

Human Resource and Telecommunications – Issues in the Commonwealth



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"Human Resource and Telecommunications - Issues in the Commonwealth" by David Walker, Educational Specialist (Educational Technology)

Transcript

I would like to thank the Secretariat, COMNET-IT, and the Government of Malta for hosting this workshop concerning Telecommunications for Education and Development in the Commonwealth.

It is indeed interesting for me to visit Malta for the first time. In 1943 my parents were in a convoy of ships that were sailing not far from this island. They were both in the Canadian medical corps on their way to Italy to join up with Allied troops fighting their way up the boot of Italy. Just at sunset, as my father was enjoying an after dinner cigarette on the stern deck (remember this was before the days of warnings by the Surgeon General!), German bombers flying extremely low to the water, let go torpedoes that hit their ship. My mother and father both ended up in floating in the Mediterranean after theirs, and four other ships were sunk, including a large destroyer that my father saw disappear as he recalled, "with a large flash". They were picked up by an American merchant ship and eventually made it Naples where they served for two long years. My father told me of the awful pounding that Malta took in 1942, unprotected at that time by the Allies. I can understand somewhat, after seeing pictures of the destruction, the heroic resistance and resilience of the Maltese people during the German siege.

I have been surfing and reading about your island and the especially the mandate of the Department of Education as well as learning about the Minister himself. I can see that Malta is fast becoming one of the IT leaders globally. I am sure that the determination you have shown to the world during those years of the war will be important towards achieving your goal as a predominate IT global leader.

It is also nice that the Minister of Education for Botswana is with us today. In that last few days I have been on the telephone with the Non-Formal education sector of the Ministry completing the requirements for the first phase of a project that will help the DNFE start to produce audio and video training materials utilising a computer-based desktop videoediting system. This is not the first time that COL has been involved in a project of this nature. COL worked with the educational media unit in the Maldives two years ago to implement a versatile low cost solution that addressed the similar needs that the non-formal sector is presently addressing in Botswana. As you know hard drives and co-processor capacity has

increased and cost of RAM decreased. Video editing has gone from hardware-based linear systems of over \$100,000US to non-linear desktop computer systems that improve with software upgrades and also have the added capacity of desktop publishing, spreadsheet, database, word-processing, presentation software, etc. This has put new tools in the hands of educators, especially instructional and course designers in general.

COL, like many non-governmental and inter-governmental organisations is under funding restraints. We therefore have tried to focus upon low cost solutions to address the needs of the Commonwealth countries we serve. Our primary focus is distance education and the associated systems that deliver education to the learner. But that role also involves advising our client countries of IT solutions and trends.

As an educational technologist, it has been a huge chore to keep abreast of the developments in both telecommunications and multimedia-based systems. I am sure most of you also find this a daunting task if you are involved in any way with technology. The sector that I try to monitor especially is the commercial sector. It is there that innovations and leading edge technologies with possible educational applications can be gleamed. This is not an easy task. I hear the term 'appropriate technology' being frequently used. As a base line, the educator with decision-making capacity must have a good grounding in many areas of media, computer-based technologies, delivery systems and telecommunications innovations to have the qualifications to determine 'appropriateness'. The educator nowadays must, in their initial needs analysis, be able to filter out the noise that multitudes of technology solutions present. A technology appropriate for the needs of the GM and Microsoft's of this world may not, in its commercial state, be appropriate for the classroom. But if the educator has an understanding of learners' needs and then perhaps within the concept or configuration of the commercial system itself, (ie. a knowledge base of the technical functioning principles of the technology(s) and its past, present and future developments), there maybe variations of that technology, in a cost effective format, that could very well be adapted for the classroom. Bates, (1992) developed the A-C-T-I-O-N-S model for media selection that can be applied as a method for technology decision-making during the needs assessment phase.

POINTS TO BE CONSIDERED IN MEDIA SELECTION

A-C-T-I-O-N-S

Access: where will the students learn - home, work, local centres?

Cost: what will be fixed and variable costs?

Teaching Functions: what is the pedagogic objective?

Interaction and user-friendliness: what kind of learning does this technology encourage? Do the students and teachers require a great deal of training to use this technology?

Organisation: what changes in the organisation will be required to facilitate the use of a particular technology?

Novelty: to what extent will the 'trendiness' of this technology stimulate funding and innovation?

Speed: how quickly and easily will the material be up-dated and changed? How quickly can new courses be produced using this technology?

For example, what GM would consider for a videoconferencing system configuration are very much different from the boardroom to what the budget and classroom needs would be.

An example of a technology in a low cost commercial format being converted for village level use has been community-based radio. Canada has been a leader in community-based radio for years. These systems, however, have not been as portable nor economical for basic village needs. COL was made aware of a small 5 watt transmitter that was being used for weather/road conditions along the 2500 km Alaska highway. COL asked the manufacturer of the unit if they could modify and interface the unit to accommodate the basics of an FM broadcast station, which would include CD, cassette and a mixer. This was done and COL has since piloted these units in Jamaica and a First Nations band council located in the Canadian north. The technology fits into a mid size suitcase and can be run from a wall socket, solar, or a car battery.

As I mentioned the commercial sector is the lead in many areas with its monetary and research clout. Education with its limited budgets is usually pulled by the bootstraps by the commercial sector. We are now seeing a trend by the commercial sector of getting into the business of developing and selling just in time training materials in multimedia formats. IBM is a good example of this trend. They have developed a Distance Education Centre that will when fully operational create just in time training for clients. They are addressing the needs of learners as clients rather than the inflexibility of the materials production traditionally associated with the post secondary sector.

So what are the barriers that effect both the education and commercial sectors. First off is the relationship between government and telcos. On Feb 15 this year, an historic accord was signed in Geneva, by 60 countries representing 90% of global telecommunications investment. This accord calls for the elimination of telephone service monopolies by Jan 1st 1998. BUT, and this is a big BUT, countries such as Uruguay and Costa Rica have stated that they could not comply with the directive since their national laws gave the state a monopoly over telephone service. These Latin countries are not the norm considering that Mexico, Chile, and Brazil had opened services to foreign competition before the February agreement. I am not sure of the overall status of the African countries at this time although I have heard there has been an on-going court battle in Zimbabwe between government and free enterprise over telco monopoly. For many governments the telcos have remained a cash cow that has effectively arrested the modernisation of data communications on a national scale. I can remember staying in St. Lucia to run a workshop. To get a taste of St. Lucian life I stayed, during the workshop, with local a family. The father, of this family of three teenagers, kept a lock on the rotary dialler of his telephone. This was not to prevent teenage over usage of the family phone, but rather to keep down the cost of local calls. This is a strange phenomenon for Canadians, for example, who feel one of their given rights is not to be tariffed for local phone calls. In North America Internet growth has been phenomenal compared to Europe, simply due to the fact that going on-line as many times in a day to check your e-mail in Canada is not a tariffed affair. This may change sometime soon given the telcos lack of foresight in growth of Internet data communications (not too many of us saw how WWW would proliferate in a short time) across their copper-based telephone systems. In the telcos thinking you are suppose to make short voice

calls and not hammer up a telephone line and circuits surfing the net for hours and in some cases, with university students, days at a time.

Secondly, in order for the magic formulas of data communications to arrive on our doorsteps there will have to be tremendous infrastructure investment by both commercial and governmental sectors and somehow, (and perhaps that somehow is government regulation of the level of profits that telcos are allowed to take) the cost of communications must come down dramatically. Otherwise data communications, especially in their high-speed configurations will remain with the elite portions of our global society. Gates and McCaw with the teledesic initiative, putting over 800 LEO's in orbit over the next few years, may present high-speed data access to all corners of the globe but at what cost to the end user? Who will be the end users? I am sure that that teledesic will be in high cost recovery mode at first and thereafter the end users will also have to pay for expensive upkeep of those many satellites.

With the advent of the WWW configuration of the Internet, telecommunications and its accompanying industries have now become integrally linked with a nation's human resource development. If a governments hope to have their nations be competitive in the 21st century then the cost of IT and data communications will have to be reduced and made available to all regions of a nation with bandwidth equality to those regions as well. It can't be 10 Mg access in the urban centres and 9.6 Kb to the rural areas of a nation.

Let's just imagine if the telco and Internet related costs are economical and accessible to the general population in seven years time. Just imagine a young group of computer savvy 20 year olds who have started a company in Malta or Botswana. Because data transfer via wireless systems and copper (maybe ADSL Asynchronous Digital Subscriber Line - we will still unfortunately have copper wire in this scenario) these young people have just bid and won a contract to insure the proper functioning of an computerised elevator system in a building in Dallas, Texas. They have competed for this contract against Chinese, American and Greek firms and won due to their computing reputation, reliability, and low cost. Remember these young entrepreneurs enjoy the lifestyle at home and if they really have to visit Dallas they can always videoconference. Let me also tell you that these youths acquired their degrees from several tech/voc schools scattered around the globe with recognised international accreditation. These young people have not left their home country to receive their training nor will they to fulfil their contractual obligations to the employers in Dallas to remotely service those elevators.

Perhaps this is what this workshop may want to consider. Where would you like your to be in five to ten years in an IT world remembering the human resource element and it integral relationship to IT. This is one of the reasons that Canada embarked upon the Information Highway initiative. (I understand from our friends at TeleMalta that they have completed a similar initiative). It is essentially a plan or blueprint of what Canada as a nation should be doing to stay competitive and employable in the 21st century. Education and lifelong learning are two of the primary concerns of the study.

Let me also say that technology is always the easy issue to solve. There is way to get to even the most remote village that does not have electricity with a technology system. It is the organisational, governmental, cultural aspects that are difficult to solve. For example, Malaysia has initiated its super corridor project. The corridor's technological infrastructure will be easy part to implement. But how will the tremendous amount of content for education and training be developed if course developers do not

exist or are still designing with text based experience only in their resumes. There will have to be a tremendous amount of talented people trained in multimedia and instructional design to fill bandwidth with meaningful and effective educational content.

COL can offer our resources as an organisation that focuses primarily of distance education. I would prefer to say alternative education rather than distance education. Let's hope in the coming years, through efforts like this workshop by the Secretariat, will bring an awareness to the Education Ministers this July of the issues concerning telecommunications, education and human resource development. Perhaps this is an opportunity now to allow the youth of the future of a given Commonwealth nation a chance via IT and connectivity to compete globally to enhance a nation's true potential in the 21st century.