

Scaling Schooling for the Secondary Surge: What are the Options?



Silver Jubilee lecture

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Distinguished Colleagues, it is an honour to be here and I am very grateful to Dr SS Jena, Chairman of the National Institute for Open Schooling for the invitation. It is a special privilege to be here for the Silver Jubilee celebrations of the NIOS, which has completed 25 years of dedicated service to reaching those who would otherwise never have been able to access secondary education. I am grateful to the Honourable Minister of State, Ministry of Human Resource Development, Shri Jitin Prasada, for presiding over the function in spite of the many pressing demands on his time. The NIOS is a close partner of both the Commonwealth of Learning (COL) in Vancouver and our regional office the Commonwealth Educational Media Centre for Asia (CEMCA)—our director Dr Sanjaya Mishra is here today. As you know the Commonwealth of Learning, an intergovernmental organisation, helps Commonwealth Member States and institutions to harness the potential of educational technologies for expanding access to education and training. We believe that access to learning is the key to development

My topic today is ‘Scaling Schooling for the Secondary Surge: what are the options?’ My remarks are based on an earlier joint presentation made with Sir John Daniel our former President and Frances Ferreira, our Education Specialist: Open Schooling. I will first set the context, then consider the three options that we potentially have for scaling up access to secondary schooling, namely, open schooling; the emergence of Open Education Resources (OER) and the uses of ICTs. I will then conclude with some key lessons that we at COL have drawn over the last ten years.

Let us first review the context.

In the year 2000, the international community identified two sets of goals: the Millennium Development Goals (MDGs) and the Education for All (EFA) goals. Both the MDGs and the EFA goals stressed the

importance of achieving Universal Primary Education (UPE) by 2015. This led to a renewed investment in primary education by most governments. But the demand continued to exceed supply.

The populations in developing countries will continue to grow over the next three decades. Less than fifteen years down the road nearly 60% of the world's population will be in Asia, with another 15% in Africa. These regions have struggled to provide education to their people. Will we be prepared to cater to this growth?

Already half of the world's population is under 20 and there are two billion teenagers in the developing world. Today, there are 400 million children out of school. This young population, if given adequate education and training can become a huge human resource asset.

While the world average for secondary school enrolment is 70%, the GER in South Asia is 59% while in SSA it is only 40%. Access remains inequitable especially in rural areas with girls being particularly disadvantaged. As governments stretch their resources to make progress towards Universal Primary Education (MDG 2) by 2015, it is unlikely that in many countries, expansion of secondary provision will be a key priority.

What happens when students complete primary schooling? The drop-out rate at successive stages of the educational process is alarming as you can see from the figures from South Asia and Africa. In India, 96% complete primary schooling and the GER at junior secondary level is 77%. In Uganda the number of those who enroll in junior secondary school is a dismal 27%

This cohort study shows the same thing. 93 out of a hundred children enter primary school but only 12 complete senior secondary education.

Why is it important for governments to invest in secondary schooling? A DFID study suggest that an extra year of quality schooling lifts annual economic growth by 1%. Another study shows that educating girls at the secondary level results on an average on 1.5 fewer children than those with only primary schooling. Another study tells us that those who participate in secondary education are more likely to have a better sense of cooperation and social responsibility.

Researchers have established a link between secondary education and economic opportunity. Riboud et al show that groups who have attained education beyond the primary level in Bangladesh, India, Pakistan and Sri Lanka find employment much faster than those who haven't. It is clear then that secondary education has a major role in social and economic development. Yet governments do not have the resources to absorb the secondary surge in brick and mortar institutions. What are the options?

Let us look at our first option: open schooling

Open schooling can be part of the answer to address the challenge of accommodating the surge resulting from the achievement of UPE.

First, what exactly is open schooling? Its features are the physical separation of learner from the teacher for much of the time; the use of unconventional teaching methodologies, and information and communications technologies (ICTs); and in general a flexible approach. We call it open schooling rather

than open and distance schooling because openness and flexibility are more important features than physical separation.

Its flexibility also makes it suitable for young adults who need further schooling but either cannot, or do not wish to return to the conventional classroom

Open schooling is a response to the rapidly increasing demand for secondary education, both as an end itself and as a route to tertiary, because it can be conducted at scale and cost-effectively.

How is open schooling conducted? It uses self-instructional materials and, indeed, the preparation of such materials also provides an asset to the conventional school system, which in developing countries is usually short of materials. Students get local personal support at Study Centres, which at secondary school level are relatively more important than they might be at tertiary level. Organising the networks of study centres provides opportunities for partnerships with other state networks or with NGOs with a special interest in children and young adults.

Open schooling by correspondence goes back a hundred years in the industrialised world and nearly 50 years in Africa .

This same is true of technology. School radio began 75 years ago in Britain , the Australian School of the Air is half a century old and projects using technology for schooling in Africa have a similar history. Some of these projects aim to enrich the classroom experience rather than create a substitute for it, flexibility and complementarity are an important feature of open schooling.

Note also that some open schools operate at very considerable scale which is, of course, an element of cost-effectiveness where it can be achieved. The NIOS with 2.2 million students is clearly the largest open school in the world.

There are various organisational models of open schools - and sometimes one evolves into another, as in the case of Namibia and India. Some are independent, some are branches of open universities, some are run by central ministries of education, and some by school boards. This is another element of flexibility for policy makers.

COL commissioned research on the costs and effectiveness of two open schools in rather different environments, the NIOS and the Namibian College of Open Learning (NAMCOL). The work was done by two well-known experts on cost studies, Badri Koul and Greville Rumble, who were already very familiar with the contexts in India and Namibia respectively. Their 250-page report is available on the COL website.

The National Institute of Open Schooling, formerly the National Open School , is headquartered in Delhi with regional centres in several cities and a presence overseas in Nepal , Kuwait and the United Arab Emirates, among others. Study centres are provided by over 5,000 accredited institutions which register students, supply study materials, provide tutorial support, handle assignments, hold exams and distribute certificates.

NAMCOL, the Namibian College of Open Learning is headquartered in Windhoek and HQs in Windhoek has 110 study centres in the country's 13 political regions as well as two computer-based learning centres

in Windhoek & Ongewediva. It accounts for some 18% of the secondary school population in the country.

This chart shows enrolment statistics for India. These figures show that the focus is mainly on academic programmes although at the moment much more emphasis is being placed on developing vocational programming. This is a significant operation in terms of sheer numbers.

The figures for Namibia show, as I just noted, that NAMCOL plays a very significant role at senior secondary level, where 48% of the senior secondary students who sit their end-of school examinations are enrolled at NAMCOL.

Comparing the learner profiles reveals both similarities and differences. Both institutions recruit students in the age range 15-25 but the gender balances are mirror images of each other. Few NAMCOL students have paid work, but a significant minority is involved in other educational courses.

This chart shows that NAMCOL's results are pretty good, with around 90% of students who complete most of the course getting grades.

With these figures in mind the cost per student at NAMCOL is very attractive at about 20% of the cost in the formal system.

Perhaps reflecting on the scale of NIOS, the figures in India are even more impressive. Unit costs are less than 10% of those of the conventional central schools.

Our study shows that open schooling can address the challenges of increased demand and reach out to diverse target groups: from older secondary-school-age children to young adults. Open schooling is significantly more cost-efficient than formal education and can have high retention rates approaching 90%. Moreover the production of learning materials in print, audio, CD-ROMS and video creates an asset for the whole school system not just the open school. The principal area needing attention is learner support. In fact, open schooling shares this imperative with open and distance learning at all levels.

Let us now look at the second option that can contribute to the development of both open and conventional secondary schools. With the rise of social media, there has been a global movement towards collaboration in the development and sharing of content. At a meeting in 2002 at UNESCO, Paris, the term Open Education Resources or OER was first coined to promote the development and use of free materials for education. This has gained considerable traction resulting in the Paris OER Declaration which was adopted at a World Congress organized by COL and UNESCO in Paris this year with support from the Hewlett Foundation.

As we know, OER are educational materials which are free and freely available, are suitable not just for higher education but for all levels including primary and secondary education. OER can be reused and repurposed to suit different needs and could be available in any medium, print, audio, video, digital. One key difference between OER and other educational resources is that OER have an open license, which allows adaptation and reuse without having to request the copyright holder. OER have the potential to increase access, improve quality and cut the costs of education and training. The establishment of open

schools requires investment of resources both financial and human. How can these be spread across and shared by a range of partners?

COL established a six-country partnership to develop 20 sets of course materials in print and online formats, based on the secondary curricula of Botswana, Lesotho, Namibia, Seychelles, Trinidad & Tobago and Zambia. The materials have been developed as Open Education Resources (OER), so that without duplicating effort, participating countries can have access to quality materials that they can adopt and adapt as necessary.

The William and Flora Hewlett Foundation, came forward to support this work that combines the professional development of teachers with the development of OER. It is expected that providing high-quality course materials free of cost and enhancing the capacity of teachers will contribute to improving, among other things, the quality of secondary education in both open and conventional schools in the participating countries.

OER can allow us to harvest the best content from the web to diversify our course offerings. Quality OER can enable us to introduce more technical vocational subjects in our curriculum which are estimated to cost fourteen times more than academic subjects. Governments around the Commonwealth are placing a great deal of emphasis on skills development and a closer alignment between the education sector and the labour market.

What are the skills relevant to the requirements of the 21st century? Hanna Rosin indicates that in order to succeed in the knowledge economy, we need to focus, have the ability to work in teams and good communication skills.

What do employers really want? Within the context of a knowledge and service-related economy, there is a great deal of emphasis on non-cognitive skills such as leadership, communication, honesty/ethics, teamwork and flexibility. How can we integrate these skills into the curriculum? Can access to quality OER support this transformation?

Language skills are key in the 21st century. India assumed global leadership in ICT because of its proficiency in English and the ability of the people to develop new technologies. Those who complete secondary schools have better English-language skills. A study conducted in India indicates that being fluent in English increases hourly wages of men by 34% and being able to speak a little English increases male hourly wages by 13%. How can we use OER to improve the linguistic skills of our students? COL has developed OER for English Language Teaching.

The third option for scaling up secondary schooling is through the use of appropriate technologies

The reason I emphasise ‘appropriate technologies’ is because there is a clear digital divide across the Commonwealth, if you look at the proportion of households with access to computers and the internet. With less than 10% in sub-Saharan Africa and 8 Commonwealth Member States in Asia, it is over 80% in Europe and North America.

This divide can be turned into a dividend because of the phenomenal growth of mobile devices, which are more affordable, accessible and available.

As you can see from this chart, the growth of mobiles in developing countries has far exceeded the development of mobiles in developed countries in the last five years. There is nearly four times increase in the growth of mobiles in developing countries during this period. Any discussion of ICT based learning must take this into account.

There are several examples of the use of mobile devices as a teaching-learning tool. Momath uses mobiles for teaching and learning maths and is found to make a difference in learning outcomes in South Africa.

The Open Access College, Australia's open school uses technology in several ways to reach different students. It uses a blended approach through which the students study online and seek clarifications from teachers at contact sessions. Or teachers teach online with students connected through teleconferencing at multiple sites. Or they use Saba Centra, a free software to attend and interact in eMeetings. Music lessons are taught through video Conferencing.

The use of low cost mobile devices opens up other possibilities. There are 3 components here—the centre piece is the 7 inch tablet—the second is the wifi router and the third the battery backup. The Col tech group is of the view that the new tablets have the adequate power to host a server. The group loaded Ubuntu, a popular flavor of Linux on to the 7 inch Google tablet. They then loaded Moodle LMS and WordPress, a popular blogging and content management software. To make them available to other tablets, they connected the server to a wifi hotspot.

Once you have the operational wifi hotspot, one can connect another device such as a tab let. If 2 devices are connected to a hotspot, they are also connected to each other. This is how any tablet connecting to a hotspot is connected to a server. Thus we can have a group of learners with tablets accessing LMS present and running from the server tablet. This is how a classroom without access to power or internet is created. This could have major implications for our learners in remote areas.

All the costs are the current prices in Canada, about 10% higher than those in the US. We are using known brands such as Google Nexus or Asus, as this is still a trial phase. The same items, unbranded yet reliable can be sourced at much lower prices and will cost about USD 150 today.

What are our key conclusions?

Creating an open school provides the opportunity for partnerships with a range of local governmental and non-governmental bodies. These can be a true win-win situation for all. The open school acquires a regional and local network of centres while the local bodies are enabled to provide more extensive services to the youngsters that they are caring for. It also creates the opportunities for a wider network of partners, as is the case in COMOSA, a consortium of open schools in 21 countries

In terms of its impact, open schooling is a powerful way of addressing issues of equity and social justice since it can bring those formerly excluded into the schooling system. Open schools can provide a major platform for skills development and can reach the unreached through the innovative uses of technology.

What have we learnt in the last ten years? That political will is necessary to make open schooling an integral part of a national education system and that this political will needs to express itself in the form of enabling policy and planning. Open schooling is a system that derives its benefits from scale. It cannot

be improvised on the back of an envelope as a small pilot project. It follows that adequate human, financial and technical resources are critical to success and need to be planned. The economic model is that a higher upfront investment pays off in lower operating costs once the system is running.

Next, just as tertiary institutions embarking on open and distance learning need to train their staff to operate a different pedagogy and teaching/learning system, so staff from conventional schools must be trained in the special requirements of open schooling. Much of COL's work with NIOS has been in support of training for its many thousands of tutors and facilitators. Collaboration and partnerships are essential. Harnessing the potential of OER and ICT will serve to strengthen not just open schools but the entire secondary school sector.

The Commonwealth of Learning will continue to make the promotion and support of open schooling a key plank of its work. We are also supporting the development of open educational resources for use in open schools. In addition we are looking for new models and technology options to scale up secondary schooling. Dr Jena is a key partner and Frances Ferreira, who leads the work on open schooling at the Commonwealth of Learning will continue to work through COMOSA to scale up secondary schooling to absorb the secondary surge.

Thank you for your kind attention.