Distance Education: What Is Its Relevance To Africa And Zambia?

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Abstract

In the coming years the approaches to teaching called distance education will become increasingly pervasive although the use of the term distance education will steadily decline. The concept of open learning, which has long been used inappropriately as a synonym for distance education, will finally take on meaning as technology helps the ideal of knowledge as the common property of humankind to reassert itself in educational institutions. Africa can benefit from this evolution in terminology and practice provided that its educators focus on the fundamental principles of effective teaching at a distance such as division of labour, specialisation, teamwork, and content recycling. Training and updating Africa's teachers is a priority for distance education because of the desperate need for more and better teachers and because teachers trained through distance education are more likely to bring the philosophy of open learning to the children of Africa.

Introduction

Thank you for inviting me to speak to you at this symposium on open and distance learning. It is a pleasure to be in Zambia. Because southern Africa is a long way from Vancouver I have decided to maximise the benefits of my trip by visiting the eight Commonwealth countries of the region. I am enormously impressed by the attention that is being paid to the development of open and distance learning by governments and institutions in the region.

For this reason I have decided in these remarks to go back to basics and ask simply: Distance Education: What is its relevance to Africa and Zambia? Since you are here at this symposium I suspect that this is a question that no longer bothers you. Maybe I am preaching only to the converted. However, many of you may now have to convert other more sceptical people in your organisations to an appreciation of the

strengths of distance education. In this address I will try to distil the key arguments for the greater use of distance education or ODL as I shall sometimes call it.

I can summarise my response to the question in my title in the proclamation that is made when a monarch dies: the King is dead - long live the King. That proclamation nicely expresses a balance between continuity and change. The institution of the monarchy continues - but with a new face as a king from a new generation succeeds his older predecessor.

In the same way I confidently assert that distance education is relevant in 2005, and also predict that it will be increasingly relevant to the development of Africa and Zambia in the years ahead. On what do I base that conviction?

Why might people doubt the continuing relevance of distance education? Let me tackle the last question first.

What's In a Name?

There are two main reasons why some people talk as if distance education were a 20th century phenomenon that will not survive long into the present century.

The first is that the array of technologies available to distance education is constantly expanding, and with it the number of words used to describe it. Flexible learning, distributed learning, on-line education, e-learning, virtual learning and multi-media education are just some of the terms in use. It is natural that people who come up with a new approach like to give it a new name. However, I shall argue that all these new names cover a single reality whose key characteristics will remain highly relevant to Africa in the years to come. In this talk I shall call that reality distance education.

Distance Education in the Classroom?

The second reason is that the techniques of distance education, which first achieved their reputation for success in new institutions often called open universities, are now spreading into conventional institutions that do most of their teaching in classrooms. This naturally makes the term 'distance education' seem less appropriate. I am thoroughly in favour of the use of distance education techniques in all institutions, although I shall argue that they must be introduced thoughtfully if they are to yield the full advantages that I shall claim for distance education.

Before I leave the issue of nomenclature I also note that for thirty years the terms distance education and open learning have often been used together, as in the title of this symposium.

The main international professional body in this field changed its name in the 1980s from the International Council for Correspondence Education to the International Council from Distance Education. In the 1990s it changed it again, becoming the International Council for Open and Distance Education.

There is an obvious alliance between the term distance education and the term open learning. That is because one of the effects of using the approaches of distance education can be - but does not have to be - the opening up of the opportunity to learn to more people in more places at more times. The institutional pioneers who introduced educational technology into higher learning thirty years ago expressed their purposes by calling their new institutions open universities and described their practices as distance education.

Hilary Perraton, a great distance educator who is well known to many in Africa, makes a useful distinction between open learning as the political imperative and distance education as the economic imperative. The political imperative is to increase access and the economic imperative is to make education more efficient and cost-effective.

The alliance between the two terms does not, however, make them synonyms. Indeed, you could argue that the steady extension of the techniques of distance education into all types of institutions has not been accompanied by a great increase in open learning, even though students who studied mainly in classrooms have gained greater flexibility in when and where they study. There is nothing wrong in that.

However, what the world needs - and what Africa needs in particular - is a massive expansion of opportunities to learn. Learning needs to be opened up to people of all ages. Why is distance education relevant to this challenge, especially in Africa?

An Educational Revolution

Distance education has achieved one of the rare revolutions in the history of education. The basic challenge that confronts ministers of education and all of you as educators is to manage what I call the iron triangle of education. This is a triangle made up of the vectors of access, quality and cost. You all want to maximise access to your education systems. You all want those systems to offer a quality education. You all want them to do it at a low cost because you are all short of resources.

The Iron Triangle

The problem you face, of course, is that with conventional methods of education the iron triangle constrains what you can do. If you increase access by increasing class size people will accuse you of lowering quality. If you try to raise quality by putting more resources in the classroom you will raise the cost. If you try to cut costs you will often reduce access and quality at the same time.

Distance education is revolutionary because it allows you to change the shape of the iron triangle in a way not previously possible. It allows you to increase access, improve quality and cut costs all at the same time. What is my evidence for this claim?

It comes from the open universities that have been created around the world in the last thirty years. Some of them, such as the Indira Gandhi National Open University in India and the Open University in the United Kingdom, have demonstrably changed the shape of the triangle. The Indira Gandhi National Open

University (IGNOU) now has well over one million students enrolled. It is ranked as one of the top ten Indian universities for the quality of its teaching and it operates at a fraction of the cost of India's conventional universities.

The UK Open University has fewer students than IGNOU, only 150,000 of them, but it also operates at lower cost than other British universities and now ranks fifth out of the hundred UK universities for the quality of its teaching. Oxford University is in sixth place.

I am not saying that all open universities have reconfigured the iron triangle in this way. Some have achieved high student numbers at low cost but have not yet won a reputation for quality. But the example of the good ones shows that it can be done. What is the secret?

Deconstructing the Educational Process

The essential secret is to break the educational processes of teaching and learning into their component parts and then to concentrate on making each part as good and as cost-effective as it can be. Before the arrival of distance education this was rarely done. Even when different steps in the educational process were identified, it was assumed that the same person, namely the classroom teacher, would do them all.

The four essential steps in an educational process, as in most human activities, are design, planning, implementation and evaluation. The tradition in education is that the teacher first designs a lesson or course; taking into account whatever curriculum framework they are working in. The teacher then plans the lessons, which means getting together any materials needed for the students and seeing that the classroom has the necessary equipment. Step three is to deliver the lessons, usually face to face with the students, and including more or less discussion and interaction between students and teacher depending on the culture. Finally, the teacher must assess how well the students have learned and make an evaluative judgement about the effectiveness of the lessons as a whole.

In many circumstances this is an efficient and robust approach. Human beings are adaptable and teachers can readily make changes as they go along if any of these four steps runs into difficulty. However, although the approach may be efficient and robust it is completely subject to the constraints of my iron triangle. Improvements in one area usually mean deterioration in the others.

The pioneers of distance education did not set out to break up this traditional educational process - they simply had no choice. Their students were not all in the same classroom at the same time, but in their homes or workplaces and studying at different times. Rather than starting with the teacher and trying to adapt this four stage process to a different context, it was better to start with the learners and determine what they needed to learn effectively. There had to be division of labour.

Laying out the stages of a process is a common technique in business and industry but less common in education. In a school community or on a university campus people assume that the necessary ingredients for learning are all there somewhere and will mix themselves, more or less spontaneously and without a big organisational effort, into a successful experience. Distance education, on the other hand, has to think

of everything and organise every step, from recruiting students to communicating examination results to them, across distance.

However, if we want to reshape the iron triangle the most important parts of the process on which to get leverage are those directly concerned with learning. Learning is the aim of the educational process and most people find learning difficult without good teaching.

Independent and interactive learning

The key to deconstructing the process of learning is to distinguish two types of learning activity: independent and interactive. Independent learning occurs when a student reads a book, listens to a lecture, watches a TV programme or works on computer. Interactive learning occurs when another person responds directly to something that the student has done in the process of learning, whether it be asking a question or submitting some homework.
The key to designing an effective distance education system and the secret of stretching the iron triangle towards more access, higher quality and lower cost is to get the right balance between independent and interactive learning activities. That is because it is much easier to stretch the triangle with the independent activities than through the interactive activities.

Here are two examples. First, if a radio programme is part of an educational course it costs almost nothing for an extra person to tune in and listen to it. Whether two thousand people or ten thousand people listen makes little difference to the cost. Second, if the course includes a multi-media exercise, whether on the Web or on a CD-ROM, the marginal cost of having an additional student doing the exercise is close to zero once the student has access to a computer.

Quality of Scale

I give these two examples because they yield even more striking economies of scale than older media for independent learning such as books.

Notice too that economies of scale can also lead to what I call the quality of scale. If you expect to have a large audience for your radio programme or large numbers reading your book, then it makes sense to invest in making the programme and the book as good as they possibly can be. You then gain again because students will learn more easily than if these learning materials were badly prepared.

Cost-Effective Interaction

But however good your independent learning materials are, most students will learn better if they can sometimes interact with a tutor or a fellow student. One of the reasons that correspondence education got a bad name was that there was little provision for interaction. Even if the independent correspondence learning materials were good - which was not always the case - the students wanted something more.

Designing and delivering that 'something more' is a bigger challenge than producing excellent independent learning materials on a large scale because Interaction requires people. There are limits to the number of students with whom any tutor can interact individually and there is also greater variability between tutors. Nevertheless, the successful open universities have made progress in this area too. Their secret is the fundamental industrial principle of division of labour.

You don't have to meet the author of a textbook in order to learn from it because regular classroom teachers can explain the difficult points perfectly well. Similarly, tutors in distance education systems do not have to be the people who designed the independent learning materials.

The open universities cut costs by using part-time tutors who specialise in this function, often alongside a full-time job elsewhere. They also raise quality by giving these tutors special training so that they are actually better at providing interactive support than the authors of the independent materials might have been.

This interaction does not have to happen face to face. There is now abundant evidence of the effectiveness of interaction by phone, by e-mail or on the web, which also makes things more convenient for the student.

Interaction Through Independent Media

The big question is whether, after all the technological developments of recent years, effective interaction can happen using what I have called independent media, notably computers, without having to involve human tutors all the time.

I think the honest answer is not yet, at least on any useful scale. Certainly, through e-mail and websites, students can access answers to frequently asked questions and contact other students for help. However, truly intelligent computer-based tutorial systems, which reflect your whole history of interaction with them when they answer you, are still rare and expensive. In any case, most people, when they are learning, actually like being in touch with other people some of the time.

Applying this to Africa

So where does all this leave us in the context of Africa? First, I reaffirm that distance education is highly relevant to Africa. When I cite the big open universities as examples of success you can legitimately respond that they have the benefits of operating at scale. It is clear that an Indira Gandhi National Open University, with more than a million students, has an advantage when it comes to getting costs down and quality up. However, there are also great opportunities for Africa in distance education if you apply the various principles that I have outlined.

First, Africa does have the potential for some large-scale operations. The University of South Africa became one of the world's first mega-universities when it passed the 100,000-student mark. The new UNISA, made up of Technikon SA, Vista University and the old UNISA now has 200,000 students. We

might also note that in South Africa the majority of all Africans engaged in higher education are studying through distance education. I expect the re-emerging Nigerian Open University to join that club before long. The Zimbabwe Open University was developing extremely well until the current difficulties and seems to be surviving better than the traditional universities in that country. Many African countries, even those with modest populations, have such a low participation rate in higher education that there are huge numbers of people waiting for the chance for higher learning.

Second, the costs of independent learning media are dropping. Documents on the web are not always an adequate substitute for real books, but the costs of distributing knowledge are going down. Both UNESCO and the Commonwealth of Learning are trying to contribute to this trend by encouraging institutions around the world to make their courseware and learning objects freely available on the web for others to use and adapt after giving appropriate credit. This will be an important resource for the various virtual universities that will appear, such as the African Virtual University and the Virtual University for Small States of the Commonwealth that COL is developing. I am sure that there are thousands of Africans who would welcome the opportunity to be tutors in these systems.

Third, a particularly important application of distance education in Africa is teacher education, both for initial and in-service training. The number of teachers that Africa needs to train and retrain simply cannot be achieved by conventional methods and institutions. Furthermore, teacher training has been shown the world over to be a particularly effective application of distance education. It has the added benefit that teachers trained or retrained by these methods will understand the principles of distance education and be equipped to introduce educational technology into the schools as it becomes available.

I am proud that COL, through my colleague Professor Mohan Menon who is present with us, is currently helping Zambia to design and implement a distance learning system for the in-service training of teachers.

Fourth, I urge that we do not let the digital divide discourage us. Certainly, the rich countries have more computing equipment. However, successful and cost-effective applications of computers for teaching and learning in schools are still pretty rare anywhere. Africa will have plenty of time to catch up provided that African educators grasp the essential dynamic that has allowed distance education to create a revolution in education. That dynamic relies more on clear thinking and good organisation than it does on electrons and broadband links. The challenge is to bring to education the principles of specialisation, division of labour and teamwork that underlie the huge productivity gains seen in other areas of human enterprise in recent decades.

Distance education is the clearest and most successful application of those principles to education. That is why it has created a revolution by breaking open the iron triangle that has put education in a straitjacket of inadequate access, low quality and high cost for too many years.

That is why distance education is so relevant to Africa and Zambia today.