that emergence of a singular conception of something called humankind and an increasingly interconnected world, was beyond the conceptual grasp of any one individual living under its sway. In the individual's imagination, wherever they were located, this 'global' system' took a wide range of forms of symbolic meanings. Thus emerged a new form of sociospatial, imagination that inscribed itself in the very syntax of language itself, the 'intersections of absence and presence' as Giddens (1991) has called them.

Into these new spaces created by rapid changes of technology came, in Pierre Bourdieu's terms, 'new cultural intermediaries' and new roles for intellectuals and artists. This is a process that we suggest is also characterising the new revolution in communications today. Within our modern forms of consciousness, however, Erlmann (op. cit.) has pointed to the way in which contemporary changes in turn engender and are expressed in a mirror dance between both Europe and Africa's images of the 'other', each retaining many of the legacies of the 'global imagination' that developed during the late nineteenth century. Most notable among these is the intertwined, persistence of fantasies of an abused and defenceless Africa and, inextricably, symbiotically linked with these, a certain heroic image of Europe and the individual.

If we detect something of this view of 'otherness' in the way the issue of developing teachers to meet the challenge of providing universal education is both perceived and framed, then the new forms of communication and our capacity to reconceptualise traditional divides and new practices, in turn offers an opportunity to think in new, and more realistic ways about what is humanly possible.

In this paper we have made a number of propositions that in summary include:

- that the worldwide challenge of UPE has a concomitant challenge to provide teachers and teacher education to make the experience of schooling meaningful and productive;
- that there is a need to build new, flexible, effective, school based forms of teacher education at a reach hitherto undreamt of (and this involves rethinking the traditional pre-service/in-service divide);
- that to do this emergent models of development that exploit new forms of technology, need to be examined, in order that new practices of teacher education might be shared, experienced and evaluated globally.

Across the world, many internationally recognised institutions and groups drive the improvement of teacher education, attracting scholars and ideas from every part of the globe. Few of these are situated in the developing world. Few are driven by the real agendas of the poor and the dispossessed. We believe that a task for teacher education, in parallel with UPE, is to create a new and imaginative ‘architecture’ for discourse and debate that is truly international, drawing on wide ranging practices and scholarship, and one that embraces the challenge set out in this paper. The entitlement to training and education for the millions of new teachers realising the quest for universal primary education should be a thoroughly modern one; an education and training that raises the status and dignity of a community’s teachers and above all builds self-esteem and identity. The form of that architecture, the roles of individuals in creating and working together in this, as well as it’s many globally and varied related communities, provides an agenda for the next stage of development.

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