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Inside

<i>Guest Column</i>2	<i>Worth While Web</i>16
<i>Spotlight on</i>6	<i>CEMCA Bulletin Board</i>17
<i>Case Study</i>10	<i>SMART Tips</i>18
<i>Regional News</i>14	<i>Research Shows</i>20
<i>Country Focus</i>15	<i>Resource Review</i>21

From the Director's Desk...

The map of Asia has changed after the tragedy of December 26th, 2004. A word, 'tsunami' hidden in the school textbooks of children has suddenly created a picture of a terrifying and overwhelming natural disaster which knows no national boundaries and makes no distinction between the rich and the poor; between far flung islands and mainland coasts.

The full dimensions of the tsunami and the wave of destruction caused in a few minutes of nature's fury will never be fully known. We know, however, that the face of tragedy continues to be the child, and most often the child is a girl. But what have come to the forefront of global psyche are the unity and the interdependence of people and nations in good times and bad. And as happens when tragedy strikes, the world has reacted promptly with basic human decency to bring solace and comfort to the victims.

Hindsight will always tell us what "should" or "could" have been done to prevent a disaster of this magnitude. What stands out in sharp focus is the importance of

preparedness for global security – whether from natural disasters or human misadventures. And that preparedness can come only when education is seen as a bridge to global security. That is the theme of our guest column – an abridged version of an address by Mr. Lewis Perinbam, Chairman, Board of Governors, COL delivered in 2004. Reminding us eloquently of what the classics have said about human nature, Mr. Perinbam highlights the increasing link between development, education, and peace and the importance of both North-South and of South-South partnerships in the development process – and he links the classics to current attempts to use education as the bridge that will take us to an era of peace and harmony.

The interdependence of nations and of peoples is what is reflected in this largely international edition of *EduComm Asia*. Reaching beyond the boundaries of South Asia, we sought to bring to you glimpses of what is taking place elsewhere in the developing world. Drawing from the wisdom of participants at an international conference in January in Ahmedabad, we spotlight excellence in educational broadcasting when we describe Mindset, a South African initiative. Equally impressive is Singapore's success in integrating information and communication technologies as a critical component of teacher education. Our country focus is on Malaysia and its e-learning efforts and the lessons they teach us.

Other features are also there in this issue. The third in a series of Smart Tips on multimedia courseware development shifts attention to the concerns that determine the choice of software. In our resource reviews, we look at both print and web based resources. Our section on "Worth While Webs" looks at community radio websites, and we also bring you regional news and forthcoming events.

We have taken cognizance of what our readers have said – about detailing the call for research proposals and attachments, and we note that in subsequent issues, we will be looking to bring you lists of relevant publications. Keep writing to us and let us know your needs so that we may better address them. Enjoy reading this issue as much as we have enjoyed putting it together for you.



Dr. Usha Vyasulu Reddi

Bridges To Global Security

Mr. Lewis Perinbam is the Chairman of the Commonwealth of Learning. An Officer of the Order of Canada, he has had a distinguished career in the Canadian Federal Public Service, in international organisations, notably the World Bank and UNESCO, Canadian International Development Agency (CIDA) as well as in non-governmental (NGO) and private sectors. He is a recipient of honorary doctorates from the University of Calgary, York University, L'Université du Québec and Brock University, a prolific author and is listed in the Canadian Who's Who.

We bring to you an abridged version of a speech made by Mr. Perinbam at the Ismaili Centre, London, England in 2004, where he speaks eloquently about education as an important bridge to the building of world peace.



Mr. Lewis Perinbam

The Promise of Education

In a world of strife and distrust, of wide disparities in well-being and in opportunities for wholesome accomplishment, bridges of peace are crucial if humankind is to preserve its fundamental decency. Evidence of that decency is found in the fact that, throughout the turbulent history of our species, the traits that have been most revered relate to the offering of a helping hand, the expression of generosity and accommodation, the tendering of hospitality. These are natural human characteristics, found in societies in every country. It is essential that those traits be respected and preserved if we are to understand and overcome the current unprecedented challenges to our well-being arising out of the new global circumstance. Through several millennia those characteristics were expressed within local – often isolated – cultures. Local as well was knowledge, confined by circumstance to the immediate community. It is difficult for our

generation, accustomed to instant electronic communications and television images on a global¹ scale, to comprehend the confining nature of that kind of life.

The brilliant British scholar, Joseph Bronowski, described vividly the limitations of such physical confinement in his celebrated BBC-TV series several years ago. He chose as one example the Bakhtiari, a nomadic grouping that has altered little its pattern of life in what is now Iran, since the retreat of the last ice age some twelve thousand years ago. The group carries with it all its possessions as it crosses six perilous mountain ranges annually in its outward quest for fresh pastures, then crosses the same six ranges again on return, packing and unpacking each day of the year. Of them, Bronowski said: "There is no room for innovation, because there is no time, on the move, between evening and morning, coming and going all their lives, to develop a new device or a new thought – not even a new tune. The only habits that survive are the old habits. The only ambition of the son is to be like the father."²

As exotic and implausible as that lifestyle appears to persons living in this thriving urban metropolis, I suggest it is important for us to remember that remnants of similar limited social comprehension are not unknown in a number of places today. When such persons are forced to co-exist with the often bewildering technological

landscape that the rest of us occupy, more than confusion can result. To the dismay of many, tensions and rage burst forth. Especially is this the case when indefensible disparities in well-being between the wealthy and the poverty-stricken become evident. In such circumstances those human traits of accommodation and hospitality can be turned inward, mental insularities exploited, and hostile behaviour encouraged. In such cases we in relatively affluent communities must guard against the automatic inclination to cease building bridges and to pull up those that are in place. To act in such a fashion is both short-sighted and ineffective, and always has been. In years gone by the most heavily fortified of castles, with the deepest of moats, could not long withstand the assaults of archers and catapults, the new techniques of warfare. In the earliest months of the 21st Century the most militarily powerful state in all history, separated from the disaffected by moats the width of the Atlantic and Pacific Oceans, proved far from impregnable. On our understanding of this quantum leap in vulnerability depends the future well-being of humankind.

Yet those horrific events of September, 2001, and the many others that have since followed, have initiated an almost single-minded reaction on the part of many governments in the North : one of overwhelming attention to physical security. In doing so, we have been persuaded that it is less important to respond intelligently and effectively to two quite distinct categories of phenomena that now imperil the global landscape, each of which bears upon the physical security threat. The first is the desperate misery in which hundreds of millions of persons now live, overwhelmingly in the South, devoid of any hope for some amelioration of their plight. The second is the vulnerability of persons everywhere to the several perils arising out of an increasingly overburdened, over-active, and interconnected planet and the human species that dwells upon it. Let me turn briefly to these two phenomena and in doing so emphasize as strongly as I am capable

that the age is long past where “we” in the North could lay claim to some degree of intellectual credibility by referring to “them” in the South. In this intense, compressed, holistic, global age, the operative term must be “us”.

The first phenomenon – the massive disparities in wealth between rich and poor, is a dividing line that exists between nations and, all too often, within them. Although 35 years have passed since the World Bank Commission chaired by former Canadian Prime Minister Lester B. Pearson issued its groundbreaking report “Partners in Development”³, and 24 years since the appearance of the first of the two reports of the Independent Commission chaired by former West German Chancellor Willy Brandt, a report entitled “A Program for Survival”, the processes of economic and social development remain as obtuse, and their goals almost as distant, as at any time since the birth of the United Nations. Notwithstanding the expenditure of massive sums of money from sources both public and private, progress towards raising the standard of living of the poorest – important because of the physical benefits it bestows – and progress towards diminishing the outrageous South-North disparities – important because of the commitment to social justice that it confirms – have both been painfully slow.

Ample evidence exists in any number of social and economic indicators compiled by credible analysts. As one example, the remorseless, immoral, net transfer of resources from South to North, the reverse of what development assistance is dedicated to accomplish, offers as yet only sporadic evidence of reversal. One such successful example, in itself evidence of the tragic state of affairs, is the expectation that in the year 2004, those developing countries that may be described as ‘emerging markets’ will repay more to the International Monetary Fund, to the World Bank, and to other international financial institutions, than they borrow. The tragedy? Should this be the case, it will be the first year in more than a quarter of a century that these countries of the South are able to balance their books.⁴

Willy Brandt introduced his Commission’s 1980 Report by stating that development is not merely an economic process, important though that element is. In what now appear to be prophetic words, he continued: “The new generations of the world need not only economic solutions, they need ideas to inspire them, hopes to encourage them, and first steps to implement them. They need a belief in man, in human dignity, in basic human rights; a belief in the values of justice, freedom, peace, mutual respect, in love and generosity, in reason rather than force.”⁵ It is the absence in all too many places of these ideas, hopes, and beliefs that permit the recruitment of young men and women for the evil forces of terrorism in this century. This was emphasized by Kofi Annan in his Ottawa speech. He said: “A world in which millions live in misery without prospect for development cannot be regarded as a world at peace.”⁶

The second phenomenon – the mutuality of vulnerability of all humans – is readily illustrated by a number of examples. One is the immediacy of human fear and massive economic losses as pathogens hostile to human health spread without warning

around the world, hitch-hiking in comfort in the luxurious cabins of modern airliners courtesy of their unsuspecting human hosts. Among them are rare mutations of malaria, SARS, avian flu, and the most devastating disease in all history, HIV-AIDS. Another of these peripatetic, and novel examples, is the fluctuating and destructive weather patterns of the past few years, as evident in the unprecedented earthquake and Tsunami in the Indian Ocean last December. The U.N. Intergovernmental Panel on Climate Change has concluded that for the first time ever, “The balance of evidence suggests a discernible human influence on the global climate.”⁷ Other incidents that serve as evidence of the interdependence of countries and regions – in some instances almost their integration – fall in the sectors of economics and trade, of population growth and migratory patterns, of commerce in contraband including narcotics, weaponry, and women. In each of these examples, political frontiers are virtually non-existent.

Of this massive accumulation of increasingly significant and complex dynamics, all of them beyond the effective management of any single country, no matter how powerful it may be, Professor Ivan Head, the distinguished Founding Director of the Liu Centre for the Study of Global Issues at the University of British Columbia in my home city of Vancouver, and formerly Foreign Policy Advisor to Prime Minister Trudeau, has concluded :

“It is not an exaggeration to state that the first quarter of the 21st Century will test the willingness, as well as the ability, of human beings to function as a productive, civil, species. The current unprecedented growth of human population will test the carrying capacity of the planet as increasing demands are made upon the physical environment by growing numbers of persons, and will test the social resiliency of the species as competition for resources, space, and cultural expression becomes more pervasive and more intense. If disasters are to be avoided and opportunities seized for an increased and sustainable well-being of humankind, new techniques of accommodation and cooperation will be required among human beings, and between humans and their environs.”⁸

These phenomena emphasize that we are all members of a single global community. Not a single society, but a single community, and – as in all communities – we share certain responsibilities for the well-being of our neighbours. In the global community, as in a village community, should disparities in well-being become excessive, whether measured in terms of health, of economic opportunity, of education, of a wholesome natural environment, of safety – those elements now referred to increasingly as “human security” – the result is instability and insecurity for all. Extremes of poverty and wealth or of wellness and disease are the seeds of envy, of hostility and, all too often, of criminal behaviour. This reality has been understood in all societies for millennia. The response to it has varied considerably, from socially responsible democracies such as found in this country or in my own, to authoritarian regimes that exercise discriminatory practices to maintain the status quo, but seldom wholly effectively. The challenge was described

most graphically 150 years ago by the French nobleman and author Francois - Rene de Chateaubriand.

“Try to convince the poor man, once he has learned and ceased to believe, once he has become as well informed as yourself, try to convince him he must submit to every sort of privation, while his neighbour possesses a thousand times what he needs; in the last resort you would have to kill him.”⁹

In our lifetimes, ignorance of events far distant has given way everywhere as cascades of photographs and spoken words now descend from earth-orbiting satellites to ubiquitous television sets in even the most remote communities. Impoverished villagers in the South are now aware, often in lurid detail, of the conspicuously lavish lifestyles enjoyed by the wealthy of the north. Images of depravity offensive to many cultures in the South are seized upon by populist leaders, sometimes in opportunistic fashion, to deplore and oppose the extension of practices they regard as heathen. And always it is the illiterate and the barely educated who are the targets of appeals to resist, to strike back, to make strident claims for equitable treatment or – in the extreme – to seek salvation through violent means.

Literacy and numeracy are not in themselves guarantors of economic betterment or of justice. Their absence, however, often denies both. The long chronicle of humankind’s accomplishments reveals the constant presence of a single motivating feature. It is the ability of the species to acquire, to utilize, and to enhance knowledge. The word best employed to describe how that process is passed from generation to generation is *education*. It changes form and assumes differing guises from the primary grades through to tertiary levels in universities. It is at times theory-based, at others of immediate practical application. It is the irreplaceable key to understanding our world and ourselves; to anticipate the future and to husband our natural environment for the benefit of all human beings. It is both the expression, and the adhesive, of the commonality of humankind.

A major unstated premise of any educational curriculum worthy of replication is its commitment to a communitarian ethos, but not simply or only for the most immediate community or the most familiar society. In the 21st Century this ethos must be a refinement and enlargement of what Robert Redfield, the distinguished American anthropologist, said were “largely undeclared but continually realized ethical conceptions” that held together precivilized societies.¹⁰ Prime Minister Pierre Elliott Trudeau turned to that theme in his memorable Mansion House address following the conferment upon him of the Freedom of the City of London in the Guildhall in 1975. He reflected on the magnitude of the contemporary human community and then called for a global ethic : “An ethic that abhors the present imbalance in the basic human condition – an imbalance in access to health care, to a nutritious diet, to shelter, to education. An ethic that extends to all men, to all space, and through all time. An ethic that is based on confidence in one’s fellow man.”¹¹ In its absence, said Mr. Trudeau, men and women anywhere could not claim to be free.

In our quest for understanding and for guidance, where should we begin? Perhaps with a reminder from Hobbes’ “Leviathan” that self-centred behaviour leads to untenable results. Wrote Hobbes “... as long as this natural right of every man to every thing endureth, there can be no security to any man.”¹² In sum, the single-minded pursuit of individual freedom and wealth, self-righteous in the extreme, in the absence of social responsibility, leads neither to freedom nor to security. Writ large in country after country, the evidence is to be found. Tragedy will be the consequence should we deny or misinterpret those events and their inevitable aftermath.

No one has better understood this circumstance, nor has consistently dedicated resources more generously and more effectively towards its solution, than has His Highness the Aga Khan. In his address last December to the 16th Convocation of the Aga Khan University in Karachi, His Highness referred pointedly to parts of the Muslim world but in words that are equally applicable to all societies :

“The feelings of the subordination of people – that they are victims of an economic or cultural globalisation in which they cannot be full partners but from which they cannot remain apart – these feelings fuel some of the most potent, destructive forces at play in our world today... When people of a distinctive faith or culture feel economically powerless, or inherit clear injustice from which they cannot escape, or find their traditions and value engulfed culturally, and their societies maligned as bleak and unjust, some amongst them can too readily become vulnerable. They risk becoming the victims of those who would gain power by preventing an open fluid, pluralistic tradition of thought, and belief, into something closed, and insular.”¹³

In that same speech, His Highness emphasized that, in his judgement, there is a clear need “to mitigate not what is a ‘Clash of civilizations’ but a ‘clash of ignorance’...”¹⁴ In order to address the latter and to enhance learning opportunities for the Muslim communities in Asia and Africa, His Highness, through the Aga Khan Development Network, has demonstrated exemplary leadership. Partnerships have been created, expertise and experience sought out and utilized from all over the world. Aga Khan University (AKU), for example, now entering its third decade, has, among so many other accomplishments, contributed mightily to the dignity and self-confidence of young Pakistani women while training them to perform the skilled medical and nursing tasks so needed by their country. I was privileged as Vice President of the Canadian International Development Agency (CIDA) to be instrumental in approving funds for the imaginative partnership between McMaster University in Canada and the AKU which launched this process. The newly created University of Central Asia will bring post-secondary education to a region long denied it. Campuses are located in three of the mountainous republics – Kazakhstan, Kyrgyzstan, and Tajikistan. In 2002 a network of Schools of Excellence was launched directed to the needs of youth in the Middle East, Sub-Saharan Africa, Central Asia and South East Asia. Eventually, schools will be located in 14 separate countries, a

magnificent undertaking. These and other undertakings of the Ismaili community, partnering with universities and governments in those countries and others, including Canada, are harnessing the power of education and making it universally accessible.

Fortunately, educational initiatives by other organisations are complementing those laudatory achievements and doing so with the same sense of urgency¹⁵, and the same willingness to employ unconventional techniques. One such is the Commonwealth of Learning with which I am proud to be associated. COL is a specialised agency to the Commonwealth and is headquartered in Vancouver. Its primary mission is to assist the governments of the 54 Commonwealth member countries, but particularly those in the South, to take full advantage of open, distance, and technology-mediated learning strategies in order to provide increased and equitable access to education and training for all their citizens. Its goal is to build capacity within the participating countries located in Africa, Asia, the Caribbean, and the Pacific.


COL has been a pioneer and a leader in recognizing the value and the potential of open and distance learning to bring education within the reach of all, to improve its quality, and to contain the costs of doing so. Since its inception in 1987 it has proven effective in lifting the burden of poverty from countless numbers of persons in Commonwealth nations by using new technologies and techniques to overcome illiteracy, improve educational standards, and train hundreds of thousands of new teachers.

No one should underestimate the immense range of rich benefits, including economic, that result from increased education. In India it is estimated that a one-year increase in the average number of years of primary schooling of the workforce would raise outputs by some 23%. In Bangladesh the average salary of secondary-school educated women is about seven times that of women with no primary education. More than a quarter of a century ago, the Economic Council of Canada calculated that the single highest return of any investment – over the longer term – was to be found in the field of education.¹⁶

These statistics should not be surprising. Education confers myriad benefits to individuals as well as to society at large. Another prominent example is health. In 1999 the World Health Report stated “Poorly educated individuals may fail to observe basic hygiene or neglect appropriate weaning practices for their children.... The magnitude of the demonstrated effect of girls’ education on health and fertility outcomes... provides a powerful argument for investing in extension of educational access to girls.”¹⁷ In turn, for many years the World Health Organization has established the linkage between health and a number of desirable outcomes. In her opening address to the 55th World Health Assembly in Geneva in May 2002, the then Director General, Dr. Gro Harlem Brundtland stated that “... unless people are healthy, we will not see economic growth; we will not see stability; we will not see human dignity or fulfilment of human rights; we will not be at peace.”¹⁸

In the absence of both educational qualifications and good health, the economic consequences in developing countries can be catastrophic. One recent illustration of many is the decision announced in mid-March by Tiger Wheels, a multinational manufacturer of cast-aluminium wheels for motor vehicles, located in South Africa, that it is diverting investment to new facilities in Poland and in the United States. The reasons cited are the low productivity and economic losses in South Africa compared to circumstances in comparatively much higher wage countries elsewhere. The company spokesman explained: “For every 60 wheels cast at the South African plant, three must be melted down and recast, 30 percent more than at the Polish plant that is because 9 out of 10 of the South African workers never finished high school, while the same proportion of the Polish workers have university degrees. One-fifth of the South African workers can neither read nor work a simple calculator.”¹⁹ He went on to point out that the Polish workers were also healthier; in the South African plant one worker a month was lost to AIDS.

Important, however, as is the ability to enhance one’s standard of living through higher income, and to contribute to the national GDP, we should be wrong were we to overlook the broader benefits to humankind that are the result of a broad-based, secular education. Among these are an awareness of the contributions to humankind that originate from within other ethnic or religious communities; an understanding of the need for cooperation among all societies in order to meet and manage the challenges of a global age; an ability to cultivate reasoned analyses, reasoned choices, and defensible opinions; an acceptance of the fact that, in the words of His Highness, “the right to think is [not] the enemy of real faith.”²⁰

Education is many things and over the years has been described in many ways. In 1874, Disraeli said “Upon the education of the people of this country the fate of this country depends.”²¹ In 1920, H.G. Wells argued that “human history becomes more and more a race between education and catastrophe.”²² A half-century later, Mwalimu, Julius Nyerere, wrote that education “must be a part of life; integrated with life and inseparable from it.”²³ Today, in the dawn of the 21st Century, when the critical ingredient in humankind’s quest for security is an understanding of our commonality as a species, education is the necessary tool to meet that end. Simply put, education today is the most effective of all bridges. 

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- ⁴ The New York Times, 17 February 2004
- ⁵ *Supra*, note 4, p. 12
- ⁶ *Supra*, note 1
- ⁷ The Third Assessment Report of Working Group I, Shanghai, January 2001. www.ipcc.ch/
- ⁸ See also Head, Ivan L. (1991) *On a Hinge of History; the Mutual Vulnerability of South and North Toronto*/London: University of Toronto Press
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Cont. on page 15

Mindset Network : A South African Model on the Use of Satellite-based Technology to Support Education and Training

Ann Lamont

Mindset Initiative – The Context

It is widely accepted that Information and Communication Technology (ICT) is a central pillar of the new global economy and the basis of global competitiveness. Countries must therefore become ICT competent in order to become economically integrated into the global world. In response to the challenges presented by globalization African countries have described a vision and created a strategic framework for Africa's renewal. The New Partnership for Africa's Development (NEPAD) was designed to address current challenges facing the African continent, issues such as the escalating poverty levels, underdevelopment and the continued marginalization of African countries.



NEPAD views ICT as critical in the development of Africa and aims at the provision of ICT based infrastructure, equipment, training and content to schools in Africa through its e-Schools Initiative.

South Africa has a broadly favourable policy environment for ICTs in general and educational ICTs specifically. Currently, there is a proliferation of ICT projects in schools, ranging between 60-80 active projects, comprising a wide variety of implementation models. Most projects however, lack sufficient educator development components, local curriculum based content, the ability to be taken to scale and research to inform project development and implementation¹. Despite the many claims, current indications point to the fact that insufficient research is available on the impact of ICT on higher education. It has been suggested that very few attempts have been made at evaluating the impact of ICT on the education environment,² and existing studies are limited to English speaking developed countries whose outcomes are not easily transferable to other political, economic and cultural contexts³. A need for exploration and analysis of more contextually relevant cases thus exists.

This is the basis upon which the Mindset Initiative was developed to provide a platform for implementing and

researching various strategies and models of ICT use in a locally embedded context. It therefore does not have the answers but is in a position to reflect and redesign its processes and products as it innovates around what works and what doesn't in the South African environment.

Mindset General Strategy

Mindset Network is a non profit organisation, initiated by private sector corporation that is aimed at the personal, social and economic development of all people in Africa through creation, sourcing and delivery on a mass scale of quality and contextually relevant educational material through appropriate media to communities engaged in primary and secondary schooling, health, vocation and enterprise and other under-developed and under-resourced communities where development can be achieved through education. To this end Mindset has two channels operating (Learn and Health) and will launch its third and fourth channel (Primary School and Livelihood) in 2005 and 2006 respectively. A Higher Education channel is also in the pipeline.

Mindset was informed by the lessons of the many African and South African based projects already underway on the continent.

Mindset aims to :

- ❖ Work holistically with government, corporate sector, the higher education sector and other NGOs to ensure a sustainable, systemic and long term solution;
- ❖ Provide a holistic solution through provision and deployment of equipment; development of local content; professional development; research and community engagement.
- ❖ Continuously develop innovative technology to suit national and local contexts and meet the needs of target groups.
- ❖ Offer a variety of solutions to ensure wide access and create technological solutions that are technology neutral.
- ❖ Follow a multi-media approach that incorporates a variety of mediums to enhance education outcomes.
- ❖ Create contextually relevant curriculum content.
- ❖ Ensure the programme is reusable and scalable.

Mindset Technology Solution

Incorporating lessons learned from the various research projects, over the past three years, Mindset has evolved its technological solution to suit the needs of the user - in this

case educators and learners in the formal schooling sector – and consequently developed a multi-media strategy that addressed these needs.

Accounting for the general lack of exposure and a very real fear of technology and underpinning the educational objectives, the Mindset Model uses an easy to use delivery platform that comprises :

- ❖ **Asynchronous viewing** allowing learners and educators to engage with content at times of their own choosing and providing critical flexibility.
- ❖ **Multimedia delivery** allowing greater focus on developing high quality content that uses different media with opportunities for integration of the full range of media into materials design and development.
- ❖ **Remote management and distribution** making it possible to continuously refresh and update stores of content provided locally. New content developed thus becomes immediately accessible and the process of correcting any problems discovered with existing content is simplified.
- ❖ **Significant storage capability** introducing new possibilities regarding content distribution, such as provision of content in multiple languages and integration of search – and – retrieval mechanisms into content provided to make it more accessible to users.
- ❖ **A relevant return path** using a range of available wireless or cable-based telecommunications technologies, ensuring a two way flow of information.
- ❖ **Multiple applications** serving many potential purposes it becomes significantly easier to redirect expenditure if discovered that a particular application is unsuccessful and reduces the risk of the initial investment.

Mindset has endeavored to address the critical challenge of adequate ICT infrastructure in South Africa by creating a number of different models that are able to receive high quality content via satellite broadcasting. Thus Mindset has been able to develop a cost effective solution for receiving content that can be rolled out to sites with no existing infrastructure or can be added on to a number of existing infrastructure options. Mindset could therefore be considered to be technology and platform neutral and compatible with a wide range of existing and cost effective infrastructure.

Mindset has thus combined the best of traditional television analogue technology and digital Internet protocol technology to create a datacasting platform which can be received on a television or computer.

Mindset content can further be received by any site with a :

- ❖ decoder, satellite dish and television;
- ❖ decoder, satellite dish, television and video recorder;
- ❖ decoder, satellite dish and PC or refurbished PC;
- ❖ satellite dish and PC or refurbished PC with a digital storage device;

- ❖ PC where physical distribution of content through CD or DVD needs to take place; and
- ❖ PC with an Internet connection.

It is also possible to distribute Mindset content through terrestrial broadcasting which would allow content to be received by any standard television set. Additionally, Mindset also distributes traditional print material through a national newspaper and physical delivery to sites.

Mindset Content Storage and Management

All content developed by Mindset is stored in categories that can easily be understood by educators in a sophisticated knowledge management system developed by Mindset, soon to become available on the various Mindset web sites and via the South African National Education Portal being developed for the South African Department of Education by a consortium of which Mindset is a member. Mindset has created a series of interlinked, web-enabled databases that focus on organizing and managing all of the key data related to any curriculum.

Mindset has identified the need to adequately manage all content thus enabling :

- ❖ Educators to easily access and find relevant tools and resources;
- ❖ Educators to create their own resources that are aligned with the NCS;
- ❖ Mindset to re-use and adapt content at a more cost effective rate than redeveloping content for use in the rest of Africa.



Research has also shown that educators utilise tools and resources more efficiently and understand ICT better when content is set out in line with the curriculum. A comprehensive XML schema for this system and for the Mindset Knowledge Management System has been developed. This tagging system is fully compatible with key international standards, particularly those developed by the Dublin Core Metadata Initiative, the Learning Technology Standards Committee of the Institute of Electrical and Electronic Engineers, and the Sharable Content Object Reference Model (SCORM) of the Advanced Distributed Learning.

Mindset Educational Strategy

Informed by the policy context as well as the lessons learned from initiatives implemented in South Africa over the past five to seven years, Mindset opted to develop locally relevant curriculum based content, of which there is a dearth. Although a small amount of general education content is developed by the local broadcaster, this is not curriculum based. Research indicates that curriculum based content will allow for easier integration of technology into the classroom. It is also acknowledged that there is a dire need for high quality materials to reach rural communities in order to support quality teaching and learning.

All content is thus designed in accordance with guidelines of the State curriculum that was changed from a behaviouristic approach to a constructivist approach and the implementation of skills and outcome based curriculum, guidelines. Content therefore also supports the principles of human rights and gender equity; promotes cultural diversity and nation building as required in the new curriculum. Content further promotes relevance through context and language – not an easy task in a country with 11 official and a number of unofficial languages spoken by learners from diverse cultural and religious backgrounds.

Mindset ensured that the digital content interface was easily usable and understandable by an education audience, and broadcasting solutions were developed to address the need for asynchronous viewing required by the school setup. Educational and pedagogical issue also took precedence over production and aesthetic quality issues, and several processes in the development of content were included to ensure the input of education specialists. This was done by forming several content reference groups and included processes whereby experts provided feedback on an ongoing basis.

Content is designed to empower and not replace educators. Video content is therefore designed as 10-12 minute sessions which can be shown in the classroom as part of the educator's wider lesson or theme. Content is created in such a way that natural pauses are created where educators can engage with the class on the subject matter. Educators thus need to decide whether to use content to introduce a concept, revise a topic, demonstrate an aspect, support or oppose a discussion, or purely as a resource outside the classroom that helps the educator to prepare and find new ways of addressing the content.

One of the concepts informing Mindset content creation is that of a multi-media approach where video, web and print are combined to ensure maximum impact. A variety of media are used thus ensuring that the strengths of different media are exploited and the weaknesses of particular media are reduced.

Mindset's critical challenges in terms of content development :

- ❖ which language to use, cost implications of covering many languages,
- ❖ high cost of developing curriculum based content,
- ❖ how good is good quality curriculum content,

- ❖ provide comprehensive curriculum coverage or just content covering a few difficult areas,
- ❖ creating a balance between the artistic and creative and the technical and educational.

Mindset Professional Development

Acknowledging that professional development is the most critical driver of successful implementation of technology in education, Mindset designed variety of professional development programmes and models, both shorter and longer term programmes like :

Mindset Short course models which provide a basic technical programme to ensure technical competence in the use of the equipment, followed by a generic training component focusing on the use of technology in learning and teaching, with particular emphasis on the integration of the Mindset solution into learning and teaching practice. This is followed up by the provision of ongoing onsite support to educators.

Both technical and education based training are provided to clusters of schools through a face to face onsite intervention, as it is felt that in the initial stages this helps reduce fear of technology and increase the uptake. Mindset does not follow cascaded models whereby departmental officials are trained who in turn provide training to educators as the department does not presently have the capacity to provide this training, and it has been found that the direct training from Mindset to the educators is more effective for ensuring usage. It is envisaged that training will shift from intensive face to face to more distance based approaches and from emphasising television to focusing on computers over a period of a few years.

Mindset has also introduced a management and leadership programme to ensure that the school's management and governance understands the implication of the equipment that is installed and the content that is distributed, that the solution is integrated into the vision of the school and are integrated into school planning. A subject specific model with subjects educators and the integration of ICTs and subject specific content follows the generic training. This model is currently being tested. Follow up support in the form of e-mail communication, telephonic communication and onsite support is also provided.

Mindset is also exploring a range of models to ensure successful implementation and to address the dilemmas around the design of these short courses like offering credit for undergoing training and finding a balance between a course that provides the requisite training and the time and cost restraints.

Longer term training course

Mindset is currently in the process of partnering with other institutions and service providers, particularly higher education and professional bodies to ensure that the overall capacity of educators in ICT is improved and accreditation is

received. In terms of higher education it is intended that higher education institutions offer diplomas, certificate or degree programmes and include Mindset content, as well as utilise the Mindset platform to deliver distance programmes. In terms of professional bodies it is intended that Mindset will submit its content to these bodies for approval as official credits toward continued professional development requirements. This will allow educators to obtain credit and recognition for using the Mindset content and subsequently increase usage.

Emerging Principles of Good Practice

Mindset believes that it has identified and implemented the following principles of good practise. Thus the Mindset initiative :

- ❖ is not a pilot but rather a project that is designed to go to scale.
- ❖ works in partnership with systemic players and acknowledges that sustainability through systemic support needs to be addressed and that government should be a key partner in any such initiative.
- ❖ follows a strategy that incorporates a variety of funding partners.
- ❖ leverages technology to support development i.e. it is an education project that uses technology and not a technology project that uses education.
- ❖ focuses on critical aspects of the value chain.
- ❖ attempts to combine the different mediums of broadcast, print and web to ensure that the weaknesses of one medium are mitigated by the strengths of the other.
- ❖ designs innovative technology that is underpinned by developmental requirements, e.g. datacasting instead of broadcasting.
- ❖ is informed by rigorous research and evaluation.
- ❖ develops realistic and achievable success factors that can be measured from the project inception to the point of impact.

- ❖ develops local contextually relevant multi-media content that is aligned with South African education policy.
- ❖ develops local capacity in ICT and content development.
- ❖ introduces technology through video/television which results in easier uptake and reduces fear of technology.
- ❖ acknowledges complexities within the school set-up and develops strategies to address these.
- ❖ conducts and encourages research pertaining to the understanding of how ICT enhances learning and teaching.

Conclusion

To support and enhance the uptake of technology in the formal education in developing countries, substantial research needs to be conducted to benchmark what is understood by ‘success’, to state realistically achievable results and to develop key measures of success. For ICTs to be successfully implemented as an educational tool in the formal school sector it is necessary to explore and exchange ideas, to gain knowledge and develop context based systems that cater for the individual needs of developing countries. The establishment of multimedia applications to support and augment the quality of learning and teaching faces significant challenges – such as a lack of infrastructure and adequate professional development opportunities for educators – and the sharing of ideas, research and tried and tested models is therefore of importance. **ECA**

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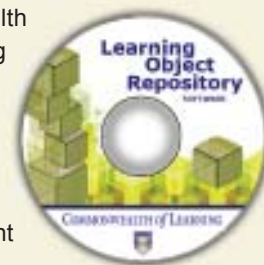
Ann Lamont is CEO, Mindset Network, Braamfontein and can be reached at ann@mindset.co.za. This article is excerpted from a presentation made at the Conference on Benchmarking of International Practises in the Use of Multimedia for Formal Education, Ahmedabad, India, January 2005.

COL establishes a Learning Object Repository

COL has launched an online database of learning content that provides software to Commonwealth countries free of charge. Institutions or governments can establish a shared repository by accessing free open source software from COL's Learning Object Repository (LOR).

The system includes the ability to add information about the learning material (“learning objects”) with “meta tags”. These are IMS-compatible (IMS Schema 1.2.2) and the system is able to “federate-search” other repositories when the user is looking for learning materials. Installed on a local or shared server, this will enable course developers to locate learning materials along with the necessary copyright information from multiple continents.

For more details, go to www.col.org/lor or contact Paul West, Knowledge Manager and Education Specialist at pwest@col.org



Building Teacher Capacity for ICT Integration in the Curriculum : Lessons Learnt from the Singapore Experience

Cher Ping, Lim

The primary motivation for integrating ICT in the curriculum is the belief that it supports students in their own constructive thinking, allows them to transcend their cognitive limitations, and engages them in cognitive operations that they may not have been capable of otherwise. Most Asian countries have channeled much resource into the development of ICT to ensure that their workforce is competitive regionally and globally. Singapore is of no exception. In the face of intense competition from other emerging Asian economies, Singapore has redefined herself to remain competitive, and this involves moving towards more value-added industries. One of the economic strategies is to have a workforce that is able to generate new knowledge and make Singapore the knowledge hub in the region and beyond. While research studies have shown that ICT facilitates the development of higher order cognitive skills of evaluating arguments, analyzing problems and applying what is learnt, the teacher is not to be excluded from the ICT-based activities. Martin (2000, p. 8) highlights the importance of the role of teachers in integrating ICT effectively by emphasizing that without the input and acceptance of teachers, the developments of useful educational technology projects are hindered. Not only are teachers the gatekeepers of the classroom, they are the greatest source of information about curriculum design and educational content.

Based on Singapore's experiences of her ICT master plans in education, this paper provides a descriptive and interpretive account of how the Ministry of Education (MOE) the National Institute of Education (NIE), schools and other external agencies collaborate to build teacher capacity for ICT integration in the curriculum. In order to provide a better context for the understanding of these processes, the paper first provides an overview of the ICT master plans in education for Singapore schools.

Overview of ICT Master Plans in Education for Singapore Schools

In Singapore, the first Master Plan for ICT (MP1) in Education was launched in April 1997. It was a broad-ranging strategy for the integration of ICT in education with the underlying philosophy of that education should continually anticipate the future needs of society and work towards fulfilling those needs. As part of this plan, all Singapore schools were expected to acquire and integrate ICT in their curriculum so as to develop a culture of thinking, lifelong learning and social responsibility. The blueprint of MP1 consisted of four goals :

1. to enhance linkages between the school and the world around it, so as to expand and enrich the learning environment,

2. to encourage creative thinking, lifelong learning and social responsibility,
3. to generate innovative processes in education, and
4. to promote administrative and management excellence in the education system.

To meet these goals, four key dimensions of the MP1, implemented in three phases, were identified. They included curriculum and assessment, learning resources, teacher development, and physical and technological infrastructure.

An effective and continuous program for building teacher capacity in the use of ICT to achieve curricula objectives was central to MP1. As such, every teacher was trained to handle ICT-based instruction and support new learning strategies among their students. A four-tier fan model was put in place to train teachers in every school in 1999. Sixty Senior ICT Instructors from Educational Technology Division (ETD/MOE) formed the first tier of training, which was completed in late 1996. The Senior ICT Instructors then trained schools in Phase 1 of implementation, comprising 22 Demonstration schools. Heads of Departments (HODs) in charge of ICT and selected teachers from each of these Phase 1 schools then co-trained the teachers of three to four schools each, together with the Senior ICT Instructors, in Phase 2 of implementation. Selected HODs and teachers from these schools in turn trained those in the final phase of implementation. The fan approach generated a multiplier effect, enabling the sharing of expertise and experiences between schools. The HODs and teachers in the earlier phases who were selected as part-time instructors for other schools have their teaching duties reduced by about one-third. The Senior ICT Instructors played the roles of the key trainers, mentors and coordinators for all schools during the planned implementation.

MP1 also involved 'academic coaches' from the Institutes of Higher Learning (IHLs), ICT firms which have had association and expertise in education, and committed ICT professionals from the private and public sector. These participants formed partnerships with schools so as to lend their professional expertise, advise schools on their ICT strategies, and help assure a continuous flow of ideas and practices that could be used by schools. The different approaches to using ICT in various schools were a source of learning to all, both 'academic coaches' and stakeholders of schools.

A nationwide survey was conducted by the MOE in September 2001. It yielded highly some significant findings that identified the key outcome indicators of MP1 (Soh, 2002), showing highly

positive perceptions from both students and teachers, clearing the initial hurdle of resistance and apprehension.

MP1 had given schools in Singapore a strong and broad base to integrate ICT in the curriculum and other school activities : a basic ICT infrastructure, a starter pack of content and learning resources, a fair level of ICT competency among teachers and students, and some changes in pedagogical practices. The second ICT Masterplan in education (MP2) was officially launched in 2003 with three main goals :

1. to redesign the curriculum to leverage new teaching methods made possible by technology and to fully integrate ICT into the curriculum. In contrast, under the MP1, teachers mainly use ICT to support a given curriculum,
2. to move from a teacher-centered pedagogy when using ICT to a student-centered strategy, and
3. to allow schools greater autonomy and flexibility in using ICT funds, unlike the current “one size fits all” approach.

The key differences between the present situation (today) and the goals of MP2 (tomorrow) are outlined in the Table.



The shift in pedagogy, redesign of curriculum and assessment and greater school autonomy require teachers to be equipped with a new set of competencies to take on a pivotal role in the learning environment. Hence, there is a need for a sustained model to build teacher capacity for ICT integration in the school

curriculum; a model that has clear benchmarks for the beginning teacher, the trained classroom teacher, the peer leader and the organizational leader.

Building Teacher Capacity for ICT Integration : From Pre-Service to In-Service Teachers

Through much fine-tuning by the MOE, NIE, schools and other training agencies, the transitions from initial teacher education to induction to in-service continuous professional development and networking are moving towards being seamless.

Pre-Service Teacher Education

NIE worked very closely with ETD and schools to design the ICT component in the pre-service teacher education program. Four types of ICT courses for NIE pre-service teachers were put in place for the pre-service teacher education program : basic skill ICT workshops, 30-hour ICT foundation course, 26-hour elective courses, and 6-12 hours of ICT integration into each curriculum subject class.

The foundation course focuses on hands-on ICT experience at the initial stage and acquaints pre-service teachers with the art of integrating ICT in schools. This course is supported by basic ICT skills training workshops that have been sub-contracted to private training agencies. For the elective courses, more advanced ICT-based pedagogical principles and skill set are offered. Besides these courses, there is also an ICT component integrated into all subject areas such as Mathematics, Science, English, and Humanities. For all these courses, pre-service teachers have the opportunities to design and develop ICT-based instructional plans and resources, and share their ideas and products with their peers.

Induction of New Teachers

In Singapore, the MOE has a centralised induction programme conducted by the Teachers’ Network for new teachers. Individual schools also have their own induction training to introduce the new teachers to their particular school culture and ethos. The new teachers are assigned to a personal mentor

Comparison of Present Situation and Goals of MP2

Today	Tomorrow
Use of ICT to support existing curriculum	Seamless integration of ICT at the planning stage of curriculum design
Largely static content in print form	A repository of dynamic digital content
One-size-fits-all approach	Mass customization and ability-driven approach
Teachers demonstrate basic skills and competencies in the use of ICT for teaching	Teachers demonstrate a range of competencies in the use of ICT for teaching
Phased approach in the implementation of ICT in schools	Schools have greater ownership and accountability in ICT implementation
Standard ICT provisions for all	Flexible ICT provisions for all
Predominantly practicing teacher-centered pedagogies	Predominantly practicing student-centered pedagogies



in school to guide them through various issues and problems of teaching and learning in the school.

In-Service Continuous Professional Development

The teachers in Singapore have various opportunities to constantly refresh their skills and knowledge to keep up with the latest developments in education, both pedagogies and technologies. Teachers are entitled to 100 hours of in-service professional development each year. Teachers are also fully sponsored or highly subsidised for courses, conducted by private training agencies that enhance their professional competence.

NIE has also established a set of Advanced Diploma and Advanced Postgraduate Diploma in Education programmes to enable teachers to upgrade and keep up-to-date in their content knowledge of school subjects or state-of-the-art educational methodologies or technologies, guidance and counselling methods or educational administration courses. These advanced diplomas then provide an alternative route for admission into the institute's bachelor's and master's degree programmes. The teachers, however, can opt to sign up for individual modules in the programme, and hence, have a wider choice of in-service continuing professional development. The advanced diplomas and their accreditation framework also ensure better articulated linkages between in-service and career paths of teachers by providing greater opportunities for in-service teachers to upgrade to degree and postgraduate qualifications, even at doctoral level.

Documenting and Monitoring Teacher Capacity Building

In order to document and monitor the professional development of all educational personnel under the MOE, the Training Administration System (TRAISI) was developed in 1999. TRAISI is an online system on the Intranet that enables both teaching and non-teaching staff of MOE to plan and document their own Individual Training Roadmaps. It allows staff to source for training courses from the MOE, Institute of Public Administration and Management (IPAM), Teachers' Network and NIE's prospectuses and apply for the courses online. The system then informs the staff of the outcome of their application via fax or e-mail. TRAISI is also able to help track training status and generate reports on training statistics.

Complementing the training administration system is an e-learning system, Virtual Institute of Training and Learning (VITAL) <<http://www.vital.moe.edu.sg/intro/index.htm>>. The interface between VITAL and TRAISI enables a single log-in with one ID and password for the two different systems. VITAL is built to support both online and hybrid courses, and provide both synchronous and asynchronous interactions anywhere-anytime. It allows teachers to track their own progress in terms of time spent, modules/topics completed and competencies achieved. It also provides teachers with a wealth of resources such as case studies, government white papers and other e-learning websites.

In fact, all new teachers in Singapore are acquainted with e-learning systems since their pre-service teacher education program. The tutors in NIE employ a fully dynamic online learning environment <<http://courses.nie.edu.sg>> to complement onsite activities for most of their modules. The core module for ICT integration, for example, includes anywhere/anytime lecture, onsite laboratory tutorial, online independent hands-on session, and asynchronous online discussion (Lim, 2001). Besides the introduction of the online components to existing modules, many of the modules have made a shift in their mode of assessment from summative to more formative, and a shift in the methods of delivery from cognitivist-oriented to social-constructivist-oriented. Such an approach reinforces research findings of ICT-mediated classrooms that for ICT to enhance the learning process, the mode of assessment, roles of the teachers and students, instructional practices and curriculum need to change (Jonassen, 2000; Oliver & Hannafin, 2000).

Lessons Learnt and Recommendations

Based on the above account of the Singapore experience of teacher capacity building in the integration of ICT, the following lessons learned and recommendations are generated :

- ❖ A holistic approach must be taken towards the national ICT policy in education; in the case of MP1, four dimensions were identified – curriculum and assessment, learning resources, teacher development, and physical and technological infrastructure. Building teacher capacity for ICT integration was only one of the four dimensions.
- ❖ Building teacher capacity for ICT integration in the curriculum should be a continuum from pre-service teacher education to induction to in-service professional development.
- ❖ The fan-approach of the initial ICT training of teachers in schools had been an effective approach. It ensured that teachers were trained in the context of their workplace by their more experienced peers from other schools or senior instructors from ETD.
- ❖ Division of labor among different training agencies, with central coordination from the MOE, should be practiced. There is a need to sub-contract certain courses out to private training companies and other IHLs.

- ❖ The ICT professional development program of teachers should be planned based on the vision of the ICT Masterplan. In order to achieve this, the various agencies involved in the professional development program should work in close consultation. In Singapore, the close collaboration between NIE and ETD helps the former reflect upon national visions and secure budgets for innovations.
- ❖ There should be a multi-prong approach when developing ICT-related skills in pre-service teacher education.
- ❖ The pre-service teacher education institution should collaborate with private or public ICT training agencies to equip pre-service teachers with the basic ICT skills.
- ❖ The pre-service education program should incorporate various modes of instructions into its courses, especially the ICT-related ones.
- ❖ Formal certification of in-service professional development that leads to diplomas or degrees may provide the incentive for teachers to upgrade and update their skills and knowledge in ICT integration.
- ❖ All educational personnel at all levels should undergo professional development of ICT-related skills. It should also extend to non-teaching staff members who complement and support the teachers in the integration of ICT in their schools.
- ❖ A centralized training administration system for all teaching and non-teaching staff is crucial to document and monitor their professional development. Such a system empowers the staff to reflect on and plan for their own professional development.

Conclusion

Despite research studies showing the cognitive opportunities that ICT provide for teaching and learning in schools, stories relating the difficult and ineffective integration of ICT in schools are common (Hamilton, 1998). The general assumption is that once hardware and software are readily available in schools,

ICT integration will automatically follow. One of the key determinants of the success or lack of success of any ICT initiative in education is the teacher. Roblyer (1993) notes that a teacher's vision of the use of technology to improve his/her existing classroom practices will eventually determine the extent and effectiveness of ICT integration in the classroom.

While teachers play a pivotal role in the learning environment, they are often not consulted concerning changes to teaching/learning procedures. The teachers' needs under changing conditions have to be continuously assessed and activities to satisfy these have to be developed. Very often, teachers' training programs focus more on basic literacy skills and less on the integrated use of ICT in teaching. **ECA**

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Developing COL's Three-Year Plan for 2006-2009

COL is holding a series of regional consultations to gather information and opinions on the programmes and activities that we should consider in our new Three-Year Plan (2006-2009). Led by our Programme Director, Rod Tyrer, these consultations are also helping us to assess our current activities and regional needs.

To date, 260 people have participated in consultations held in six regions/countries and with one international organisation. Reports on those meetings are available at www.col.org/3yp06-09_consult.htm and readers of Connections are invited to send in their comments as well. Further consultations will take place in other regions and with other international organisations and donor governments.

The views from these regions will be analysed to create a comprehensive picture of needs throughout the Commonwealth in light of the contribution that open and distance learning can

make to education, the fulfillment of a country's needs and contributions to achieving Millennium Development Goals. It is expected that the new Three-Year Plan will be prepared by the end of 2005.

COL's current Three-Year Plan (2003-2006) focuses on three programmes:

- ❖ Open and distance learning policy
- ❖ Open and distance learning systems development
- ❖ Open and distance learning applications

The plan integrates the United Nations Millennium Development Goals and Education for All priorities while also being guided by Commonwealth priorities. It has been implemented along with a Results Based Management (RBM) framework for planning and evaluation. www.col.org/programmes/reporting/3year_plan.htm. **ECA**

Namma Dhwani Wins Yeoman's Award

Namma Dhwani has won the YEOMAN'S AWARD for local content (Asia Category).

NAMMA DHWANI community media centre combines cable radio with computer access and learning to strengthen local information and development. It is a partnership between the Budikote community, MYRADA and VOICES, and is supported by UNESCO.

The YEOMAN'S AWARD seeks to demonstrate how the promotion of "local content can increase the confidence and rootedness of local communities as actors in the information society".

The award is given jointly by the Global Knowledge Partnership and the Open Knowledge Network and is a tribute to the work of KEITH YEOMAN, Senior Information and Communication Technologies Advisor at the UK Department For International Development (DFID) who passed away in March 2004, and was a staunch advocate of local information and inclusive media.

First Meeting of the Board of Governors of South Asia Consortium of Open and Distance Learning (SACODiL)

The first meeting of the Board of Governors of South Asia Consortium of Open and Distance Learning (SACODiL) was held from 19th-21st January 2005 at Indira Gandhi National Open University (IGNOU), New Delhi, India.

Secretary, Higher Education, Government of India, inaugurated the conference that was attended by delegates from Bangladesh, Pakistan, Bhutan, Sri Lanka, Nepal, Maldives and India., Officials of Ministry of External Affairs (MEA), India and SAARC Secretariat, Nepal also participated.


The agenda items included recognition of mutual degrees in SAARC countries, to promote learner mobility, credit transfer to promote sharing of Information and Communication Technology (ICT) capabilities and development of intellectual repositories, with a view to promote open and distance learning in SAARC region.

Established in 2004, with Vice Chancellor IGNOU elected as the first chairperson of the Board of Governors for three years, SACODiL Secretariat is located in the IGNOU campus.

OUSL-Operation Days Work, Norway, sponsored Certificate Programme on Sustainable Livelihood for Agriculture

The Open University of Sri Lanka (OUSL) with Operation Days Work of Norway is launching, a certificate programme on Sustainable Livelihood for Agriculture in 2005. This is a follow up programme culminating from the COL assisted Rural Communication project undertaken by the Rural Research Unit of OUSL completed in 2004, which enabled identification of technologies of immediate relevance to the rural poor.

The project aims to foster the ability of rural people to adapt technologies to suit their needs, amply demonstrated in the pilot phase among the rural youth, using a combination of learning methods mainly based on doing. The concept is to take technology to distant regions to empower the youth to seek livelihoods in their own situation rather than migrating to the urban areas in search of 'jobs'.

The programme envisages setting up learning centres in the three districts for core competencies. Student selection will be based on commitment to carry out field work in the areas of selection and the evaluation will be done mainly on the work performed at different locations. 

Call for Research Proposals

CEMCA invites applications for short term research projects in the areas of Distance and Open, Basic, Adult, Continuing and life-long learning, technology mediated learning, e-learning, use of Information and Communication technology (ICT) for social development, poverty reduction and related fields.

The research is expected to be short-term, not exceeding a total period of one year and have a clear utility focus, conforming to the overall mandate of CEMCA, that is to encourage, enhance and enrich the use of technology for education, development and social transformation. Proposals may be submitted in the format provided. Individual researchers can undertake the project either on behalf of the institutions

they are serving or on their own behalf. Those employed with institutions however need to obtain an endorsement and a clearance certificate from the institution. The research can be undertaken either in the researcher's country of residence or in Commonwealth Asia.

A specially constituted expert committee will scrutinize and award worthy proposals. The decision of the Committee will be final. Proposals will be awarded in June and December every year, but may be sent throughout the year.

For proposal format visit <http://www.cemca.org> or e-mail the Director at cemca@nda.vsnl.net.in.

E-learning Initiatives in Malaysia

Abdul Rashid Mohamed

Universiti Sains Malaysia : Centre of Excellence for E-Learning in Formal Education

A Malaysian Centre for Excellence for the Integration of ICT and Multimedia Technologies in the Teaching and Learning Process has been established at University Sains Malaysia (USM). The Centre is a direct result of the E-Learning for Life Project (ElFL), jointly sponsored by the Malaysian Ministry of Education, United Nations Development Programme and Coca-Cola launched in January 2002 with the main objectives of assisting six selected schools develop technology embedded Teaching and Learning (T+L) practices to improve and engage student learning. The Centre brings together collective experiences of these six schools so that the best practices could be disseminated to other schools in Malaysia and the region.



Objectives

The Centre has an impressive mandate that includes research, development and assisting the Ministry of Education (MOE) in wide ranging activities for implementation of best practices for technology embedded T+L practices, practices for school administration's change management, provide training modules for teachers' professional development, assist MOE with the planning for the Classroom of the Future - involving technology assessment, social change assessment, architectural and ergonomic assessment, facilitating collaboration, knowledge sharing and other knowledge management practices among the users of the central school portal.


Project : Reusable T&L Materials for English Teachers

The Centre's first project was to create reusable materials for teachers to enable them to use technology embedded T+L practices that should lead to improved and more engaged student learning. Currently the centre is busy developing reusable T+L materials for the teaching and learning of English for Standard 5 (year five learners) and Standard 6 (year six learners) curriculum. Project implementation over a period of twelve months involved six phases namely : Project initiation and setting of standards; defining Learning plans; building learning modules, building flexible learning materials; test bedding at few specific schools; replication in other schools; continuing improvements.

A Rewarding Experience

In the words of Project personnel "To implement these ideas we have conducted a number of workshops where practicing teachers came to put these ideas into practice. These workshops have been very successful as we have been able to bring together a committed, dedicated and collaborative group of teachers that had spearheaded the activities of developing the English T+L materials. This project has brought the practicing teachers, educators, and multimedia people in a cooperative effort to improve the quality of teaching and learning in schools. In this aspect alone the project has been an achievement. For the time being we are just enjoying leaning and making mistakes - it has been a wonderful experience".



Although the centre currently has only a physical presence gradually it aims to become more and more virtual. 

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Cont. from page 5

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Worth While Web...

World over, interest in radio has revived and LPFM (limited power frequency modulated) community radio stations are coming up in a big way. In this issue of Educomm Asia, we bring you some interesting resources that provide a wide range of information from how to set-up and manage community radios centres to training resources, programme schedules and content sharing options. Enthusiasts have also initiated an Internet based Radio Browsing Club that interested readers can join.

OneWorld Radio

A global radio community sharing programmes and ideas on development.

<http://www.radio.oneworld.net/>

Interworld Radio

A free global network for radio stations and journalists. News and programmes about world issues and local contexts.

<http://www.interworldradio.net/>

Prometheus Radio Project

Prometheus Radio Project is a collective of radio activists who have started a small non-profit organization committed to creating the best opportunities possible for the public in the LPFM ruling.

<http://www.prometheusradio.org/>

Radio College

A project of the Association of the Independents in Radio.

<http://www.radiocollege.org/>

Transom.Org

An experiment in channeling new work and voices to public radio through the Internet, designed "as a performance space, an open editorial session, an audition stage, a library, and a hangout. Our purpose is to create a worthy Internet site and make public radio better"

<http://www.transom.org/>

AMARC

An international non-governmental organization serving the community radio movement, with almost 3,000 members and associates in 110 countries. Its goal is to support and contribute to the development of community and participatory radio along the principals of solidarity and international cooperation.

<http://www.amarc.org>

Community Radio Network

Provides detailed information on the current situation confronting community radio in India, current active players and glimpse of community radio legislations from several other countries.

<http://www.communityradionetwork.org/>

Radio Browsing

It would be great if all who needed to benefit from new communications technology could have access to it, but in a world where more than half the population are yet to make their first telephone call the World Wide Web – www – is far from being world wide. Thus innovative access models have to be explored for the benefit of those who are on the wrong side of the digital divide. Integrating radio or television with new communication technologies such as the Internet is one of these innovative modes of access.

In Radio Browsing, the presenter in the studio gathers information from trustworthy sites on the Internet, CDs, digital radio etc and shares it with the listener over radio or television. The presenter does not merely narrate available information. The radio browsing session leads to a dialogue with the community. In some cases the discussion leads to action. Radio browsing technique helps to transcend language barriers and to expand the community knowledge base.

The technique was first introduced at Kotmale Community Radio in Sri Lanka and now there are many community broadcasters in Asia, Africa and Caribbean who have taken to it. Radio

browsing is an art and craft that has to be developed collectively, by researchers and educators by exploring the community response, and blending non-formal learning settings with the aesthetics of the medium of radio or television.

The 'Radio Browsers Club' was formed for this purpose. At the moment you could join the e-group that is open to educators, broadcasters and researchers.

To join the group, send an e-mail to

radiobrowsing-subscribe@yahoo.com telling us a little about yourself and your work.

Visit <http://groups.yahoo.com/group/radiobrowsing/>

A web site is to be launched on the Birthday of Marconi, April 25th 2005.

MJR David, Group Moderator

MJR David set up radio browsing at Kotmale Community Radio Station, Sri Lanka. With over twenty years of experience of community broadcasting experience to his credit. David currently looks after the Sinhalese Section with BBC World Service, London.

Workshop on Interactive Multimedia in Sri Lanka

Forty senior level academics from six different dual mode universities of Sri Lanka participated in the three week workshop organized jointly by CEMCA, the University of Kelaniya and the Committee of Vice Chancellors and Directors (CVCD), at Kelaniya from February 22 to March 11, 2005.



Many of the academics who had never used computers as teaching and learning tools were introduced to the principles and practices of instructional design and multimedia development.

Eight prototype products emerged at the end of the workshop – all prepared by the academics with the support of specialized trainers in multimedia development.

COL-ISRO Conference on Benchmarking of International Practices in the Use of Multimedia for Formal Education

Commonwealth of Learning (COL), Vancouver, and its regional unit, Commonwealth Educational Media Centre for Asia, (CEMCA), New Delhi committed to the meaningful and appropriate use of information and communication technologies in meeting global millennium development goals and the Development and Educational Communications Unit, ISRO, with a long history of pioneering India's use of space technology for development came together to provide a platform for about 50 senior educators and administrators from the developing Commonwealth countries of Africa and Asia to benchmark practices and develop partnerships in the use of technology for education at an International "Conference on Benchmarking of International Practices in the Use of Multimedia for Formal Education" in Ahmedabad, India from January 18-20, 2005. Dato Professor Gajaraj Dhanarajan, former President and Chief Executive Officer of COL and currently Director, Wawasan Foundation, Malaysia delivered an inspiring inaugural address, setting the tone for deliberations over the next three days. Besides major Indian players both from the private and public domain. International participants comprised representatives from South Africa, Malaysia, Singapore, Sri Lanka and COL, Vancouver


Education Specialist, Policy and Planning, Mr. Vis Naidoo. Conference papers and proceedings will be made available on-line shortly at CEMCA and ISRO websites.

National Consultation Meeting to Develop Curriculum through ODL Adult Education Functionaries

Practitioners and experts from key national and international organizations engaged in adult education and training, including Government of India representatives from adult and continuing education programmes, came together to help design a ODL curriculum for adult education functionaries. The international scenario was outlined by Dr. Madhu Singh, International Institute of Education, UNESCO, Germany, while Dr. S.Y. Shah from International Institute for Adult and Lifelong Education presented the Indian counterpart. Over two days, participants shared field experiences and engaged in discussions about various issues pertaining to adult education and the role of adult education functionaries in the development context and then worked in breakaway groups to identify core curriculum development issues. A core team is following up with the government to set up a nodal agency to realize the vision and provide the much needed learning input to AE functionaries. The consultation, facilitated by COL, was held on January 7 and 8, 2005 at New Delhi, India.

International Workshop for Community Radio Station Managers

A week-long workshop on managerial aspects of community radio was organized by Anna University at Chennai India, from December 13-18, 2004. Over 50 community radio enthusiasts, from a variety of organizations, educational, NGO, and techvoc institutions comprising those who have received letters of intent from the Government for setting up campus/ community radio stations, as well as those who have applied for licenses participated in the workshop. Instructor-led sessions followed by extensive discussion and debate marked the workshop, the high point of which was a day long visit to Namma Dhvani (Our Voices), the cable cast community radio station at Budikote, in the state of Karnataka, India.

The truly eclectic and international flavour came from resource persons and experts from eleven countries including Canada, United Kingdom, Italy, France, Costa Rica, Tanzania, Philippines, Sri Lanka, Pakistan and of course, India. 



Choosing Appropriate Delivery and Software Tools

Dr. Usha Vyasulu Reddi

Engineers and protagonists of information technology will, I hope, forgive me for saying that the development, deployment and evaluation of educational multimedia is just as complex as designing and developing computer programmes. The complexity emerges not from the designs themselves but from external conditions that will determine access, adoption, and use. The rapid pace of technological change adds to the complexity. And because development costs are so high, it is all the more necessary that a careful analysis of all aspects be undertaken before making important delivery and software decisions.

It is these external conditions that I will explore in this, the third part of the series on developing multimedia courseware. I am no expert on existing softwares, but experience has taught me the hard way the differences between different conditions of use, and the different delivery and software tools. Before proceeding further, however, it is necessary to redefine multimedia (both computer based teaching and learning packages and web based learning and delivery packages).

Let me start by saying what multimedia delivery systems are not. Creating a multimedia product is not about developing a website for your institution. It is not about digitizing sound or video and making it available on a VCD or DVD. It is not about making content available on the Internet. It is not about putting page after page of text on the website.

There are currently two ways of delivering multimedia – on the CD ROM or alternately through the Internet on the World Wide Web (web delivery or online learning as it is also called). The major factors that determine our choice of delivery medium are access and timeliness. Other factors such as cost and ease of design and use are also important and need to be addressed.

We start with the recognition that, at the time present time, the number of learners with access to all the necessary complement of multimedia computers with CD ROM drives will remain limited, despite the fact that the cost of CD ROM drives has

fallen substantially. We will have to accept this limitation as a precondition to using multimedia as a medium.

CD ROMs are also media that are static in time – once prepared; they cannot be updated easily and at a low cost. On the other hand, Internet or web based delivery of multimedia, while having the limitation of access and bandwidth, nevertheless enables us to develop, deliver and update vast quantities of material at a low cost and “just in time”.

The optimal combination of delivery mechanisms is to use the CD ROM for the initial development of software and provide links to the Internet for the user and/or learner to access up-to-date information and for learner supports. This is a pattern that has been followed by many, e.g. the Encyclopedias where the learner can access the website to gather further information.

Analyzing the Delivery Media

An analysis of all available media and their suitability in terms of learner access and learning styles, as well as nature of content, is the first step in the selection of appropriate media.

Choosing the right medium is based on an understanding of target audience, content, media reach, access, availability, and ease of use. For a given content and audience, we may choose print as a primary or master medium, with other media supports. On the other hand, if content requires a demonstration of processes, one may choose video as the primary medium and back this up with support print materials. Audio may be chosen as the master medium for language teaching. The right combination of media is important to optimize learning and therefore decisions relating to the choice of master and support media are critical.

To arrive at such a choice, a preliminary analysis of the selected learner group and the content in the context of reach and

access is necessary. With this in hand, and once a decision is taken to use either CBT or WBT, one has to address very specific issues relating to these two modes of delivery.

Accessibility : Access is also not the same as reach. The very existence of telecommunications links or connectivity does not mean the learner can readily use it. Access has been an issue with older media such as radio and television and continues to be a major inhibiting factor to the use of either CBT or WBT. Institutional access limits access to individual learners who might want to learn at home; it may difficult to use CBTs at cyber cafes and other conditions of access might further limit reach.

Even if access to computers is made possible, the CBT must run on the simplest of computers with minimum system requirements. I have seen institutions still using the old 286 and 486 computers. On many an occasion, there have been upgraded and refurbished computers which had neither the speed nor the memory needed to run a CBT. Thus, developing CBTs on high-end systems, which then don't run, only aggravates the problem of access.

When it comes to WBT, connectivity and the speed are all the more important. Connectivity is rarely available at the speed at which it is promised; making the downloading of files a long and tedious process. Audio and video files, if designed for streaming, require higher bandwidths, and when this is not available, access to content is limited.

Interoperability : Most CBTs or WBTs use some Learning Content System or Learning Content Management Systems or other authoring softwares. For e-learning to operate, it needs an infrastructure, often called a platform. Such platforms are called “Learning Management Systems” (LMS); or “Knowledge Management System” (KMS) or “Learning Content Management System.”

Whatever it is called, e-learning infrastructure has several educational facilities such as authoring tools, virtual collaboration tools, curriculum roadmaps, performance support tools, personalized learning applications, skill gap analysis tools, etc.¹ Such a system could be

specifically designed for a given e-learning initiative, or one could purchase it from any of the many vendors in the market.

It is necessary to make sure that the learning content works on all platforms, browsers and Learning Management Systems (LMS) – not just a handful of products. The learner should not have to procure the software in order to use the learning content. The choice of platforms and softwares must be based on the concept of ease of access.

Durability : Components developed in current versions of the software should work in later models without people having to redesign, recode or upgrade either computers or softwares. Where necessary, software must be bundled in with the CBT so that it can be installed before the learning package is used.

Reusability : Content should be designed, metatagged², and stored in such a way that it is reusable, not just in use for a single course or lesson, but wherever it is needed. It should, therefore, be such that it is easier to repackage and use for different purposes and different groups without losing its relevance. It must be designed in such a way that minimum changes are required.

Adaptability : It should be possible to adapt the learning content to different learning styles, learner skills, or preferences.

Affordability : The cost of the material should be attractive, and should have a comparative advantage to other ways of learning. It should not be prohibitive in cost.

Hardware and Software Requirements for Production of Multimedia

In education, most computer based/supported multimedia packages are designed on different kinds of platforms and systems. Despite the increasing awareness and acceptance of Open Source softwares, the PC is by far the more widely used.

The cost of professional multimedia programming packages is still high. While open source softwares are also used because the programmes are free, there are still problems in terms of support services, and thus the real costs in using open source softwares is in the recurring cost of support and maintenance.

Professional programmers may opt for developing multimedia and web based materials on customized platforms such as C++, or Java programmes. Alternately, multimedia developers may opt for icon-based packages such as Flash, Authorware or Director, all of which are designed for multimedia applications. These packages come in academic and professional pricing; for academic and educational purposes, the academic pricing is a fraction of the cost of the professional pricing. One can also develop materials in a HTML Web Browser format.

Choosing Authoring Tools and Programmes

I will use three examples out of my own experience to demonstrate the importance of carefully choosing authoring tools for developing a CBT. The authoring tool was chosen on the basis of potential access to user, nature of content, extent of graphic, audio and video included; and yes, my own familiarity with different authoring tools. The choice of authoring tool impacted on the effectiveness of each CBT.

Example One : Creating a Multimedia Resource Tool Kit on Education For All for use by media professionals, created in an international partnership between three international agencies.

This was designed as a global product with global standards as the quality parameters. Content was in the form of text, graphics (tables, figures, photographs), video segments, a large number of supplementary documents to be included as background and support material; and links to web sites. Audio was not considered unless it enhanced the content – and therefore was available either as a background that could be muted; or along with the video segments.

Our understanding of the potential audience told us that media professionals in developing countries may or may not have access to computers and latest softwares. It was therefore decided that the CBT would be a tool kit which could be used either in an online mode as a CBT or in a print mode. Access to the Internet being limited, it would be used, it was felt, only by those who had access and to refer to additional materials available on global websites.

Because of the large number of graphics, photographs and video inputs and the author's own familiarity with Macromedia Director, this was the application programme chosen to develop the product. Director is a package that mimics a stage with all its different elements and is in many ways a comprehensive package.

All went well and the product was developed and distributed for multiple platforms. The funding agency, UNESCO chose to place the CBT on its website. All went well, except that if you access the CBT online and try to download it, it could take up to nine hours of downloading time (depending on the speed of your connection), because of the file size.

Had we planned for web-based delivery, perhaps we may have opted for a different authoring tool that would make web access easier for the user.

Example Two : Educational Multimedia: A multimedia kit for teacher developers.

Learning from the previous example that large file sizes, substantial input of video and other elements might inhibit web delivery, we took a different approach to the next CBT we developed. We had a prepared learning material in print form, but felt that the print version would benefit from a CBT support, especially for those who would like to see how the content is translated from print to a multimedia CBT.

Keeping in mind that a potential learner group, if choosing to learn multimedia development, would probably have access to computer, but not necessarily to the Internet, and because we were demonstrating principles of developing content for multimedia, we chose a multiple media kit (the print material supported by the CBT) as the mode of delivery. Internet delivery has not been considered as an option.

Again keeping in mind that large video segments take up huge memory space, we opted for minimum video, but a large amount of graphics and animation for illustration purposes. We also chose a simpler authoring tool, Flash, and designed the CBT in such a way that it would run on simple systems. We also included a print version inside the CBT, so that learners could access the content in print form if they wished to.

Cont. on page 23

No Significant Difference

Survey Research uses statistical significance to interpret several findings. 'No significant difference' is a term most frequently confronted by researchers and practitioners. This deceptively simple term is also one of the most misunderstood and misused.

In normal English, the term "significant" means important, while in Statistics "significant" means probably true, i.e. not due to chance. A research finding may be true without being important. When statisticians say a result is "highly significant" they mean it is very probably true, without necessarily meaning that it is highly important.

So what does something "statistically significant" really tell us? Significance levels tell us how likely a result is due to chance and not due to some real difference between the units/items being compared. The widely accepted level used to indicate a relationship or association as good enough to be believed is ".95", indicating that the finding has a 95% chance of being true. Often this value itself is used in a misleading way. In statistical packages, this level is not indicated as "95%" or ".95", rather it shows the meaning that a finding has at ".05", or five percent (05). That is, it indicates that the finding has five percent chance of it "not being true", which is the converse of it being 95% true. To find the significance level, we thus subtract the number shown in the table from one. For example, a value of ".02" means that there is a 98% ($1-.02=.98$) chance of it being true.

Given that a 95% chance of something being true also means a 5% chance of it being false, it is implied that for 100 tests that show results as significant at 95% level, the odds are that five of them will do so falsely. If we took random, meaningless data and did 100 significant tests, five would falsely be reported as significant. As there is no way to tell which are which, it further implies that if we do a large number of tests, falsely significant results

will also appear. Researchers use different ways work around this problem like limiting number of tests to groups chosen prior to data collection or repeating the study; options which may not be practical or practicable in studying real situations. Using the "split halves" technique of dividing the sample randomly into two halves and doing the tests on each is a more commonly used technique. If something is significant in both halves, it is probably true. The main problem with this technique is that when the sample size is halved, a difference has to be larger to be statistically significant.

The last, and often the most critical error, comes from the sampling procedure itself. Most significance tests assume a truly random sample, that is, where the probability of drawing every unit of the universe into the sample is equal. If the sample is not statistically random, a significance test may overstate the accuracy of the results, because it only considers random error. The test cannot consider biases resulting from non-random error (for example a badly selected sample).


Finally, statistical significance numbers only tell us how likely we would be to get differences between groups in our sample that are as large or larger than those we see, if there were no differences between the corresponding groups in the population represented by our sample. In other words, these numbers tell us how likely is our data, given the assumption that there are no differences in the population. What we want to know is how likely there are differences in the population, given our data.

For example, if the significance level is .05 then we could consider the likelihood that there is a difference in the population to be 95% ($1-.05$). Logically, if we are sufficiently unlikely to get a difference found in our sample, if there were no difference in the population, then it is likely that there is a difference in the population. This logic of considering 1-p (where p is the significance number produced by the program) as the probability that there is a difference in the population passes the common sense test, but the mathematics behind statistical significance numbers does not actually guarantee that 1-p gives the exact probability that there is a

difference in the population. Even so, many researchers treat 1-p as that probability anyway for two reasons. One is that no one has devised a better general-purpose measure. The other is that using this calculation will usually lead one to a useful interpretation of statistical significance numbers.

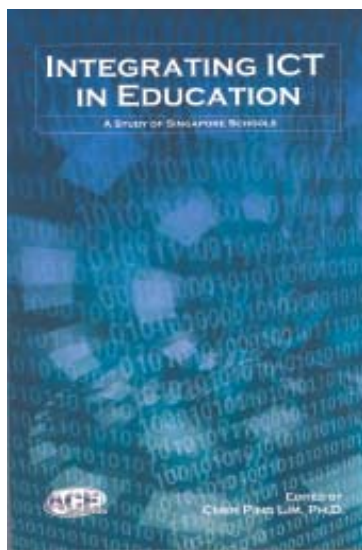
In some non-survey fields of research, the possibility that 1-p is not the exact probability that there is a difference in the population may be more important. In these fields, the use of statistical significance numbers may be controversial.

In distance and open learning, as in technology-enabled or mediated learning, researchers, practitioners and academicians constantly engage in debates and discussions over differences between these methods and face-to-face education, attempting to prove that one is as good, better, effective or otherwise, as the other. Tests of significance are often applied, but some scholars believe that using the idea of no significant difference is a misdirected approach to examine differences between distance education and face-to-face instruction. Interested readers could look up **No Significant Difference Phenomenon** (1999), a book compiled by Thomas L. Russell of North Carolina State University that provides a comparative research annotated bibliography on technology for distance education, as reported by 355 research reports, summaries and papers. *The International Distance Education Certification Center (IDECC)*, a non-profit organization dedicated to the mission of promoting quality in distance education through the establishment and monitoring of standards for course delivery sponsors a website: <http://www.nosignificantdifference.org>, the primary purpose of which is to provide access to appropriate studies published/discovered after release of the book.

In conclusion, while using tests of significance to interpret findings or using such research in support of one's premises, one needs to exercise caution before drawing conclusions. 

Culled from various Internet sources by Rukmini Vemraju. roemraju@col.org

Book



Lim, Cher Ping (Ed). 2004. *Integrating ICT in Education. A Study of Singapore Schools*. Singapore : McGraw Hill. Pages 215.

Dr. Usha Vyasulu Reddi

In 1999, when I visited Singapore to attend a conference on New Technologies in Education, I had expected to meet about 50 participants. This was the number I was told would be attending the meet. Imagine my shock when I walked into the conference venue to find a hall full of about 350 teachers from Singapore schools who had registered to hear a galaxy of speakers talk about the forthcoming changes in the way that teaching and learning is transacted.

I followed the Singapore educational model over the years - a very systematic policy, planning, and implementation exercise, which all told, has transformed education. A ratio of computers to students that is the toast of the world and in-class transactions that leave us wondering as to how we should emulate the model in other developing countries.

The story of the integration of ICTs in Singapore, with a very critical analysis

based on sound educational theory and a rigorous methodology is the content of the book under review. There are seven chapters in all. The first two establish a context and operational framework. Lim, as editor of the volume with chapters from the six authors who undertook the extensive evaluation, sets the tone when he argues that activity theory is nevertheless to be placed in a socio cultural context. He uses the metaphor of the garden, with all the nurturing elements needed to grow live organisms and with internal and external realities, very well.

Chapters Three to Six examine the processes in detail - from the learning environment, the orienting activities, and the engagement in higher order thinking mediated by the ICT TOOLS.

The research was very exhaustive, and used tools such as self report questionnaires and in-depth case study of schools so as to capture the dynamics of the processes. Analysis parameters are both quantitative and qualitative.

Chapter Seven is the report in a nutshell, a case study submitted to an international agency on the Singapore experience.

It would be presumptuous on my part to list all the findings, lessons learned and recommendations. So I will draw your attention to the major lessons emerging from the research.

First, any ICT Master Plan for the integration of ICTs in schools must be situated in an education system that is well planned and that there is a dynamic relationship, with each element being responsive to the others. Since integration needs change, a willingness to review and modify existing educational practices, whether in teaching or assessment is critical.

Second, while taking a holistic view, the national ICT policy must be driven by a


vision that can be operationalized through realistic and manageable goals. There should be a dedicated division in any ministry of education responsible for all elements; curriculum and assessment; learning resources; teacher development and physical and technical infrastructure. Interministerial collaboration and partnership is also critical.

Third, the goals of the policy must be consistent with the goals of the economy; especially if the desire is to create a skilled and thinking workforce; and legal and regulatory frameworks should be supportive. In terms of Internet use, both teachers and parents need to be trained and supported. Such training should be in the form of partnerships between governments, private, public, and civil society organizations.

The edition is not all about good news. There is critical thinking and reflection from all the authors as they have tried to sift through vast amounts of data to arrive at the heart of the issue.

The quality of the work reiterates the importance of evaluation in any effort to integrate ICT in schools.

Because it is an edited volume compiling articles that have already been published elsewhere, there is some repetition of content. This could have been avoided if all the studies were integrated into a cohesive whole and told the story as a narrative with cameos of good practice emerging from the case studies. Because the story of a wonderful transformation is there, waiting to be told.

But, irrespective of such weaknesses, the volume is a must read for any distance education scholar and practitioner as well as for policy and decision makers in both education and government. 

Dr. Usha Vyasulu Reddi, Director, CEMCA can be reached at ureddi@col.org

Web Resource



<http://www.itrainonline.org>

ItrainOnline is a joint initiative of seven organizations offering free information and annotations that can be reproduced, translated, and disseminated without restriction.

Rajaram S. Sharma

All of us neo-initiates to the web are amazed at the sheer quantity of stuff, the diversity of the ware and the whole range of hitherto unimaginable set of tools. This has made available a connection into the information world, and thereby makes available immense possibilities for communication, interchange and education. After grappling with the initial maze of hard and software, connectivity and bandwidth, one is soon on the way clicking oneself through the web, sampling the variety on offer, and coming away euphoric about the discovery.

Having got over the amazement and getting down to attempt serious work of data mining, one is soon let down. To an extent, it is because of the market gurus of the dot com era who still believe the real resource can be sold and hence is not to be left in the open. The more important reason is a technological limitation. Search engines use spiders, software that pry out information out of websites. For these spiders, gleaning out meaning and purposes of the information presented and

categorising it is an impossible task. At best it can pick words, comparing them with existing categories and lists, letter for letter. Try a misspelt search word and a search engine like Google throws up a "Did you mean xxx?" That is about how far one can go today.

This is where, the role of cyber-librarians becomes useful. ItrainOnline

is one such initiative responding "to the need for a single source on the web containing a selection of the best and most relevant computer and Internet training resources for development and social change," through which they believe they can "ensure that learners in the South have a convenient entry point on the web for the resources and tools they need."

Concentrating on the potential uses of the Internet and the skill sets required to develop material for the Internet or use existing resources, the site points to web resources and training programmes on the web. Some resources available on other media are also listed. In keeping with the philosophy of the partners of the initiative (see list in /about.itrainonline) most of the material described in the collection is free.

A website aimed at civil society organisations and other development actors ought to recognise a first time interaction that many of these people would have with the Internet. ItrainOnline caters to this need in two ways: one, in the basic nature of the content itself and two, a simple, logical, straightforward organisation of the website, allowing a user to reach a needed resource in a few clicks, keep tag of where one is on the site using a bread crumb marker, and a site map. Provision of print-ready pages (distinct from printing the web page) would help users to

disseminate this information as a printed resource increasing its accessibility. ItrainOnline invites interaction and participation through features like Suggest a Resource, Get Updated and Discussion Groups. In keeping with the needs of an international spread of the developing world, the website is simultaneously available in French, Spanish, English and other languages.

The site has organised its resources under Basic Skills, Strategic Use, Web Development, Multimedia, Technical, Resources for Trainers and Resources for Women. Each section provides a short summary highlighting the scope of that section. In many cases further sub-categories exist and summaries of the same are provided. Each resource is also presented with a short description along with information about the developer, type of resource, target audience, cost and a link to the resource. As the site develops further, users could be encouraged to comment on the utility of particular resources, maybe even rate it. Resources can become dated. Resources can also undergo revisions and/or update. Date of development or date of last revision can be included, to help users choose resources.

Some features appear to have been incorporated, apparently because the web allows such a possibility. Search ItrainOnline with a Google search bar as a separate section is superfluous in the absence of metadata on the resources themselves. The calendar is another such feature.

Overall the site has a lot of potential and services a niche area. In its simplicity of organisation and focussed variety of resources, it has the potential to develop into a good resource window. With provisions for user feedback and other interactive features, the site will be able to serve even better. **ECA**

Dr. Rajaram Sharma is at the Central Institute for Education Technology, New Delhi, India and can be reached at rajaram@vidyaonline.net

Cont. from page 18

This kind of planning and packaging has helped because both the book and the CBT have been much in demand and widely used. We are now looking to re version the CBT, and upgrading it with additional content that changes in technology have brought about.

Example Three : A CBT with large quantities of video. Currently underway, the CBT on the effective use of teleconferencing as a teaching and learning tool, carries a print version that is integrated with video supports to demonstrate principles written in the text. Here the video files were very large (of about 60 minutes duration). Users of the CBT would have had to use two CDs for the lesson. To master and develop the content, we have integrated the text with line drawings and graphics and portions of the video that are relevant to the CBT. For those who desire the entire material, two CDs will be provided.


The CBT is yet to be distributed; and therefore, we are yet to see the effect.

In each instance, the choice of software tool has not been easy because any choice has a distinct impact upon effectiveness.

In choosing tools for Web Based Teaching, one can either purchase existing programmes from vendors or develop one's own. Software tools available for WBT range from simple HTML and Java programmes to globally available LMS (learning management system) and LCMS (learning content management systems). Global systems are expensive and recurring costs are high for systems such as Blackboard, Atutor, etc. Asian programmes are available at a much lower cost. Any decision on a WBT tool is bound to be a tradeoff between the costs

of purchase against the cost of development. Costs of purchase might include just the package, the package and support, or the outsourcing of the entire process.

WBT is more complex than just the software tools. It is an entirely new paradigm of education and many of the e-learning initiatives over the past decade have failed. Examples include Western Governors University in the U.S. and the UkeU initiative. And therefore, one has to approach it with a great deal of understanding and an equal dose of caution.

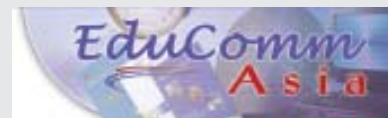
This has been the third in the series on multimedia. Planning and content development preceded this column and we will examine evaluation in the next issue. I urge you to keep all the sections together so that one may gain a more complete picture of the what one might call the "backroom process" of planning and management of CBT or WBT initiatives. I also urge you to share your experiences with the editors of EduComm Asia so that others can learn from your successes and your heartbreaks. 

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- ¹ Jin G. Shon (2002) "Standardization for e-Learning". Plenary paper presented at the Annual Conference of the Association of Asian Open Universities, Seoul, South Korea, November 3-5, 2002
- ² A meta tag is a descriptor of content most commonly used today in developing learning objects and in storing such objects in digital repositories.

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Readers Write...

Madam

The revised layout and design of Educomm Asia is very good. The design is very nice. You have increased the number of pages and provided lot of other latest information. The Masthead has nice background of multi media material.

If you can include a section on latest books published in the broad area of "Open and Distance Learning/Education" in the 'Educomm Asia', it will be useful for the people who are interested in reading them or referring them. Because everybody may not be knowing about all the publications and access to them.

I am waiting for the next issue of the Educomm Asia.

With kind regards,

S. Raja Rao
Assistant Regional Director

Thank you for your suggestion. We shall try to incorporate this feature in our forthcoming issues : **Editors**

Forthcoming Events...

Conference on Research in Distance and Adult Learning in Asia (CRIDALA 2005) and Distance Education in China (DEC 2005), Transforming Asian Education through Open and Distance Learning, 20-22 June 2005, Open University of Hong Kong, Hong Kong, China

Theme : Conference aims to provide opportunities for delegates to participate in discussions about the transformation of education through open and distance learning (ODL), particularly in the Asian region. The themes are distance education, research, development, technology, quality assurance and lifelong learning.

Emphasis : CRIDALA/DEC 2005 is designed specifically as a showcase of current

Organiser : Centre for Research in Distance & Adult Learning

Host : The Open University of Hong Kong

Email inquiries : cridala@ouhk.edu.hk.

Website : <http://www.ouhk.edu.hk/cridal/cridala2005>

Second International Symposium on E-Learning (ISEL) 2005, 25-27 July 2005, Sabah, Malaysia

Theme : Information sharing for ICT and learning.

Emphasis : The conference will feature key notes from UK and the Asia Pacific region on e-learning and lifelong learning and provide a platform for information sharing for ICT and learning.

Dates : 25-27 July 2005

Venue : Promenade Hotel, Kota Kinabalu, Sabah, Malaysia

Conference website : <http://umtp.ums.edu.my/isel2005/>

Contact person : Mr. CK Tan, Conference Secretary

E-mail : isel2005@ums.edu.my

International Conference on Open and Distance Education : Open and Distance Education in Global Environment : Opportunities for Collaboration, 19-23 November 2005, New Delhi, India.

Theme : Open and Distance Education in Global Environment

Emphasis : Through a series of Core and extension events and pre-conference workshops, the delegates will debate, deliberate, discuss and collate issues, challenges and concerns relating to internationalization and networking, technology enabled education, quality and accreditation, and distance education

and development at all levels of education and training.

Dates : 19-23 November 2005

Venue : New Delhi, India

Organiser : International Council for Open and Distance Learning (ICDE)

Host : IGNOU

Conference website : <http://www.ignou.ac.in/ICDE2005>

E-mail : ICDE2005@ignou.ac.in

International Conference on Science and Mathematics Education (CoSMEd 2005) 6-8 December 2005, at Penang, Malaysia

Theme : Bridging the Theory - Practice Gap in Science & Mathematics Education : The Challenge to Change.

Emphasis : The efforts to bridge the existing gap between theory and practice in teaching science and mathematics are enormous. Recognizing it as high priority, an international forum towards these new directions and methodologies is a call of exigency. This conference will provide opportunities to review current discrepancies, as well as make recommendations to bridge such a gap for future educational development.

Organizers : Southeast Asian Ministers of Education Organization - Regional Centre for Education in Science and Mathematics.

Venue : Penang, Malaysia

Dates : 6-8 December 2005

Conference Secretary : Dr. Cheah Ui Hock

E-mail : cosmed@recsam.edu.my

The Fourth Pan-Commonwealth Forum on Open Learning, Jamaica from 30 October - 3 November 2006

Organizers : Jointly by COL and the University of the West Indies' Distance Education Centre (UWIDEC), in co-operation with the Caribbean Association for Distance and Open Learning; the Jamaican Association for Distance and Open Learning; the Trinidad & Tobago Distance Learning Association; and the Office of Continuing Education and Distance Learning at the University of Technology, Jamaica.

Venue : Ocho Rios resort area.

Dates : 30 October - 3 November 2006.

Website : www.col.org

AIBD Television Award for the Year 2005

Asia-Pacific Institute for Broadcasting Development (AIBD) in line with its strategic plan and with a view to promote quality programming for various target audience groups, will in 2005 institute a series of awards that will recognize the achievements of Television Producers in the Asia-Pacific region in the categories of best television documentary programmes on rural development, promoting national unity and harmony and best programme for youth in public issues. Programmes in English languages or with English subtitles along with the entry form must reach AIBD by May 15, 2005. The Awards will be presented on July 26, 2005 at the Inauguration Ceremony of the AIBD General Conference in Brunei, Darussalam. Further details may be obtained from the Programme Manager, Mr. Olivier Deploux at olivier@aibd.org.my