Monique Fouilhoux
EI Coordinator

Updating distance education

According to a widely held definition, open and distance education embrace tele-learning, open learning, and the use of telematics in education.

For years now, all states and NGOs have been captivated by the idea of using technology in order to come up with a parallel education system aimed at adults and children living in remote areas, or in situations that prevent them from attending school. It is only since the 1990s that this poor relation of traditional education has begun to be properly used, either separately or in association with face-to-face traditional teaching systems. Bodies like the Commonwealth of Learning (CoL) and the Centre international francophone de formation à distance (CIFFAD – International Francophone Consortium of Distance and Open Learning Institutions) have played important roles in placing education on the agenda of debates, and particularly through the introduction of Information and Communication Technology (ICT).

In the view of UNESCO's John Daniel, there is no doubt that new technology is a formidable tool for each and every one of us, and broadens access to education within the context of lifelong learning.

Education by radio programmes have in the past played a major role in Latin America and Asia, particularly with regard to girls' education, and the Canal éducatif francophone (French-language Education Channel) will hopefully again highlight the role the educational radio can play with its relatively low operating costs, and particularly in the field of sustainable development.

A teacher-training tool. Distance-learning has been used for many years in the training of teachers and headteachers[1]. It is now beginning to be used much more widely, and will break the isolation that is inherent to the work of teachers while enabling them to perfect their abilities.

The most telling argument appears to be that this technique will centralise and industrialise those aspects of teacher training for which it is appropriate and will therefore allow more time and resources to be invested in interaction and reflection[2].

Distance-learning is now seen as one of the measures capable of ensuring that the Education for All objective is achieved by the year 2015. However, a number of questions arise, and as Ann Cheryl Armstrong pertinently reminds us, questions relating to relevance and quality lie at the heart of the discussions. How are we to improve quality and measure it at the same time? As John Daniel of the UK Open University (one of the 'top ten' British universities for quality of teaching) points out, we need to rely on existing good practices.

Other challenges include equity of access to equipment, particularly if we remember, for example, that 95% of computers are in the north. The situation is not the same everywhere. National traditions and capacities vary considerably from country to country, but it would appear that although distance-learning with ICT back-up is not the only solution, it nowadays presents more advantages than dangers. ◆

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1   D Nielsen, 1990, *Using distance education to extend and improve teaching in developing countries* (reference document used at the Jomtien Conference preparatory round table).
2   Perraton, 2000, *Open and distance learning in the developing world*.

CONTENTS

Pitfalls and Possibilities

One of the concerns about distance education held by some students, sceptics, governments, national quality control bodies and some academics from traditional institutions is whether distance education can and will provide "the same level of academic excellence as courses taught in the traditional mode".

Distance education has become a popular vehicle for education. This is due in large part, to the development of new technologies, which have glamorised this form of education, changing it from its humble correspondence beginnings to a modern glitzy field of techno-possibilities. Politically, it has become a popular way of strategically addressing current political problems associated with education such as: access and equity; economic development and workplace training; cost effectiveness of education and training; and accountability of the education system[1].

Though each country has its own raison d'être for engaging in distance education it is perceived by many developing countries as "the ultimate solution" to their academic problems because it provides the advantages of economy, conquest of geographical distances and mass application.

Some learners and governments, however, are especially attracted to programmes where the delivery and content can be customised to suit the specific local employment and education needs. They prefer programmes that are versatile enough to accommodate diverse circumstances and fulfil the requirements of responsiveness and relevance. Internationally recognised quality and certification and the transferability of academic credits at an international level are also strong selling points.

Issues

The world-wide expansion of distance education programmes in recent years has been led by both technological advances and the marketisation of education in Europe and America.

As additional markets have been sought by universities looking for new sources of income, technological developments have created opportunities for expanding beyond traditional markets. Electronic mail, video-conferencing, relatively cheap international travel, together with a market of potential learners increasingly requiring certification, which cannot be provided by institutions in their home countries, have made exporting knowledge a lucrative trade.

Communication and Technology

It would be safe to state that regardless of the proposed method of delivery, some form of technology would be used as part of the communication procedures. In developing countries, and more so in the small island states of the Caribbean, the quest for adequate telecommunications facilities is an on-going and arduous one. While it is recognised that a properly functioning telecommunications system is necessary in small island developing states (SIDS), this sector experiences one or more of these problems: "… *under-investment, poor management characterised by monopolistic structures and inadequate human resources development, poor maintenance of equipment and networks, low penetration of services, particularly in the rural areas, high tariffs owing to lack of competition and relatively higher unit costs for provision of services.*"[2]

Equipment maintenance is very often not included into the overall budget or is impractical. For example, though the Caribbean as a region is prone to hurricanes, local distribution cables are hung between upright poles so they become easy victims to gale force winds, falling trees, hurling wind-swept debris from buildings and occasional zaps of lightening. Though the use of underground cable ducts seem to be the practical solution, perhaps it is too costly to implement in the short or even the medium term. Globalisation continues to be a double-edged sword for the weaker countries who may find themselves being continuously marginalized.

In some developing regions of the world, there is not sufficient access to the bandwidth that is necessary for running a networked system. While some learners may have access to the technological hardware such as computers and telephones, others may not. Even for those who have access to the technology, the telephone may be quite unreliable, restricting use of the internet and e-mail which are now considered as basic communication tools in the metropol. Others may experience techno-phobia and panic especially if they had not previously been exposed to the technology until they were mature adults (aged 30 and over).

Using state of the art technology to develop web-based programmes is quite expensive. There is the cost of hardware, software, systems maintenance, upgrades, telecommunication charges, technical support, staff development, programme development, student support systems and other accompanying infra-structural costs. In spite of these challenges, implementing distance education programmes using the technology available can be cost-effective and productive, if courses that are suitable to this sort of medium are capitalised upon. Again, cost benefit analyses with realistic projections should be conducted before commitments are made to any such investments.

Cross-cultural pedagogical issues

There may be different expectations between lecturers

When one considers that an estimated 95% of all computers are in the developed world and the 10 developed nations which account for 20% of the world's population have 75% of the world's telephone lines, one can easily recognize that "most developing countries do not have the infrastructure to take part as equal partners in the worldwide enterprise of knowledge production and dissemination".

1   Bartolomé, A.R., and Underwood, J. (1998). 'The TEEODE Project: Technology Enhanced Evaluation in Open and Distance Learning'. In Bartolomé , A.R., and Underwood, J. (eds.), University of Barcelona, Laboratori de Mitjans Interactius

2   UNITED NATIONS Document E/CN.17/1996/20/Add.6 of 29 February 1996 incorporating corr. 1 of 30 April 1996 Development of Communications in Small Island Developing States. http://www.unep.ch/islands/d96-20a6.htm [Accessed 11 August 2000], para 54

3   Arunachalam, S. (1998). Information Technology: Equalizer or Separator of Developing Countries? [online] http://horizon.unc.edu/TS/commentary/1998-08.asp [Accessed 29th May 2000]

INTRODUCTION
by Ann Cheryl Armstrong,
Director, Caribbean Programs, School of Education, University of Sheffield, UK

and students. For example, some students from some developing countries may expect Western lecturers to be fountains of knowledge while some Western lecturers may expect their students to be more interactive. Conversely, lecturers from other less-interactive cultures may not expect or require student participation. In addition, lecturers from the more developed West may assume a stance of academic superiority by an unwillingness to fully acknowledge instructors from less developed countries as their academic equals. Instructors and students from different cultures may also have differing views on their cultural and economic understandings of the world. Some of the examples used may not be culturally, politically or even economically relevant to the students.

Access to Academic Literature

Another issue of concern is that of access to publications. The majority of 'recognised' publishing takes place in the developed world and quite often the cost of access to either electronic journals or printed journals is prohibitive for students from developing countries. Thus the effect is an ever-increasing gulf between developed and developing countries and a possible increase in the dependency on aspects of foreign aid and 'knowledge imperialism'[3].

There have also been cases where 1st World Universities attract students from smaller 3rd World countries because the 'foreign-ness' of these Universities make them seem high profile and reputable. Sometimes, these students are extremely disappointed when they realise that there are no adequate support structures for the course, which are sometimes packaged in an extremely sterile manner. They feel especially vulnerable if there are no government agencies to guide them on the selection of these training agencies.

Costs to Students

Advocates of distance education have argued that this mode can be less expensive than traditional education systems and that it can also be comparable to these traditional forms in terms of quality. Whether it is actually cheaper depends on a number of factors, including: choice of media; number of subject areas and courses covered; the extent to which the direct variable student cost is kept below the level found in traditional forms of education; and, the number of students enrolled.

One argument that points to increasing costs for developing countries is that of 'technologization of distance education'. As the new technologies develop and are put into use in the 'advanced industrialised countries, this could easily be translated into increased costs for students - especially those in developing countries. If distance learning programmes are designed within a specific and somewhat restrictive set of parameters in order to ensure that they are cost-effective and easily replicable for use in other countries, then, another concern arises; that is, the amount of effort required to adapt the existing programmes, so that they can effectively cater to the existing needs of the country being supported.

If staff from less developed countries are hired, then the cost of labour will be decreased significantly because often, the cost of living there is much lower than in the developed world. This means that institutions wishing to add another cultural dimension to its teaching staff could take advantage of the lower salary requirements of those members of staff in the countries where training is taking place. One can question whether course fees should then be significantly lower than those for students taught in less developed countries.

Though there are several real issues that need to be addressed by SIDS, there are several wonderful opportunities that can be created by the skilful use of distance education as a vehicle to promote a more knowledgeable work force.

Wonderful opportunities

Based on the issues identified above, there seem to be two main models of distance education operating at the moment – one being a more technology driven transmission model and the other a more interactive model. The former uses the technology in a manner that fails to engage with the historical heritage of the learners and fails to acknowledge the socio-cultural differences between the provider and the learners. The latter uses technology in varying degrees to support teaching and learning but also relies on the use of spaces (real or virtual) to foster the growth of relationships and develop avenues for collaboration among educators, Non Governmental Organisations (NGOs) and Ministries of Education. Possibilities therefore exist for the sharing of professional concerns and expertise while working with people across national and cultural boundaries.

Though it is acknowledged that the globalisation of educational provision through distance learning systems of delivery carries its own inherent dangers as a colonising and controlling process, it can be argued that developments in distance education pedagogies do offer genuine opportunities for engaging in collaborative, yet critical initiatives and interventions. This critical pedagogy is one that must be based upon a theoretical and practical engagement with the politics of post-colonialism based upon the mutual analysis of the lived experience of educators and students in the different locations. ◆

In the Caribbean, the telecommunications and postal systems can be somewhat unreliable as service providers struggle to keep up with technological advances in communication and so timely and frequent student-to-faculty interactions is one of the most difficult of problems to overcome. The lack of ready access to adequate library resources beyond the set readings and required texts is also a cause for much concern.

Open and Distance Learning: Unlocking the Potential

by John Daniel
Assistant Director-General for Education
UNESCO

Why use technology?

Before we assume that open and distance learning, i.e. technology, provides answers for education we should know what the questions are. Education today faces three major challenges. The first is access, the second is quality and the third is cost. The tensions between these vectors make up the eternal triangle of education.

The major problem in education today is that hundreds of millions of the world's citizens do not receive it. The question is, can technology increase access?

The second challenge is quality. The standard definition of quality is simply 'fitness for purpose at minimum cost to society'. So what is the purpose? Education should have two aims, to create human capital and to create social capital. Human capital means the individual knowledge and skills that make a person more autonomous, more flexible and more productive. But no person is an island. We also need social capital, which is trust in other people, networks of contacts, the coming together of people for a common goal that creates communities.

The third side of my triangle is cost. High cost limits access and is bad for quality.

When you express the basic challenges of education in terms of this triangle it is clear that traditional methods of teaching and learning cannot meet them. Put more students in each class. Access may go up, cost may go down, but everyone will accuse you of lowering quality.

The challenges are clear. The question is, can technology do anything about them? Can technology really increase access, improve quality and lower costs all at the same time. The evidence shows that it can. How does it do it?

How to use technology?

Technology is the application of scientific and other organized knowledge to practical tasks by organizations consisting of people and machines. Two implications follow. First, this is not a futile search for the perfect method of learning. Second, we live in a world of people and machines. Good use of technology always involves people and their social systems.

Learning involves two types of activities. First, there are activities that the learner conducts independently, such as reading a book, viewing a TV program, listening to the teacher or to an audio-cassette, writing an essay and doing mathematical calculations. These are the activities that allow you to use technology to increase access, improve quality and cut costs. That is because the basic tools of independent learning, such as print and audio materials and TV programs cost relatively little to reproduce in volume once you've invested in the first copy. Volume helps to increase access and cut costs. It also allows you to improve quality, because once you are producing materials at scale you can afford to make them excellent.

Second, you need interactive activities. Most learners will not succeed on independent activities alone. I use 'interactive' for a situation where the student's activity evokes a response by another human being – a teacher, a tutor, or another student – that is specifically tailored to that particular student. Interactive activities are events such as face-to-face sessions with other students or a tutor, having homework marked and commented on by a teacher, asking questions over the phone, getting a response to a query by e-mail, and so on. These activities are vital to the success of most students but do not lend themselves to economies of scale in the same way as independent activities.

The key to using technology cost-effectively is to blend independent and interactive activities to produce efficient learning at low cost.

The world's open universities are a striking example of this. They operate at scale and they take full advantage of their large scale to produce high quality materials at relatively low cost. For the interactive activities they hire large numbers of tutors to be in direct contact with the students. These tutors are expert in the subject of their course and are specially trained for tutoring in a technology-based learning system. They give students high-quality support.

Who can benefit from technology in education?

Who is technology-based learning for? My answer is that it is for everyone. The concept of blending independent and interactive activities leads naturally to the idea of blending technology and teachers in different ways for different purposes.

In terms of the criteria for access, quality and cost that I outlined, the technology of open and distance learning has achieved its greatest successes, so far, in higher education. This is because university study naturally includes a larger proportion of independent learning than you would find in kindergarten.

The story of the world's open universities is the greatest

The challenges are clear. The question is, can technology do anything about them? Can technology really increase access, improve quality and lower costs all at the same time. The evidence shows that it can.

educational success story of our generation. The open universities have successfully reconfigured my eternal triangle. Internationally the twelve largest open universities enrol over three million students, a massive increase in access. In one country, the UK, the Open University today enrols more students than the total enrolment of all British universities in 1963 when its creation was announced. The UK also commissioned some independent assessments of costs, and found that the total cost of a degree at the Open University was between 60 to 80% of costs in traditional institutions.

The biggest surprise to the sceptics has been in the area of quality. Today the UK Open University ranks in the top ten per cent of UK universities for the quality of its teaching programs as evaluated by the national agency for quality assessment. The straitjacket of the eternal triangle has been broken open.

I shall not review the use of technology at all levels of education in turn. Most people believe that kids should learn in a social context. In principle it should be easier to develop the social capital that I referred to earlier if the school itself is a good social system that inculcates trust and co-operation. That means a high proportion of interactive activities.

However, it is clear that the patience of a computer, and the one-to-one relationship that a child can have with it, can help children learn without the fear of failure. It can help to build human capital. Through properly designed exercises computers can help children learn the skills of co-operation and teamwork. They can help to build social capital. The web can allow students to discover other countries and other places in a colourful, hands-on way. It can help us to learn to live together. The web has been a nice asset for many of the 7,000 schools in 170 countries in UNESCO's Associated Schools Program – although we try to ensure that the schools on the wrong side of the digital divide are not disadvantaged.

Where can we use technology in education?

Where should we use technology? Once upon a time the main use of technology in education was for distance learning. But this did not mean it was a rural phenomenon. Geographical distance is not the only distance. People can be separated from learning by time, because they cannot fit in with the schedules of classroom teaching. People can be separated socially from learning because they do not feel comfortable in a particular educational institution. People can be separated from learning by disability because they cannot get to the institution, or they cannot hear the teacher or they cannot see the blackboard.

Today technology is for everyone, everywhere. Effective

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education combines people and technology. We must also have a broad view of technology. Reflect on this quotation from Edith Mhehe from her research on female students at the Open University of Tanzania: *"When I asked about the possible use of alternative learning technologies one woman suggested that her most pressing need was not for learning technologies but for other technologies such as washing machines, cookers and vacuum cleaners, which would help shorten the time she spent on housework and increase the time she needed for studying."*

Which technologies?

What principles guide our choice of technology? First, start from the position of the learner and create a stimulating environment for study. Second, the availability of a particular technology is a pre-eminent consideration. It is futile to propose using the Internet in a country where only a tiny proportion of the population has access to either electricity or a telephone.

Availability is linked to the third principle, cost. Try to use technology that the learner already has, even if that means simple technology. Cost leads to quality. The best technologies are those that are easy to use. For example, one of the reasons that audiocassettes are a popular technology with both students and teachers is that they are easy to produce and easy to use.

Finally, bear in mind my distinction between independent learning activities and interactive learning activities. Using these principles will help you develop an effective blend of technology and people and allow you to join the modern revolution in education. You will find that you can increase access, improve quality and reduce costs all at the same time. ◆

TECHNOLOGY

The Francophone Educational Channel:
A major Agence de la Francophonie program

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CANAL Educatif Francophone (Canal EF), the digital radio education channel by satellite for the African continent, was launched in 1999, and came on stream in 2000. The main aim was to provide an education and training system by radio for French-speaking people in Africa, the Indian Ocean and the Middle East. It was set up for an experimental period of four years from 2000 to 2003, and is initially aimed at education and training institutions (e.g. schools, colleges, high schools, universities, and training establishments) and at rural and urban communities. There is also an opening to members of the general public – particularly young people – who are eager to undergo training and enjoy intellectual and cultural enrichment.

The programs are broadcast by WorldSpace's AfriStar digital radio satellite. The system includes a bank of audiodigital programs that will eventually be accessible without an aerial by satellite or on the Internet. The bank, which is hosted on a server at the Agence, is central to the exercise. All the programs in the education channel are digitised, archived, managed and distributed.

Programs are received directly by digital radio receivers with a small built-in antenna. The receivers can also be connected to a computer to transmit and process accompanying data. An initial batch of 500 sets will be made available to receiving authorities during the experimental phase. They are in the DIDAC network, and are mostly secondary education establishments and teacher training institutes. Through partnerships, however, the CANAL EF programs may also be broadcast on the FM band via local and national antennas so as to reach out to more listeners.

Programming, targets and partners

CANAL EF is educational radio, not school radio. You can learn a lot from it, but there isn't much teaching – at least, not directly. Just the same, programs are partly linked to education and training programs, particularly those to do with practising French. There are also awareness-raising and development programs on health and safety, the environment and environmental protection, and issues of water, rights and citizenship, in addition to broadcasts on cultural and leisure matters such as African in the world, heritage and history, literature, culture, music, and a key issue: youth.

The daily schedule is in three parts, each lasting two hours, and repeated in order to cover the four time periods:

1. morning broadcasts consisting of short programs lasting 3-6 minutes (e.g. general science, practical tips and short talks);

2. midday broadcasts called 'École Nouvelle' (New School) lasting 15-20 minutes, and focusing on education establishments in the 'DIDAC network';

3. evening broadcasts lasting longer (up to an hour) and dealing more specifically with literary and cultural subjects and illustrations of African heritage.

The countries targeted by this programs are firstly the 30 Francophone countries in the zone served by the AfriStar satellite as broadcasts can be picked up by all countries in Africa. For the most part, targeted listeners are pupils at school, young people and students, teachers and trainers.

CANAL EF functions thanks to a wide range of partners, and operates as a north/north and south/south cooperation project. When the experimental phase is over, the head of the network will move to one of the countries in the south concerned. ◆

CHILE

Distance teacher–training courses are a "good business"

Although today distance learning is something of a controversial issue, in practice it already enjoys a long and well-established tradition, especially in vocational training and adult education – for example, in the form of correspondence courses, programd learning texts, and educational radio and TV programs. Currently the use of the Internet is becoming increasingly widespread as an effective tool for distance learning.

Both in Chile and globally, the new opportunities offered by Information and Communication Technology (internationally known as e-learning) are being put to good use in a very wide range of educational areas, from the training of executive and technical staff to vocational training, further education and academic courses.

However, distance learning programs are increasingly being offered by institutions which, implementing market-oriented strategies, resort to distance learning because it is cheaper, capable of catering for a larger number of students and, hence, more profitable. Often no real concern is shown for academic standards or the quality of education provided by this means.

Distance in-service training for teachers has long been present in the Chilean education system, but the availability of such courses has significantly increased in recent years in the context of a major development of the further education market in our country. Many institutions started offering a range of courses varying widely in both quality and length but usually enabling students to gain a larger number of credits in a relatively shorter period of time than courses requiring full-time or part-time classroom attendance.

Distance teacher-training courses have been welcomed by many teachers, although there is a general feeling that the acceptance of this kind of training has more to do with the opportunity for salary increases than with a real commitment to improving the quality of courses and teaching skills. All this has brought a certain amount of discredit on distance learning and, in an attempt to respond to such criticism, some institutions have already begun to develop better quality alternatives, including mixed courses which combine the use of ICT and traditional tutorials or seminars.

Within the framework of educational reform, the Ministry of Education is promoting ICT-based further training courses to familiarise the greatest possible number of teachers with the new curricula. However, ensuring that these new forms of teaching are actually used to create a better and more equitable training system is likely to remain a major challenge: distance learning programs should provide quality training for a larger number of teachers, rather than just provide a new and easier way of obtaining qualifications that do not reflect a real learning process and real skills.

As regards the use of distance learning for initial (or undergraduate) training, although no regular programs exist in Chile at this level, a number of special "qualifying" programs have appeared, supposedly for people with teaching experience, the aim being to enable them to continue working while studying in their free time. The Teachers Association ("Colegio de Profesores") has expressed concern about these courses since they often attract people who are not actually engaged in teaching but nevertheless eventually gain a teaching qualification through courses whose quality is not subject to any official control. Unfortunately, universities – many of which are facing a serious shortage of funding – continue to promote and market such distance teacher-training courses, which are regarded as "good business" since they provide academic institutions with a significant source of revenue at minimal cost.

Finally, in our country, as in many foreign universities, distance learning is beginning to be used in postgraduate education. The qualifications obtained in this way are also being seriously called into question, given that they are subject to the same kinds of problem associated with market competition, and no regulations exist to ensure adequate quality standards.

Apart from the problem posed by a competitive market not subject to any kind of quality-assurance legislation, a key issue which ought to be studied and researched is that of the extent to which distance learning can replace the traditional, direct interaction between teachers and students in the classroom, particularly in the case of teacher-training, given that this interaction is the hub of the teaching/learning process and is therefore essential to the proper training of teachers. ◆
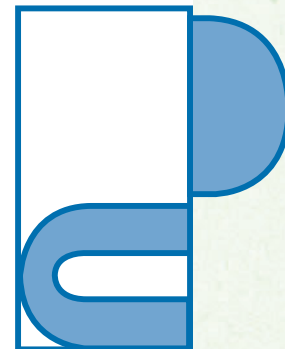
Jorge Pavez Urrutia
National President
Colegio de Profesores de Chile

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Russia launches major program in distance education

For more than 10 years now, programs have been conducted within the educational system of Russia to integrate telecommunication and computer networks. The aim is quite clear – to create open/distance educational opportunities for the majority of the population, but this can only be achieved through changes in national governmental policy.

Since 1997, the Ministry of Education of Russia has conducting experimental programs in some universities. The result is the creation of two types of new technologies: Internet library and multisubject educational satellite TV network.

The programs helped work out the role for teachers and a new methodology for educating with the new technology. The experiment covered educational centres in most Russian regions, testing technological principles of distance education, thus facilitating new approaches to higher education, including in areas far away from the university campus.

At present, the Association of Open Universities comprises 22 universities in different parts of the country. 15,000 students take courses through distance education. The Association offers 300 courses to students all over the country.

The Ministry of Education is developing a major program in distance education. In the last two years, the subject was discussed at conferences dedicated to legal aspects of open education, open education in vocational education, functioning of corporate information systems in open education.

The expected result of the program is to provide access to quality information resources to students and teachers in 50% of public schools and in 70% of vocational educational establishments and ultimately, to involve the education community in distance education.

The arising problems are often of a legal aspect (there is still no legal definition of distance education), demands for equipment, teachers and technical personnel, and the combination of distance education with existing traditional forms of education. Currently there is no fixed procedure or standards for granting licenses to educational centres for providing distance education. Students should also have certain rights and obligations.

One third of all school children come from rural areas; these schools are extremely difficult to connect to a single network. Only 25% of teachers and school heads have basic knowledge of information technologies. New approaches are needed to create electronic textbooks and materials.

Nikolay Kolobashkin
International Secretary
Profsoyouz Obrazovanya (ESEUR)

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The existing experience creates conditions for Russian universities to join the international education and information market, but they should mostly orient their activities in this field domestically and in the countries of former Soviet republics. Unfortunately, there does not exist a common approach in forming didactic subject material. More often such resources are created on the basis of different programs and do not take into account demands of consumers or peculiarities of the educational process. Educational centres should enjoy equal rights in conducting distance education. ◆

ICDE, the International Council for Open and Distance Education

by Reidar Roll, Secretary General

Founded in 1938 to help provide education for students and children living far away from schools – especially in large under-populated countries like Canada and Australia –, the International Council for Open and Distance Education (ICDE) is now present in 142 countries. The majority of its membership is composed of educational institutions at all levels (schools, colleges, universities), but it also includes national and regional associations, corporations, educational authorities and agencies, active in open, virtual and distance learning.

The main mission of the ICDE is to provide leadership and facilitate cooperation, development and communication at the global level in distance and virtual learning. More precisely, its mission is:

- To promote open and distance education, along with associated goals such as flexible learning, community education and adult education throughout the world;

- To help develop networks and systems for educational purposes at national, regional and global levels, with special reference to lifelong learning;

- To facilitate the emergence of new educational paradigms based on the best practices in distance education, and to contribute to the development of new methodologies and technologies applied to education and training;

- To foster international collaboration and the sharing of experience in education and training across national borders, especially among teachers and students using new technologies;

- To create an appropriate environment for the planning of new educational initiatives, in cooperation with cultural industries and services;

Such general and permanent missions are directed at the major issues the world of education is confronted with at the beginning of the 21st century, such as the global need for basic education addressed by the long-term UNESCO program "Education for All", in which ICDE is directly involved; the applications of Information and Communication Technology (ICT) to education; and the development of a world education market and the necessary regulation to achieve in terms of access and of quality assurance.

Founded just before the Second World War, ICDE provided the only forum in the world where distance education institutions and professionals could meet in order to discuss important issues, learn from each other and enter into partnerships and business ventures with each other. In the first decades of ICDE's existence, the participation of American universities was

CURRENT AND FIELDS OF ACTION FOR ICDE

- Help narrow the digital divide in education and training
- Understand better, through research and development ,how the Internet can be used for provision of high quality learning
- Focus on quality and high standards of best practise
- Work with governments, IGOs and the education sector to develop educational systems for the information society
- Work with teachers and other professionals around the world to develop capacity and quality in technology-enhanced learning
- Work with companies that develop technology and software for education in order to help make their products better and more relevant for education
- Promote multiculturalism in the provision of virtual learning

very strong, together with universities from Canada and Australia. The European participation came in later. With the founding of the British Open University thirty years ago, distance education took a new development. During the period 1970-1995, ICDE went through a very rapid development, with the establishment of a large number of distance education institutions around the world.

Among the most prominent ICDE open university members are IGNOU in India, UNISA in South Africa, ANADOLOU in Turkey, CNED in France, UNED in Spain, the UKOU in the United Kingdom, the Fern Universität in Germany. ICDE also includes new "virtual" universities delivering their courses on the Internet, as well as hundreds of "dual mode" institutions, which combine the traditional face-to-face offer with a distance education department for students outside their campuses.

Open and distance education has undergone tremendous evolution through bouts of doubt, ridicule, and rejection at various stages of its history to its current mainstream acceptance as a viable alternative and cost-effective mode of education complementary to the face-to-face mode. The emergence and catalytic development of new information and communication technologies, telecommunications and computer technology has globalised ODL (Open and Distance Learning), and made it attractive, commercial and competitive.

ODL is essentially about the best way to design and develop instructional packages, to communicate instruction, to interact with learners and provide support, to assess learning and to disseminate information in a knowledge-based society. The key to all these is definitely research. While the first and second generations of ODL did little to entrench and foster the development of research in any organised fashion, research and engagement might be one of the most important characteristics which will distinguish quality ODL institutions and products from those emerging so-called online or virtual institutions which have no roots in pedagogy and inquiry. ◆

The correspondence course goes online : Comeback of

by David F. Noble*,
Historian and
Professor at York
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With the arrival of the internet, distance learning has become hugely popular. Universities see it as the marketplace of the 21st century and are investing a great deal of energy in online services, especially in the United States. But do those who are promoting this transformation in higher education know the less than glorious record of their precursors?

Correspondence instruction began as a commercial enterprise before taking hold in academia. Thomas J. Foster established one of the earliest private, for-profit correspondence schools in Pennsylvania in the late 1880s to provide vocational training in mining, mine safety, drafting and metalworking. He then founded the International Correspondence Schools, which became one of the largest and most enduring firms in this burgeoning industry. In 1924 these commercial enterprises boasted an enrolment four times that of all the colleges, universities, and professional schools combined. By 1926 there were over 300 correspondence schools in the US, with an annual income of over $70m.

In all the firms the priority was enrolment and most of the revenues were expended in promotion rather than instruction. Typically between 50% and 80% of tuition fees went into direct mail campaigns, magazine and newspaper advertisements, and the training and support of a sales staff paid according to the number of enrolments they secured. "*The most intensive work of all the schools is, in fact, devoted to developing the sales force,*" observed a 1926 Carnegie Corporation-sponsored study of correspondence schools written when the correspondence movement was at its peak[1].

The pursuit of profit tended inescapably to subvert the noble intentions - or pretensions - of the enterprise, in what had become a highly competitive (and totally unregulated) field. The students enrolled were required to pay the full tuition fee, or a substantial part of it, up-front and most of the firms had a no-refund policy. Yet roughly 90% of the students failed to complete their course of study[2].

Drop-out money

The remarkably high drop-out rate was not an accident. It reflected not only the shameless methods of recruitment but also the shoddy quality of what was on offer. For the actual "delivery" of courses - the correction of lessons and grading exams - most firms relied upon a "sub-professional" workforce of "readers" who worked part-time and were paid on a piece-work basis per lesson or exam.

These people often worked under sweatshop conditions. They had to deliver a high volume of lessons to make a living and could therefore not manage much by way of pedagogical performance. Such conditions were far from conducive to the careful, individualised

instruction promised in the companies' promotional materials[3].

All of this made perfect economic sense, however. It was summed up in correspondence industry jargon in the phrase "drop-out money": once students dropped out there was no further expense (in particular for teachers) and what remained of the upfront payment was pure profit.

The economics of this cynical education system meant there was no incentive to try to keep students on by improving the quality of course offerings. In fact the reverse was true: recruitment rather than instruction remained the goal.

The evolution of correspondence instruction in the universities closely paralleled that of the commercial schools. It began in earnest in the 1890s, and by the 1910s and 1920s it had become a craze comparable with today's passion for online distance education. Following the lead of the University of Chicago, other institutions joined in, notably the state universities of Wisconsin, Nebraska, Minnesota, Kansas, Oregon, Texas, Missouri, Colorado, Pennsylvania, Indiana, and California. By 1919, when Columbia University launched its home study program, there were already 73 colleges and universities offering instruction by correspondence.

Emphasising the democratisation of education and hoping to tap into the lucrative market exploited by their commercial rivals, the universities echoed the sales pitch of the private schools. Hervey F. Mallory, head of the University of Chicago Home Study Department, declared that "*In the crowded classroom of the ordinary American university it is impossible to treat students as individuals, overcome peer pressure for conformity, encourage students who are shy, slow, intimidated by a class setting*". Home study, by contrast, "takes into account individual differences in learning".

In short, correspondence education was seen as more than just an extension of traditional education. It was an enhancement - a means of instruction less costly and of higher quality - that signalled a revolution in higher education.

Although they were not per se for-profit organisations, the correspondence programs of the universities were self-supporting, and therefore profit played its part. It was initially assumed that this new form of instruction would be of greater economic value than traditional classroom-based teaching, but its pio-

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HISTORY

an education racket

neers soon discovered that correspondence instruction was far more costly to operate than they had imagined - primarily because of the overheads entailed in administration. Almost from the outset, therefore, they found themselves caught up in much the same game as their commercial rivals: devising promotional schemes to boost enrolment in order to offset growing administrative costs; reducing their course preparation and revision expenses by standardising their repertory and relying on "canned courses"; and above all keeping remuneration to a minimum by using casual employment and paying by piece rate.

Before long, with a degraded product and a dropout rate almost comparable to that of the commercial firms, they, too, had come to depend for their survival on "drop-out money." At the end of the 1920s the university-based programs began to come under the kind of scrutiny and scathing criticism hitherto reserved for the commercial schools. Abraham Flexner, one of the nation's most distinguished and influential observers of higher education, excoriated the American universities for their commercial preoccupations, for having compromised their independence and integrity, and for having thus abandoned their unique and essential social function of disinterested critical and creative inquiry. *"The universities have thoughtlessly and excessively catered to fleeting, transient, and immediate demands,"* Flexner argued, and have "*needlessly cheapened, vulgarised, and mechanised themselves, reducing themselves to the level of the vendors of patent medicines*" [4].

Likewise, he bemoaned as "*scandalous*" the fact that "*the prestige of the University of Chicago should be used to bamboozle well-meaning but untrained persons … by means of extravagant and misleading advertisements*". He assailed the "*administrative usurpation of professorial functions*" and declared that "*the American professoriate is a proletariat*".

Flexner's critique of correspondence education, which gained widespread media attention, sent shockwaves through academia, prompting internal efforts to raise standards and curtail excessive and misleading advertising. At Columbia, the blow was eventually fatal to the correspondence program.

Rebirth of a 'revolution'

Subsequent investigations [5] and efforts at reform and regulation invariably failed to change the picture, even though correspondence programs adopted the latest media of delivery, including film, telephone, radio, audio-tapes, and television. Universities continued to offer correspondence instruction, of course, but the efforts were much more modest in their claims and ambitions. Poor cousins of classroom instruction, they were for the most part confined to institutionally separate and self-supporting extensions and carefully cordoned off from the campus proper, presumably to spare the core institution the expense, the commercial contamination and the criticism.

Like their forebears, today's proponents of distance education believe they are leading a revolution that will transform the educational landscape. Fixated on technology and the future, they are unencumbered by the sober lessons of this cautionary tale. If anything, the commercial element in distance education is this time even stronger. For now, instead of trying to distance themselves from their commercial rivals, the universities are eagerly joining forces with them, lending their brand names to profit-making enterprise in exchange for a piece of the action.

Four institutions prominent in the correspondence movement are at it again. The University of Wisconsin has a deal with Lotus/IBM and other private contractors, the University of California has contracts with America Online and Onlinelearning.net and the University of Chicago and Columbia are among the most enterprising participants in the new distance education gold rush. The new game is less about generating revenues from student fees than about reaping a harvest from financial speculation in the education industry through stock options and initial public offerings [6].

For the time being, however, until the actors arrive, the bulk of university-based online distance education courses are being delivered by poorly paid and overworked low status instructors, working on a per-course basis without benefits or job security and being coerced to assign their rights to their course materials to their employer as a condition of employment. In short, the imperatives of commodity production are again in full force, shaping the working conditions of instructors until they are replaced once and for all by machines, scriptwriters and actors.

There are differences between the current rage for online distance education and the earlier debacle of correspondence distance education. First, although they began to take hold in extension divisions, commercial online initiatives have already begun to penetrate deep into the heart of the university. Second, if the overheads for correspondence courses were high, the infrastructural expenses of online courses are higher still. Most notably, while correspondence programs were often aimed at a broad market, most of their efforts remained regional. The ambitious reach of today's distance educators, however, is global in scale, which is why the World Trade Organisation is currently at work trying to remove all barriers to international trade in educational commodities. Sometimes tragedy follows farce. ◆

1. JOHN NOFFSINGER, CORRESPONDENCE SCHOOLS, MACMILLAN COMPANY, NEW YORK, 1926.
2. NOFFSINGER'S SURVEY OF 75 CORRESPONDENCE SCHOOLS, OP. CIT., SHOWS THAT ONLY 2.6% OF THE ENROLLED STUDENTS COMPLETED THE COURSES THEY HAD BEGUN.
3. JOHN NOFFSINGER, OP. CIT.
4. ABRAHAM FLEXNER, UNIVERSITIES. AMERICAN, ENGLISH, GERMAN, OXFORD UNIVERSITY PRESS, NEW YORK, 1930.
5. NOTABLY THE CARNEGIE CORPORATION-FUNDED STUDY BY THE RESEARCH PROJECT ON CORRESPONDENCE EDUCATION, 1968.
6. THE WALL STREET JOURNAL, NEW YORK, 2 APRIL 1999.

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ICT use in open and distance teaching and learning:

I n April 2000, just two weeks before the Dakar conference on Education for All, the International Labour Office convened a meeting on lifelong learning in the 21st century which featured an international debate on the changing roles and responsibilities of teachers as nations move slowly towards the construction of lifelong learning policies and systems. Participants, including many EI representatives, were conscious of the need to address the place of distance and open learning methods based on new information and communications technologies (ICT) in meeting learners' needs. They concluded that greater application of ICT in an appropriate manner to make learning accessible to everyone, and to reduce learning disparities of the digital divide within and between nations depends in no small part on the initial preparation, continual training and professional development components of educators' own lifelong learning to develop and maintain a high level of competency in ICT skills[1].

The debate around teachers' use of ICT generally, and in open and distance learning particularly, is not new, but it has grown in volume and intensity as school and university systems invest in ICT hardware and software, expecting this investment to yield qualitative and quantitative changes in educational outputs. Despite starry-eyed predictions for some time that electronically-based education - "e-learning"- will become a dominant, even universal form of instruction, the world is a long way from this state. Nevertheless, demand and utilization are rising and not likely to stop. European surveys estimate that more than half of primary schools in most countries employ one or more ICT tools - primarily, but not exclusively networked computers - in teaching. While use in secondary schools of most member countries of the OECD is already universal or approaching it[2]. Usage of some form of ICT for distance and open learning - compressed video, satellite-generated transmissions, videotape, microwave, computer-based technology, etc - is rapidly growing throughout the industrialized world, particularly in post-secondary education, be it vocational, technical or university, and in the interfaces between formal education and workplace-based learning. Despite the well-known obstacles posed by lack of investment funds for hardware and software, much less for teacher training and other professional considera-

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tions, demand and utilization continues to rise in the developing world, particularly as distance learning options are employed to break down access barriers.
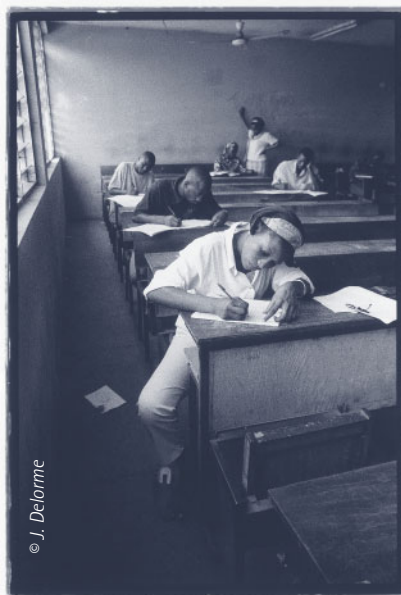
What are the roles and responsibilities of teachers in this brave new world?

There is a current of thinking that tends to blame teachers in the industrialized countries, where most schools and classrooms already have the necessary hardware, software and communications connections, for the slow pace in achieving universal access and use, not to mention results. Teachers, especially older teachers, are judged to be reluctant to use new learning tools, intimidated by their student's superior knowledge of computers and the Internet, resistant to ICT introduction as a challenge to their skills and competencies, or are not interested in retraining. In short, they are seen as unable to deliver effective ICT-based learning. The problems are even more acute in most developing countries where teachers and schools confront a digital divide of non-universal access to computers, programs and the Internet even before they tackle questions of effective use.

This critical picture is changing perceptibly but remains a challenge for education and especially teachers. As training and practice widen, an increasing percentage of teachers are more comfortable with the use of technological tools as essential pedagogical supports, but there remain large numbers of teachers who are neither sufficiently trained nor interested in ICT use, while many who are trained fail to substantially alter pedagogical practice towards more learner-centred education using ICT as a base. Though the knowledge base is growing, little is still known about the efficacy of new technologies for enhancing the quality and efficiency of learning. Moreover, some critics of the wholesale introduction of ICT in schools argue that it may at best be a distraction, and at worst harmful for learning. The debate, however, turns more on the question of ways ICT can be harnessed in the interests of child-centred learning and at the same time respects the professionalism of teachers. Accordingly, teachers' organizations have a strong interest in the options for change in a positive direction which enhances teachers' skills and

A major disequilibrium exists between the considerable investments to date in hardware and software, and the lesser investment in teachers' training to use both. A Eurydice survey has estimated that as little as 20% of overall ICT resources go to human resources in many countries.

1 ILO, Conclusions on lifelong learning in the twenty-first century: the changing roles of educational personnel, Joint Meeting, Geneva, 2000.
2 Eurydice, ICT@Europe.edu, Brussels, 2001; OECD, Learning to Change: ICT in Schools, Paris, 2001.
3 Duke, Chris, Teachers and new ICT in teaching and learning, ILO (forthcoming).

Challenges for teachers

The ILO recently commissioned research in a few industrialized countries to look at three aspects: the continuing professional development of teachers which facilitates and encourages appropriate and effective ICT use; the work organization in classrooms, schools and higher education sites and the workload implications of greater ICT use; and the process by which decisions on ICT are made.

competencies, preserves their professional identity and makes for more effective teaching and learning.

Reviewing obstacles in 2000 the ILO noted, as have organizations such as the OECD and European institutions, that a major disequilibrium exists between the considerable investments to date in hardware and software, and the lesser investment in teachers' training to use both. A Eurydice survey has estimated that as little as 20% of overall ICT resources go to human resources in many countries. This remains an issue, but is by no means the only one.

Interested in the wider dimensions of the problem, the ILO recently commissioned research in a few industrialized countries to look at three aspects: the continuing professional development (CPD) of teachers which facilitates and encourages appropriate and effective ICT use; the work organization in classrooms, schools and higher education sites and the workload implications of greater ICT use; and the process by which decisions on ICT are made. This third aspect, in some ways the most important because it affects ownership, empowerment, and professional autonomy, examines to what extent social dialogue in the form of genuine consultation or negotiation on planning, introduction and evaluation of ICT application actually functions between teachers and their unions and educational authorities, public or private.

The results of this research[3] are still very preliminary but suggest some interesting avenues for further investigation and action by teachers' organizations. In the realm of teacher education, even if pre-service ICT training is widely available but not universal, the important battleground is in the area of CPD, which still remains underfunded and far from being accessible to all educators. Teacher unions increasingly advocate this as a right, no doubt anticipating a future in which ICT professional development - indeed CPD generally - will most likely be an obligation. As the industrialized world at least moves in that direction, considerable experimentation is going on concerning what modes of CPD work best for the effective adoption of new ICT. While formal training is important it needs to be oriented more towards questions of integration in pedagogical practice. Many country examples suggest that holistic, school-based networking, with or without an ICT coordinator, and peer support are key.

In comparison to other sectors or industries, the spread of ICT has not led to significant anxiety about losses of jobs in teaching, with the possible exception of tertiary education affected more by ICT-driven "virtual" and transnational education[4], but ICT development has created concerns on many other fronts relating to teaching and learning conditions. Among these are work organi-

zation and reorganization of working time that enables effective integration of ICT in teaching practice. The failure to adjust workloads to allow planning for integration has previously been cited as an obstacle to greater use, and the more recent survey on behalf of the ILO reveals that the complexity of integrating ICT in different learning situations calls for additional help to make this a reality. The issue of professional insecurity arising from lack of training and development leads to stress and concern over job satisfaction and the quality of working life. These are issues increasingly cited as reasons for dissatisfaction and departures from the teaching profession, in turn contributing to widespread teacher shortages. However, it is clear that despite concerns over the slower than expected proliferation of ICT use, there is little sustained investigation of the impact of new ICT on teachers' jobs, conditions of employment and the quality of working life.

Perhaps the most fundamental challenge remains in the area of decision-making. Effective means of consultation and negotiation - social dialogue - on what kinds of ICTs, how to effectively integrate them in daily learning situations, the necessary professional development, and the organization of work to satisfy teachers

Assuming this snapshot is broadly representative of educational systems, the challenges for teachers' organizations are multiple, and the agenda for consultation and negotiation very broad, notably with regard to:

- Compulsory initial ICT training where it does not yet exist and the extension of continual professional development to all teachers an effective right and obligation, not just an option;
- Internal union policies which both insist on and support members' active involvement in CPD for effective use of ICT;
- New career structures which link ICT-based competencies, responsibilities and rewards, including more diversification in specialized tasks such as ICT mentors, curriculum and information specialists;
- The workplace dimensions: flexible time-tabling and school organization, adjustments in workloads for planning and peer support, appropriate class sizes and/or support staff.

Above all, internal union plans or strategies for ICT use are key starting points for more systematic social dialogue with educational authorities at the most appropriate levels — school, local or national — on ICT introduction and integration which takes account of the current obstacles, costs and investment possibilities and quality concerns, those of learners and teachers.

and learners is still woefully inadequate almost everywhere. Within schools, informal, horizontal peer networks to support staff are widely used to compensate for the lack of consultation and deficiencies in training. When consulted, teachers, including many school heads, consider that central management decisions are driven more by cost and economy concerns than by quality. Collective bargaining on the issue is practically non-existent. ◆

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4 The recent EI conference on higher education in Montreal has noted growing threats to the nature of work, intellectual property rights and academic freedom among affects of ICT-driven educational services.

ODL

DEFINING TERMS

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The following definitions come from various sources and have got some degree of acceptability from use[1].

Educational technology is the systematic planning of teaching and learning within a process that compares the appropriateness of alternative methodologies as means of achieving defined learning outcomes.

Distance education is an educational process in which a significant proportion of the teaching is conducted by someone removed in space and/or time from the learner.

Open learning is an organized educational activity, based on the use of teaching materials, in which constraints on study are minimized in terms either of access, or of time and place, pace, method of study, or any combination of these.

Computer-based learning is the use of computers in education either to provide programs that deliver instruction, or to facilitate communication between learner and tutor, or to enable students to have access to remote sources of information.

Telematics is the combined use of telecommunication and computer technology.

New information technologies, and information and communication technologies, are synonyms for telematics.

Open and distance learning is an umbrella term covering distance education, open learning, and the use of telematics in education. ◆

1 UNESCO Thematic Studies, Applying New Technologies and Cost-Effective Delivery Systems in Basic Education, 2001, p. 3, ED.2001/WS/20