

Part 3

Distance education

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Principles of distance education

Participants at the seminar considered the issues involved in teacher education through distance education methodologies. Several innovative programmes are being developed and implemented by the University of the West Indies, the University of Guyana and the Commonwealth of Learning. Participants benefited from a panel discussion. Panel members were Dr Keith Harry (International Centre for Distance Learning, Open University, UK); Dr Dennis Irvine (COL Caribbean Regional Representative); Dr Hilary Perraton (UWI); and Dr Alan Persico (University of Guyana).

Distance education for teacher training in the Caribbean

In many islands of the Caribbean the training of teachers cost-effectively is a concern. The geography of the region makes distance education look an obvious technique for raising the quality of the teaching force. And there have been some beginnings. The Canadian agency OCOD has used distance teaching to raise the basic education of teachers in the Eastern Caribbean. Jamaica has begun to use distance education within its World Bank project for the reform of secondary education (ROSE). The University of the West Indies has some experience of distance education, with programmes available for the Certificate in Education, and will expand its work in this area in the context of its shift from being a single-mode to a mixed-mode university.

Before expanding distance education, it is necessary to ask how effective it can be for teacher education. One caution is necessary here. Distance education has been defined as 'an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner' (Perraton 1982, p.4). The word 'proportion' is important; distance education is no substitute for classroom practice and it is no part of the case for its use that it should replace all other forms of teacher education. Rather it is argued that distance teaching methods can be used alongside more conventional forms of education and are of particular value for reaching scattered audiences like the teachers of the Caribbean region.

The effectiveness of distance education

Distance education has been used for teacher training in many parts of the world, including both industrialised and developing countries. Enough evaluation has been undertaken to make it possible to answer questions about effectiveness. The evidence is summarised in a recent publication from the

Commonwealth Secretariat (Perraton, 1993) where the outcomes of distance education for teacher training are examined along three main dimensions, considering the audiences reached, the effects on learning, and the effects on classroom performance.

The first measure – of reach – is the simplest, and, while of restricted value, of some significance both for planners and for researchers. When Pakistan wanted to teach a large proportion of its 155,000 primary school teachers about a new curriculum it called on the Allama Iqbal Open University to run a Primary Teachers' Orientation Course which used correspondence lessons and radio programmes. Over ten course-cycles it enrolled 83,000 teachers (Robinson, 1993), a larger number than would have been possible through any other method. Similarly the Department of Education and Science in Britain called on the Open University to develop a training pack about new national examinations which was distributed to all secondary schools in England and Wales (Prescott and Robinson, 1993). Many programmes of teacher education have been smaller than this: African programmes run in the 1960s and 1970s typically had between 600 and 3,000 students and the Tanzanian programme with 45,000 enrolled between 1976 and 1981 was very much the exception (cf. Perraton et al., 1986). The evidence is limited but clear: distance education can reach students in significant numbers both in industrialised countries with sophisticated communication systems and in developing countries with simpler systems and fewer resources.

The evidence that students learned effectively is more limited and is of two kinds. First, a small number of studies have tested samples of students in order to measure the learning gained at a distance. Comparative research in Sri Lanka and Indonesia found evidence of learning gains for trainee teachers studying at a distance but suggested that learning in mathematics and the sciences posed greater problems than in other subjects (Nielsen and Tatto, 1993, pp 126-7). Second, we have evidence from examinations. Where trainee teachers have taken similar examinations to those taken by students following regular, face-to-face courses it is possible to compare the two groups. Similarly there is evidence of examination success from open and bimodal universities offering degree programmes. The evidence is consistent: where distance students follow their courses to the end they tend to achieve as good examination results as other part-time students. Many teacher training programmes have guaranteed their students enhanced status and improved pay on completion and, in consequence, have also achieved high completion rates. Given a supportive environment, students working at a distance can reach examination success levels that are comparable with alternatives (cf. Perraton, 1993, p. 393).

The evidence that teacher education at a distance is translated into improved classroom practice is limited. But it is not much worse than the evidence on conventional teacher training. Schiefelbein and Simmons (1981, p.25) found quite limited effects of conventional training in their review of teacher training and classroom performance. A more recent World Bank review found that 'in many countries, teacher training provides few teaching skills' (Lockheed and Verspoor, 1991, p.99). Avalos (1991, p.30) concluded that, 'there is little evidence about which approaches work best in training teachers to undertake the variety of roles required of them'.

In some cases evidence of effectiveness has not been sought. When the government Department of Education and Science commissioned the British Open University to get training materials into all secondary schools, it was

content to know that they had been distributed and conducted no research on their impact on teachers' behaviour. A small amount of research has been conducted on two of the large-scale programmes in Africa. Two studies in Tanzania looked at the performance of teachers trained at a distance and were able to compare them with those trained face-to-face (cf. Chale, 1993; Mählick and Temu, 1989). Both studies found that there were few differences in effectiveness between the groups. Students learning at a distance seemed to be at a disadvantage in teaching science (a finding echoed in later studies) and the distance programmes were 'relatively less successful in reinforcing self-confidence among female teachers' (Mählick and Temu, 1989, p.126). In Zimbabwe limited evidence suggests that teachers trained at a distance were at least as effective as those trained conventionally (Chivore, 1993, p.56). In both these cases trainee teachers were deployed in the classroom while they were training so that they inevitably had more classroom practice than their contemporaries who were attending conventional teachers' colleges. We can conclude that the integration of such extensive classroom practice within a centrally organised programme of distance education appears to be effective.

The costs

As the evidence on effectiveness is reasonably encouraging we can go on and ask about costs. There are theoretical reasons for expecting distance education to cost less than the conventional alternatives; where teaching materials are prepared in large enough quantities it may be possible to achieve economies of scale that are not open to education with fixed class sizes. But, at the same time, an effective distance education programme requires the commitment of adequate resources for the production of those materials and for the processes of enrolment, administration and tutoring of students.

The empirical evidence is clear:

'In ten of the 11 cases (of training teachers at a distance) where data are available, costs for distance education appear to have been lower than the alternative; where we have detailed figures it is reasonable to conclude that distance education programmes can be designed for teachers at a cost of between one-third and two-thirds of conventional programmes.'

(Perraton, 1993, p. 385)

In part this is because conventional teacher training is relatively expensive. Even where its curriculum is broadly comparable to that of regular secondary education, for example, its costs are often higher. In part it is because some distance education programmes require students to pay fees, reducing the cost to public budgets, or have opportunity costs which again fall on the student. But, to a large extent, it is because distance education allows for economies of scale and reduces the need to build additional colleges of education and housing for students.

The conditions of success

Analysis of international experience makes it possible to go beyond measures of effectiveness and of cost and to reach some conclusions about the conditions of success for programmes that use distance education to train teachers. The first 'has to do with the structural relation between distance education and

the educational service generally' (ibid., p.399). Successful programmes have needed close integration with the rest of the education service and appropriate political backing. If they are to lead to qualifications, then those qualifications need to be recognised for status, pay and promotion. If they are to survive they need the steady backing of their ministry of education. Integration between a distance education programme and the rest of the work of a ministry of education is needed, too, in order to put in place arrangements for the supervision and examination of classroom practice. Thus the foremost condition of success is that distance education is built into the fabric of the education service, not a peripheral add-on.

Then it is necessary for those running distance education to ensure that the programmes can be sustained. Some of the early programmes in Africa, for example, were run as one-off solutions to a critical shortage of teachers and based in teachers' colleges wholly dedicated to distance education. Generally, ministries of education abandoned programmes of this kind once their immediate objectives were reached and they tended not to be built into the national system of tertiary education. They seem to have been operating at too small a scale and to have been insufficiently integrated with the rest of the education system of their countries. (The major exception here is the National Teachers' Institute of Nigeria – a country so large that there is an obvious case for a dedicated institution of this kind.) In contrast, programmes based in both bimodal and open universities appear to have demonstrated their robustness across a wide range of countries.

Successful programmes have also been marked by a developing expertise in distance teaching: materials have been developed of a quality and with a professionalism that has become steadily greater as the international education community has come to make greater use of distance education. Many programmes now are successful in producing 'materials which are sensitive to the linguistic needs of their students, which incorporate teaching devices to stimulate effective learning, and which maintain their students' interest' (ibid., p.400). Successful programmes, too, are sensitive to the social and individual needs of their students and of the circumstances under which they are working; programmes of distance education, like other programmes of continuing education, need to take account of all the other pressures on their students' lives as well as those that come from their programmes of study ensuring that the detail of implementation runs with the grain of students' lives. Finally, programmes need to give their students both intrinsic and extrinsic rewards; to be interesting and rewarding in themselves but, as a result of their close integration with policies for teacher advancement, to bring tangible benefits to their students.

Conclusion

To sum up, distance education has particular logistical advantages for groups like the teachers of the Caribbean who live at a distance from a university or college centre. It has obvious advantages for continuing education. While it demands integration with other forms of teacher training, including face-to-face sessions and the organisation and supervision of classroom practice, the complications of doing this are no greater than they are for students studying through more conventional means. The evidence on effectiveness is reasonably encouraging. The evidence on costs demonstrates that there is an economic as well as an educational case for the use of distance education.

Conditions of success can be identified; among the most significant are the need to tie the work of distance education closely to the regular work of ministries, schools and colleges, to be sensitive to the needs of students, and to bring appropriate expertise and professionalism to the design and implementation of distance-education programmes.

Distance education at the UWI

The University of the West Indies has several years experience of teacher education through the UWIDITE system. The UWI, in its efforts to expand facilities and programmes for distance education, has set up a Distance Education Unit which reports to the Pro-Vice Chancellor for Academic Affairs. The *Distance Education Newsletter* (April 1995) lists five roles of the Unit.

- To work with and guide academic staff as they develop and edit distance education materials, providing a pedagogical input to that process, and to arrange the production and distribution of teaching materials
- To set up, supervise and monitor student tutorial and support services in co-operation with campus and non-campus academic staff. The Unit will manage all aspects of this work including the use of UWIDITE
- To act as the first point of reference for distance education students, ensuring that any student difficulties are resolved as rapidly as possible by academic or administrative staff as appropriate
- To have responsibility for the quality of all University distance education activities
- To undertake formative evaluation on distance education activities.

New distance education courses that are being planned by the UWI include first year courses in English; preliminary courses in mathematics, biology, chemistry and physics; a new certificate in educational administration, articulating with an eventual B.Ed. available through distance education.

Training is being planned in the development of teaching materials; the techniques of tutoring and counselling; the production of print and audio-visual materials; and skills development for effective delivery of distance education.

Some of the lessons learned from the projects to date are as follows:

- more attention should be given to putting in place appropriate administrative structures
- greater use should be made of non-print media in so far as this is feasible
- countries could benefit from information on and sharing of materials, especially materials developed in third world countries
- considerable scope exists for training in distance education techniques
- communication infrastructures (audio-conferencing, computer networking) can greatly enhance teacher education by distance and at the low technology end of the scale are not a costly investment.

Teacher educators were asked to consider the following:

- regional and Commonwealth co-operation in teacher education by distance (especially sharing of experiences, expertise and materials)
- the potential for off-shore distance education programmes for those countries lacking the tertiary education infrastructure

CARIBBEAN ISSUES
AND DEVELOPMENTS

- production of quality materials cost-effectively, including non-print materials
- sustainability of programmes
- accreditation of teacher education programmes
- the teacher education curriculum – the need for a change to match the realities of the present and the future
- continuing and professional education.