Ladies and gentlemen, I am delighted to have been invited to participate in this event, and it is an excellent and timely opportunity for my first visit to the Caribbean given my new functions with the COL.

Some of you may remember me from such events as the ITU's Telecom series of conferences in Geneva, Cairo, and Singapore, where I was a frequent spokesperson for the Canadian Department of Communications. On those occasions, I spoke enthusiastically about the intense social and economic influences a sound and open national communications policy, and a matching regulatory framework, can generate in a developing country.

In my reincarnation as a promoter of the use of appropriate technologies in education, I am discovering that it is possible to become even more enthusiastic. Especially when one appreciates the limitless possibilities offered by the now widespread availability of affordable pipelines to carry information to the most remote regions of our planet.
A Global Challenge

The traditional shortcomings in human development - isolation, illiteracy, restrictions on personal liberty and access to information; racial, religious and class segregation, gender discrimination, and poverty - are more and more becoming opportunities for development agencies and the private sector to work together. Indeed, more than ever before, partnerships can bring to bear economically viable solutions to what have traditionally been perceived as impossible problems on a global scale.

To set the scene, I will quote a dramatic statistic from the OECD: "The developing world has more than 840 million illiterate adults, 538 million of them women. The female illiteracy rate is still nearly 40% in developing countries."2

As most of us in the telecom sector are fond of reminding others, an efficient communications network is the single most productive investment for development in a poor country. Each one of us has a favourite personal anecdote to illustrate the spectacular benefits which inevitably follow the introduction of a good and reliable communications system in a given country. To this basic fact, I would like to add a corollary - education and with it, access to accurate and timely information, is the single most inspiring gift that man - in the most generic sense of the word - can bestowed upon his fellows.

How Do ICT And Learning Come Together?

The costs of delivering telecommunications and of information processing have been dropping exponentially in the OECD countries. This is much more evident in those countries where open competition has been encouraged, and this trend has been further intensified by the accelerated introduction of new technologies with shorter lead times. Unfortunately, we are finding that traditional monopolistic practices are clinging on in many LDCs, and, as a result, there is frequently much less motivation to offer a broader range of high performance communications systems and services.

This tendency to preserve established market positions, and to maintain the privileged perks of a few telecommunications administrators, has thwarted the normal expansion of a huge wave of new offerings. The negative effect of the preservation of the status quo is felt far beyond the internal scope of action of the national carrier. It extends to the timely dissemination of information; it also distorts the supply and demand equation within a country, and can often lead to strained relationships with neighbouring governments. Needless to say, if learning is limited to word of mouth and the print media, it is exactly that, limited!

One of my favourite observations, in discussing the philosophy of learning, comes from a gentleman who may have never browsed the Web, Augustine of Hippo, A. D. 354-430

"What can be said in support of the view that words teach us something quite apart from their sound which strikes our ears? All that we perceive is perceived either with the senses or with the mind. When we are asked about the former, we can give an answer only if the things we experience through the senses are actually before us; for example, when we are looking at the new moon and are asked what it is made
of or where it is. In this case, if the questioner does not see it himself, he merely believes my words, and often, in fact, he does not believe them ...

This concept can probably best be illustrated by personal experience. My youngest Son, age 24, has finally admitted that his high school education will not get him very far in this competitive world. He has always had learning difficulties, among which dyslexia, attention deficit disorder, and a tendency to rely on experimentation, or of learning only by observing very substantial examples. On the other hand, he has always excelled at Nintendo and similar electronic games. He registered with a community college to procure the basic tools required to build towards a good occupation.

Earlier this month, he came home with a new $100 plus geography textbook. He browsed the pictures, and scanned the various chapter headings. And there the book stayed put for the next few days. During a conversation with - and I am guessing here - an attractive and personable young lady in his new class, he found out that there was a CD-ROM which covered the contents of the textbook in a pocket on the inside back cover. He asked - for one of the very few times in my memory - to use the PC, and proceeded to run his CD-ROM.

Well! Music and sound, video clips, interactive and stimulating question and answer sessions, Web hot links, and an iterative learning process made this product endlessly more attractive than the actual textbook. I was reluctantly given access to my PC a few hours later. This from a young man who has seldom been able to concentrate on a topic more than a few minutes. Obviously, he is very proud of his new-found knowledge in geography, but perhaps even more self-satisfied of his newly discovered capacity to learn on his own, and to develop this new knowledge in a practical fashion. In his words, "Dad, this is a H... of a lot better than listening to a boring teacher in front of a classroom".

This example is not to say that we can give anyone who can master Nintendo a Master's degree - but then again, if you really think this through, it may not be so far fetched - nor does it mean that many teachers are boring. The anecdote illustrates a highly appropriate use of information technology and telecommunications. In fact, all of his college courses have a Web presence so that the teacher can provide timely information on course content, examinations, class time or location changes, reference material, and discussion threads between the students themselves and the teacher.

The Technology Gap

In an address before the Cambridge International Conference on Open Education, Professor Raj Dhanarajan, the President of COL, said: "An entire industry, providing knowledge-based services, is being spawned, and the users of these services expect knowledge products to come to them rather than they travel to the sources of the knowledge".

The Web, and its complementary mechanisms, promises to tailor learning to the individual's attributes, be they cultural, linguistic, religious, or purely economic circumstances, and to such intangibles as personality, ambition, initiative, and insight. Technology, in the past two years, has given us a gigantic step forward in offering and simplifying more learning opportunities than ever before, and the trend is
accelerating. With the arrival of DBS, LMCS, and bi-directional digital MMDS, and high capacity VSAT, the global village has arrived with all of its promises. We now have more e-mail and attachments than we can be expected to cope with.

As a result, when many of us travel to the developing world, we are highly disappointed to realise that applications - which we have often already discarded due to upgrades - have not even made it to these countries. And, again, this gap is increasing at a staggering pace.

Yet, the explanations for this technological stagnation are seldom of a purely economic nature. They are more often caused by political decision (or indecision), and a tendency to protect vested interests.

The Caribbean Situation

In a report published with the permission of CARICOM 4 the Caribbean Task Force on Education commented that "If the Caribbean Community wishes to avoid global marginalisation, an essential task of formal schooling in the Twenty First Century will have to be to consciously socialise the young to be producers as well as consumers of information as a commodity. This will necessitate familiarisation with - and mastery of - the physical and intellectual tools that extend our capacity to relate to our environment."

The Report further states that: "With the single and important exception of the UWIDITE5, the CARICOM Region has all but ignored the application of the new information and communication technologies systematically to achieve formal objectives, let alone to entering the information age competitively. And even in the case of UWIDITE, the use of these technologies is not being maximised but rather is limited to audio-conferencing at a very basic level." 6

From the exchanges I have had in preparing for this Conference, I understand that the situation has not changed much since 1995. Telecommunications are not always reliable, affordable, or available, and Web access is disproportionately expensive if compared to Canada and the US, for example. Yet, in North America, the cost of assembling a PC is lower than ever, and the cost of communications - local, toll, and international - is becoming quite insignificant despite the increasing necessity of these utensils in our daily lives. It would seem that, in the Caribbean, the vectors that stimulate intellectual development are diverging rather than tending to meet, as they normally should.

According to a recent World Bank study7, as compared to Eastern Europe for instance, the region is fairly well endowed in terms of communications infrastructure, but its forecast operating costs for such services as distance education appear high in other respects.

<table>
<thead>
<tr>
<th>Technology</th>
<th>Application</th>
<th>Scale</th>
<th>Per Capita Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio - Large</td>
<td>Distance Learning - Basic Education</td>
<td>1 million learners</td>
<td>$3.26</td>
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</table>
The Role and Opportunities for Distance Education using Telecommunications and ICT in the Caribbean

The Commonwealth of Learning CC BY SA

September 1998

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>Learners/Tuition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio - Small Program</td>
<td>Distance Learning - Basic Education</td>
<td>100,000 learners</td>
</tr>
<tr>
<td>Computer with Internet - Large School</td>
<td>Primary or Secondary School Laboratory</td>
<td>600 students</td>
</tr>
<tr>
<td>Computer with Internet - Small Rural School</td>
<td>Primary or Secondary School Laboratory</td>
<td>150 students</td>
</tr>
<tr>
<td>Television Broadcast by Satellite</td>
<td>Secondary Education for remote sites with populations under 2,500</td>
<td>700,000 students</td>
</tr>
</tbody>
</table>

Source: The World Bank, 1998

It is possible that the recurring costs in the Caribbean do not follow the pattern of Latin America as a whole; it is difficult to say, since the data is presented in aggregate format for the LAC region as a whole. The Bank’s report does conclude that:

1. Even the poorest countries can afford to adopt and financially sustain the use of radio to enhance the quality of instruction in primary education, especially in rural areas.

2. Television is a costly option for distance education, but offers economies of scale that can substantially reduce per capita costs; further, it may be the only way to extend education to remote rural areas.

3. Most countries are unable to afford large-scale national school computerisation programmes, involving computer laboratories and regular access for students and teachers, without increasing or supplementing educational budgets. However, even the poorer countries can afford to adopt computer/Internet programs in higher education.

4. Computer/Internet packages appear more financially viable at the secondary and higher education levels...

5. At the experimentation or pilot level, school computerisation projects would appear to be financially feasible for all ministries of education, particularly where budgetary support can be mobilised from external sources. 8

If we look at the region objectively, the elements for a successful and fully regional SchoolNet - which could be open to sharing bandwidth and services with other users - are all present: talent, infrastructure, content, expertise, and even funding. What is perhaps required for synergy is strong political commitment to a common Caribbean plan of action. Let us have a look at what is being done elsewhere:
In Canada, for instance, governments, educational institutions and industry have all focused on information technology as a top national priority:

- **SchoolNet**: By the end of this year, every single one of Canada's 16,500 schools, all universities and colleges, some 3,400 public libraries, every museum and art gallery, will be interconnected. As a result, kids in the far north feel they really belong as Canadians for the first time, and they are working on assignments with their friends in St. John's Newfoundland or Victoria BC. Thanks to a single teacher's initiative, each kid in Rankin Inlet has his or her own Web page, and they have drawn their parents and other relatives into e-mail and the Web. This has had a profound positive impact on their isolated community.

- **The Community Access Program** will create an additional 5,000 Internet access sites in urban neighbourhoods across Canada. Along with the 5,000 rural access sites currently being established, the number of community access sites across Canada will total 10,000, by the year 2000.

- **Computers for Schools**: The program's goal is to place 250,000 computers in schools and public libraries by March 31, 2001. From its inception in 1993 to 1998 over 70,000 computers have been provided to the nation's schools and libraries. Computer science and technology students refurbish the machines and reassign them to a waiting list of schools throughout the country.

In the province of British Columbia, the education ministry has been working to extend equal quality educational services to its most remote and underprivileged areas since the early 1960s. It has seen a very extensive succession of formulas come and go, and some, such as the Open Learning Agency and the Knowledge Network, have survived and prospered to become world class models.

In one fascinating application, the province has provided half of its teachers with access to a virtual "faculty club" where they can subscribe to discussion threads, which are very specific to their immediate needs. For example, a teacher in an isolated northern community can log in to the grade five social science curricula and discussion thread developed and maintained by colleagues. If she is looking for programmes and references which address native issues, and that can include either fishing or logging as a background, her own class will greatly benefit from the relevance of the educational content.

**Successful Applications Are Not Limited To Wealthy Countries**

Such initiatives are not the sole prerogative of the "have" countries. I take great personal pleasure in referring to a project in India where a major private sector firm has taken an aggressive stance to demonstrate its commitment to social concerns. IL&FS 9 of Mumbai have developed a programme to provide 1,500 access points in schools or community facilities throughout the country. The clientele is segmented into three tiers. 1) 500 wealthier schools, which can afford the best teachers and facilities - and these will pay a premium for services. 2) 500 middle range schools which can provide satisfactory education, albeit with known and sometimes severe problems of attendance and quality, and these will
cover the basic cost of providing the service. 3) 500 poor and isolated schools or communities which have relatively little, including teachers. It is from this latter tier that the more significant results are expected.

The project, known as SchoolNet India, expects to be economically viable within five years, since IL&FS expects its VSAT network to be more efficient and competitive than the current state-owned and operated system. As a result, many firms have expressed interest in using the network during off-peak hours for electronic commerce, insurance and banking, off-premises backup services, reliable e-mail, electronic document exchange, and corporate Intranets.

IL&FS have also established a multimedia laboratory in Chennai to migrate typical text based educational content to interactive media, in most of India's 15 official languages. These products are to be developed with cultural, religious, and local sensitivities in mind. Its market promise is phenomenal.

Col's History In The Caribbean

Ever since its creation in 1988, COL has been very active in the region. The following will serve to illustrate the variety of mandates our organisation has accomplished:

- Prepared first report on reconfiguring UWI
- Undertook staff training of faculty on quality assurance
- Support to Association of Chief Educational Officers in the Caribbean
- Work in staff development in the University of Guyana
- Several Caribbean nationals have come on two to three month fellowships in British Columbia
- Staff development with the University of Guyana's Centre for Distance Education
- Participation in the Sustainable Development Networking Programme (SNDP) in Guyana
- Organisation of a number of regional workshops on topics relating to education and training
- A variety of research projects in collaboration with CARICOM, UWI, and regional or national organisations
- Administration of the Canada - Caribbean Distance Education Scholarship Programme (CCDESP)
- Appointment of a Regional Advisor to the President, Dr. Dennis Irvine, based in Kingston.

COL's lines of business are as follows:

1. Development of content material - for example, our experts are currently involved with the ministries of education in six southern African countries to create an entire educational
publication industry. A sectoral champion will be identified for each country, and it could be a certain technical college in Botswana, which will be responsible for material in mathematics for the six countries. Another institution in Zimbabwe could be responsible for science. This initiative will provide for the first time ever, a comprehensive range of educational material, which will be meaningful for learners in these countries.

2. Teacher training - we are constantly involved with many countries in upgrading the skills of their educators. Our experts, and their vast network of professionals, have provided advanced training to more than 700 teachers across the Commonwealth since the creation of COL. Educators for now and the future must become mentors, stimulators, and orchestrators of an extraordinary wealth of interactive material from the entire planet, and they have to organise and synchronise this material so the learner may eagerly absorb it.

3. Curriculum development - in providing support to open universities, colleges, on-the-job training to companies, ministries of education. COL is now involved in such diverse fields as support for legislative drafters in several developing countries, and for the upgrading of surgical skills in Sri Lanka.

4. Infrastructure - COL has successfully introduced low-cost community radio systems in many rural areas, and has provided advanced training for broadcast-quality production of learning materials. WE are also, through our partnerships, in a position to address turnkey projects such as national overlay telecommunications and broadcast networks for open education, Tele-medicine, and complementary commercial applications.

5. Accreditation - there is an urgent requirement for international accreditation of professional training. COL, in collaboration with a number of universities, is currently looking at the possibility of a Commonwealth MBA that would be recognised by all institutions across the Commonwealth. This is a very major undertaking, with tremendous sensitivities attached.

6. Information - COL maintains what is probably the world's most comprehensive library on distance education, open learning, and technology in education. Every week, educators form across the world drop into our office to consult the library and discuss their concerns with our staff. A substantial part of this collection is now available on the Web at www.col.org. IN addition, COL has often negotiated intellectual property rights for specialised software or other learning instruments, which are then distributed for trial and adaptation in the Commonwealth.

7. Standards - We identify, document, and disseminate best practices across the globe. Whenever COL is invited to participate in an international event, we can draw on this outstanding collection of concrete accomplishments to influence the direction of open learning policy.

A proposal

Given COL's mandate and expertise, and our excellent relationships in the region, we could participate in a project that could assess the viability of a Caribbean SchoolNet. To this end, COL would be delighted to provide support to such organisations as:
1. The Caribbean Examinations Council which enjoys recognition and credibility in 13 countries. It designs the curriculum for secondary schools, sets examination standards, and is the expert source for many educational content issues.

2. CARICOM, of course, as the central body, providing the co-ordination and the political commitment for success; it would also act as the focus organisation to co-ordinate funding and infrastructure delivery mechanisms;

3. The University of the West Indies (UWI) due to its unique position in the region, and its pioneering work in open learning. Over and above its academic attributes, UWI also has the basic hardware and support mechanisms required for such an ambitious international venture.

Such an undertaking would be very timely and appropriate for COL, since we have recently acquired an operating agency capability in response to recurrent appeals. Under the corporate identity of COL International, we are finally in a position to contribute what is arguably the world's most comprehensive and proven expert capability on distance and open learning to large-scale projects funded by international development agencies, donor groups, or by country funds. We also support the client at the very first stage of needs identification, right through the funding search, and project implementation and support.

Of course, given our mandate, and our quasi-religious commitment to the theme of "learning for development", we stay in the picture as continuing partners for future support and development purposes. Further, since COL International's mandate is not limited to Commonwealth countries, we can play the role of trusted intermediary in developing a project involving countries which are in geographic proximity, but are distinct in terms of language, history, religion and tradition.

And, in closing, just in case universities, colleges, and other training institutions may still be complacently under the impression that their ability to develop, to be responsive and to expand are purely dependant upon their home country's budget allocations, I would like to quote Raj Dhanarajan again: "The expectation of most governments is that their institutions of higher learning ought to generate a substantial portion of their revenue by being entrepreneurs in the knowledge market". 10

Thank you

Footnotes:

1 Theme of the Pan-Commonwealth Forum on Open Learning, Brunei, 1 - 5 March, 1999


5 University of the West Indies (UWI) Distance Education System, now known as the UWI's Distance Education Centre (DEC).

6 Op. Cit. p22, Background paper No. 9


8 World Bank, op. Cit. Pp 20

9 Infrastructure Finance and Leasing Services is one of India's leading financial institutions, and influences over US$7 billion in investments.

10 Cambridge International Conference on Open and Distance Learning, Cambridge, 23 -26 September, 1997