Distance Education in Western Australia — Some Lessons for India

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Abstract: *Australia is a large island located close to South East Asia. Its land mass has a total surface area of almost 8 million square kilometers. Most of the country is sparsely populated with small communities separated by vast distances. Much of Australia is a desert. In such a difficult geographical situation, distance education was the only way in which education could be taken to the significant segment of population. This system grew up as an alternative system to provide equal means of instruction and access to all sections of the society since the turn of the century at the school and the university levels.*

In Western Australia there is twelve years schooling i.e. 1-7 primary, 8-10 middle, 11-12 secondary mainly looked after by School of Isolated and Distance Education (SIDE), Perth and college and university education by Technical and Further Education (TAFE), an autonomous body. Both run their programmes in distance education by way of using interactive television and online computer network. Many other models and software are also developed by other institutions. In this paper an attempt has been made to highlight the significant achievement of Distance Education in Western Australia and its relevance to Indian Education.

School of Isolated and Distance Education (SIDE)

SIDE (2000) is a centre of distance learning within the Education Department of Western Australia. Three schools are located on the Leederville Campus. In addition, the SIDE has five schools of the Air located in Derby, Pt. Hedland, Carnarvon, Meekatharra and Kalgoorlie. SIDE offers placements for teachers within the three schools located on the Leederville site. The three schools are the Preparatory school (P-5), Middle school (6-10) and Post Compulsory School (11-12). The schools have a large and diverse student population ranging from Pre-primary to year 12 including:

- Students living in remote or geographically isolated areas ;

- Students who are traveling interstate or overseas;

- Students who cannot attend regular schools due to various medical or social reasons;

- Past time adults unable to attend regular schools or other educational institutions, and

- Students at secondary schools who cannot study subjects of their choice.

SIDE offers audio and visual materials customized for the distance learning students, innovative learning kits, books, video, audio tapes and research facilities, communication systems including telephone, e-mail, interactive multimedia, and delivery of live television programme via, satellite, an open learning technology centre for teachers and students. It has Curriculum Design Centre, which produce curriculum package that integrate audio-visual materials and distance learning technologies. The Educational Technology Unit supporting teachers in the use of technology to deliver distance-learning programme to students is located throughout Australia and on five other continents. The learning takes place through the traditional correspondence mode as well as electronic delivery via, telematics and interactive satellite television.

The Open Learning Technology Centre facilitates professional development of Education Department of Western Australia personnel in the use of information technology as a teaching and learning tool. The centre has computer laboratories, conference, seminar room, video and teleconferencing facilities, internet access, a broadcast standard interactive television studio, a console room equipped to train school of the Air Teachers, a fully equipped theater and display areas (Curriculum Council, 1998).

Telematics

Telematics is one of the interesting methodologies which is used by SIDE for instructing and delivering curriculum to their students at a distance. The technology required for telematics is just one computer, one modem and two telephone lines at the telematics learning centers, and one computer, three modems and two telephone lines at the telematics presentation centres. As compared to other technologies it is simple-to use and seems to be cost effective. Telematics provide links for upto five locations simultaneously. In telematics one teacher can teach at a distance to have different locations through computers. In this technology, the computer screens are shared like blackboards on which distant teachers and a number of distance students work together. Apple Mc Intosh computers are being used. The talk back is through telephone lines. A special software has been developed for the purpose of telematics by the SIDE. There are 40 telematics centers spread over in Western Australia. At SIDE, three teachers work for primary school students, and seven for the secondary school students. At present the facility is being used to develop language skill only. It is also additional or supplementary to normal teaching. Major high and secondary schools have also been given the facility to operate similar telematics centres for the primary schools leading to establishment of a star network of schools linked through telematics.

Westlink Satellite Service

Westlink Satellite Service is a state of the art conrmunications Satellite and Terrestrial Network that makes it easier for people to access service via, television and for service providers to deliver those services cost effectively, statewide via, satellite and into the metropolitan area of on terrestrial services. Satellite Services is part of a suite of services provided by online W A services centre. Satellite services provide two core business services: Westlink and Channel 31.

Westlink is a state government service provided by Contract and Management Services.(CAMS, 2000). Through the Westlink network it costs the same to deliver a programme to five hundred sites or to one site. Westlink is ideal for delivering adult training and educational programmes to remote areas and schools. Westlink network delivers services to rural and regional communities through a one-way video and two way audio talk back television communications network, Australia wide coverage through optus B3 satellite, the cheapest possible rates for satellite programme delivery, access to westlink and other studio fiicilities, using the westlink studio includes access to Westlink staff to manage your programme requirements, assistance with publicizing programmes, on request, programmes may be transmitted to specified receivers, enabling confidential discussions and briefings to take place, access to over 200 receivers distributed statewide, and an additional 350 government schools who also receive Westlink, access to private dish owners Australia wide upon request (CAMS, 2000).

Harvest Road

Interactive television is a powerful medium when used to deliver educational programmes. It stimulates the learners both visually and orally, by engaging them in the learning process. Producing an educational broadcast requires thoughtful planning that takes into accourrt a number of considerations.

- The Harvest Road (2000) is a limited company engaged in designing and development of e-learning software. The company is a bundled software, which can be used by any community or school to develop, maintain and publish web pages incorporating a variety of interactive features. Harvest Road Website Wizard is an online website authoring tool that allows application service providers and portal owners to create a revenue generating dynamic and interactive portal by empowering users to take ownership of website development. Harvest Road wizard is easy to deploy and establish, and allows portal owners to efficiently administer user accounts via, the account management function. Portal owners can create directions to facilitate easy site navigation by portal visitors. Harvest Road Website Wizard guides users through eight simple steps to select a template, customize the sites' look and fell, add contest and then publish the website to the internet. Portal owner can build Harvest Road Website Wizard into their postal infrastructure to offer users a value add proposition to participate in an online community — a large virtual community which is either geographically aligned or based around shared interest.

- Harvest Road Distributed Publishing and Management Systems (DPMS) is an online application, which works through a browser to simplify information management and web content management in a secure and easy to use interface, which allows any group to establish a secure central repository of all their information. Whatever the community — enterprise, business, association, family, govermnent or geographic area - DPMS gives its member the chance to collect, manage and share information easily and securely across any number of users - private and public.

The challenge of building an e-commerce capability into existing website, creating one from scratch requires flexible, capable and expandable solutions. Harvest Road has created a new concept in ecommerce portal and website builder tools, with its e-commerce server toolkit. Ideal for Application Service Providers and portal owners, e-commerce server enables the service provider to equip non-technical users with a flexible suite of elements to rapidly develop and deploy an e-commerce site including catalog building, product display, shopping cost and order checkout functions. The technology behind the e-commerce server tool-kit provides the merchant or portal owner with the capability to quickly set up a dynamic look and feel to the shopping experience, rapidly change that design to suit changing circumstances or alternatively, offer the service provider the means of creating powerful commercial websites using their existing websites, creation tools and techniques.

Harvest Road Publisher is — an internet based web authoring tool that allows almost anyone with minimal specialist knowledge to create, maintain and manage any size of website, with a minimum of hardware. It gives any enterprise, community or association the power to build up and maintain a dynamic web presence. Publisher gives member the ability to publish information and to edit or maintain the information from any location. Its powerful editing tool is so easy to use that even the novice user will have no difficulty in constructing great web pages.

Using Harvest Road Publisher means to interested communities of interest can work together to create functional dynamic websites, irrespective of where the contributors are located geographically. Websites can be developed as needed to accommodate millions of users.

Westone

The department of training (TAFE) has its own Television and online centre. Various strategies are employed to produce the learning materials. Websites of key Training Provider links site maps including TAFE, Universities, Private Training Providers. Teacher can also be directed to various other education and training programmes throughout Western Australia. These include Apprenticeship and Traineeship information, a skills recognition service, the NTIS, the online TAFE Handbook and the Training, Education and Employment Manual.

Tools for Online Teachers provide with technical skills required to teach in an online environment. Web CT and student management will introduce them to Web CT and show how to use Web CT to manage their online classes. The learning outcomes step through the use of the various Web CT management tools used to manage and track online students. Skills for Teaching Online technologies are increasingly being used to deliver training. Best practice in online delivery requires teachers to have new skills and knowledge. This unit is intended to enhance the teaching skills so that teachers can communicate clearly with students, use communications tools to involve students in their learning and to create a sense of community, and to induct new students to the online environment (Westone, 2000).

MITE (IMAGO)

Image Multimedia Centre Pvt. Ltd. and its subsidiary e-span solution has developed a revolutionary 'turn key' solution to a full range of rural communications and information needs. It was formed specifically to assist artists, writers, producers, educators and the business community in Western Australia to take advantage of that opportunity and share in the benefits of a vibrant competitive multimedia industry. The Modular Interactive Telecommunications Environment (MITE) is a cleverly designed, self-contained tele-cottage containing several complementary technologies configured around maximum user comfort and convenience. The MITE concept includes all on boards systems as well as robust purpose built transportable to house them.

The MITE concept was originally developed as a technical solution for improving the delivery of aboriginal education, particularly in remote communities. In 1998, the Western Australian Telecentre Support Unit applied for networking the Nation_funding for 8 Image MITE. MITE contains a six terminal multimedia computer room, a two-way video conferencing facility with computer interface and a satellite TV viewing area. The Exmouth MITE also houses the local Internet service.

In late 1999, Commonwealth education funding was approved for a MITE facility to assist Edith Cowan University (ECU) to extend its offerings to rural students in the South-West Regional of Western Australia. Image is keen to ensure that the MITE retains its focus on delivering crucial benefits to regional and remote area communities in Australia and overseas.

MITE is a community IT&T resource used for a number of different purposes. By sharing such a facility, health service providers, educators, trainees, various local agencies, business, clients, consumers and other local interests are able to get access to a far more sophisticated IT&T facility than could be justified for any single exclusive purpose. A MITE will provide a rural community's local information centre catering for a full range of user needs in a 'one-stop-shop'.

The MITE is ideally suited for a variety of educational and training applications. Students can utilize the MITE to participate in talk back TV Lectures and video-conferenced workshops. Reference and other study materials can be accessed from online sources, videotape and CD ROM. Rural instructors can augment their teaching with additional expertise brought in by electronic means. Educators and other local professionals also can use the MIT as a vehicle for updating their expertise and advancing their own professional development (GOWS, 2000).

So MITE can empower any community with the means to access the best educational, medical, emergency, legal training, counseling and commercial services the world has to offer.

Digital Television

Nowadays all the telecommunication activities are being shifted from analogue to digital. It is essential that distance educators understand the fundamentals of this new

transmission technology. Front channel inter activity i.e. teletext, data carousel, switching between stream etc do a great deal in itself. Back channel Inter activity provides path back to broadcasts/platforms (Varun, 2000).

Telecentres

The Western Australian Telecentre Network has won national recognition for its services, and all the telecentres in Western Australia are being asked to assist with the preparation of strategic plan for the Western Australian Telecentre Network.

Telecentre in Western Australia is a movement these days and access for rural and remote people, and it is very pleasing to see those efforts formally recognized at a national level.

A telecentre is a friendly local community centre equipped with high-tech facilities. A typical Telecentre has computers, printers, internet and e-mail facilities, photocopies, facsimile machine, TV and video machines, satellite dishes, scanners and much more, depending on the needs of the community.

Some telecentres also house local business and services. Telecentres bring new opportunities for rural and remote people. Many telecentres are linked to universities, TAFE Colleges and adult education programme. Students use their telecentres as a study base, receiving lectures by video and completing assignments using telecentre facilities. Professional courses like doctors/nurses can be done through conferencing or the Internet. Job skills can also be enhanced enabling people to start their own business. The Internet is an educational and research tool and provides a worldwide source of goods, services and entertainment. E-mail can be sent, local paper can be published, meetings can be held in telecentres (GOWS, 2000).

E-Learning Vision

While technologies continue to evolve and society's needs continue to change several trends are emerging which must be considered. Education is shifting from that of a teacher centred system to that of a learner centred system. In recent times we have seen a move away from the very didactic classroom to development of highly interactive learning environments where the teachers assumes the role of facilitator and mentor.

Oliver (1999) stated that three common electronic delivery formats are being used to meet some of the changing needs of learners.

1. World Wide Web (WWW)

WWW has shown promise as a strong medium for the delivery of teaching and learning programmes to remote and geographically isolated regions such as those found in Western Australia. WWW provides particular benefits to those developing educational programmes:

- Flexible delivery and open learning

- Quality teaching and learning
- Life-long learning

II. *CD-ROM Delivery*

Like the WWW, CD-ROM provides a number of potential benefits in the delivery of educational programmes. CD-ROM technology also has a number of factors, which still impact on the viability of the medium.

III. *Electronic Documentation*

Sitting between the application of the CD-ROM and the WWW is the application of electronic publications that permit limited amounts of learner interaction and engagement. Electronic publications such as the 'pdf' project currently being trailed by SIDE, which present a number of advantages. These include:

- Relatively inexpensive to develop and maintain
- Ability to distribute on-line learning programmes
- Low level of technology/software dependency in comparison to WWW and CD-ROM

Some Lessons for Indian Education

The models and strategies of distance education in Western Australia are quite useful and relevant to our country also. Such strategies will not only help in achieving the goal of universalisation of elementary education but access to higher education to a larger section of society. Some lessons based on Australian experiences are shared below:

- The models like West link Services, MITE, Harvest Road IMAGO have proved to be very useful for the use of interactive television and multimedia in distance education. The meaningful training to students, teachers and teacher educators through interactive television and on-line learning through computers are being provided through these models. We may also provide training to our teachers and teacher educators introducing models in our system.

- In Western Australia the universities are conducting most of the courses as "Online"courses, using a variety of HTML, PDF and other formats. It is excellent for the professional development courses including teacher-training programme like Special Orientation for Primary Teachers SOPT organized by National Council of Educational Research and Training (NCERT), New Delhi in India.

- The convergence of public sector and private sector in the area of distance education in Western Australia has further elaborated the scope in the effective use of distance education facilities. Westlink and CAMS are good examples of this and can be emulated in India according to our needs.

- The most striking feature in education system of Australia is perhaps the equal importance given to the distance and regular or on-campus learner, as the examining body for both is same. This gives credibility to all distance education courses in Australia. It may be tried, in India also.

- The training methodologies as planned for In-service Primary Teachers Training through Interactive Television (IPTT-TTV), video conferencing mainly seems to be quite appropriate, as the print media in India is accessible mostly to all, as compared to other electronic media. However, an effort needs to be made to plan, design, develop and implement "Online" web based professional development in teacher training courses both at the central level and the state level. These courses may not be the first professional courses in education like the D.Ed. (Diploma in Education) or B.Ed. (Bachelor degree in Education) but may include specialized courses in educational administration, technology literacy, effective classroom management, measurement and evaluation, teacher education, computer education, value education, special education etc. To start with, the Block Resource Centres (BRCs), District Institutes of Education & Training (DIETs), Colleges of Teacher Education (CTE), and Institutes of Advanced Studies in Education (IASEs) may be developed as Telelearning centers for teachers. Under IPTT-ITV project CD ROM in the area of teacher training may also be developed.

- There is need to train teachers in India about new technology of Online Training like in Western Australia. It can include tools for online teachers, Web CT and student management skills for teaching online. It will help in minimizing transmission loss, and wastage, and utilize resources to the optimum level for the benefit of school children. Computer centers develop software for such online learning at off hours. Such resources may be coordinated and engaged for educational purposes.

- The curriculum Design Centre, SIDE, develops instructional materials, which are tested in schools and reviewed by good teachers. The main components of the tests are testing the skills, competence, behaviour and understanding of concepts. The media-TV and computer online learning is a support to a child's learning, which provides the child so much of visual experience to make his learning integrated. This facility helps the child learning. This procedure for development of curriculum may be followed in India also.

The use of distance education through interactive distance learning programmes in Western Australia has been accepted by the public. The face-to-face and distance learning methodologies, which are complement to each other, are being used. In India, we have also made good beginning and rapid advancement in software industry. The IGNOU, NCERT and NOS are also using such technology in their programmes. The media has the potential of transforming our education system to enable it to cope with changing requirements of our country. In a nutshell, we need better coordination among schools, universities, media and industry to tap the potential of distance education At micro level also, there is need for frequent interaction between various functionaries of IPTT-ITV project at state and national level. There is also need for better coordination between people incharge of technical and educational aspect of the people.

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