

e-Learning and the Digital Divide



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Abstract

As India surges forward in the 21st Century it is very critical that the benefits of development reach all sections and strata of the Society. The great growth in access, especially in the mobile telephony area is actually a very good thing for India. But on the other hand, it is this growth which is actually widening the divide between those who have access to Information and those who do not.

Education is a great enabler and a great leveler. However the benefits of good quality higher education has been made available mainly to the urban sections of society. However, powerful information and communication technology today has the potential to make available education to people even in very remote locations in India.

Several experiments in e-Learning have taken place in the recent past in India. This paper will provide an insight into two such e-Learning experiments - Narsee Monjee Institute of Management Studies (NMIMS) and Birla Institute of Technology and Science Pilani (BITS Pilani). This paper will then suggest ways as to how these models of learning could be extended to the rural masses of India using powerful information and communication technologies such as Open Source, Satellite technology, local language interfaces, easy to use human-computer interfaces and Digital Library applications.

1. Introduction

Education in India has had a mixed amount of success. On the one hand, India has produced some of the World's foremost institutions of higher learning such as the Indian Institutes of Technology, Indian Institute of Science, Birla Institute of Technology and Science Pilani, several National Institutes of Technology, amongst others. But on the other hand, a large part of the population of India has been left out of

the education revolution. The Census of 2001 has stated that only about 65.38% of the Indian population is literate. One of the biggest challenges which face Indian education is the number of dropouts at the undergraduate level. For example, approximately 23 million children per year take up primary education but only about 15 million children per year take up secondary education. This figure gets drastically reduced at the undergraduate level to only about 2.3 million students per year. Furthermore, the Census 2001 also brings out another alarming statistic and that is that out of the total literacy rate of 65.38%, only about 59.40% of rural Indian population is literate as compared to about 80.30% of the urban Indian population. No country aspiring for a developed nation status can afford to have such abysmally low literacy rate figures

Powerful Information and Communications Technology such as Satellite based education have the potential to help bridge this divide. EDUSAT is one such experiment being done to make students in remote areas access the resources of leading Indian Universities. However, at the moment this is restricted to Government aided institutions

There are also very interesting experiments being done by private Institutions which are making learning available to a much wider geographical spread. Two prominent Institutions which are spear heading this are the Birla Institute of Technology and Science at Pilani in the area of Technology education and the Narsee Monjee Institute of Management Studies at Mumbai in the area of Management education.

2. BITS Pilani e-Learning Program

This program is basically an extension of the Distance Learning Program of the Institute. The Distance Learning program of BITS Pilani has been in existence since nearly 1979. BITS Pilani has a very unique program known as Practice School. This author, being an alumni of BITS Pilani, has been through the Practice School system and has experienced first hand the great benefits of teacher monitored Industry-Institute interaction. Practice School is an exposure

to the Industry by the students. This is a regular course of the Institute and is offered at the end of the 2nd / 3rd year for two month duration and is offered again in the final year for a full semester duration. Students are located at the Industry site and do project work under the supervision of a BITS Faculty who is stationed at the Practice Station. The Distance Learning program grew out of this Industry-Institute collaboration need. However the power of Information and Communication Technology for the spread of education to areas outside of Pilani was started recently. Distance Learning at BITS was meant for specialised programs in collaboration with a host institution. This was generally meant for the employees of the collaborative Institution. Major advancements took place over the years in the area of Information and Communication Technology. The BITS Pilani Alumni Association while deciding to give back to their alma-mater spelt out that an upgrade in the hardware and software facilities at BITS was needed. In addition the power of using a broadband network spread throughout the vast 300 acre campus was envisaged. PC's in each hostel room for students and also PC's in each Faculty office and residences were envisaged. The Alumni Association raised nearly a million dollars through the alumni network and also took up the responsibility of supplying the hardware, software and also of planning, designing and complete execution of the project. Today, the BITS Virtual University is operational. It is a supplement, and not a replacement, of the conventional Distance Learning program of BITS. The student of distance learning can now access and also participate in an on-line video conference over IP and interact with the BITS Faculty at their Pilani office or residence through the BITS Connect network at a mutually convenient time. If a student has missed viewing a live lecture session, then the student can view the recorded version of the lecture at a time convenient to him/her. An attempt has also been made to provide to the student a feel of a laboratory environment through a virtual lab. Convenience of access has been provided through the Distance Learning Portal developed by BITS Pilani. At the moment, the BITS Virtual University is restricted to a few specialized Master's level programs,

but there are plans in future to extend this mode to other programs as well.

3. E-learning at NMIMS Mumbai

The approach followed by the Narsee Monjee Institute of Management Studies (Deemed University), Mumbai is a different approach. In this case the Institute tied up with a third party service provider (Hughes Escorts Communications Ltd) for transmission of live lectures through Hughes VSAT network. Here the class timings are predetermined. The NMIMS Faculty is then required to go to the Hughes studio and the program is beamed live via satellite to around 35 Hughes centers across India. The students are required to go to the centre in their respective cities and attend the live lecture. The lecture schedules, Faculty assignments and presentations, examination details and all other communications is done through the nmims.edu site. The students are expected to visit this site and keep in touch with themselves and the Faculty through e-groups. As of today, NMIMS offers a Post Graduate Diploma in General Management (which is a part time course meant for people with several years of Industry experience) and a Post Graduate Diploma in Business Administration (which is a full time course). NMIMS also undertakes company specific programs in the e-learning mode. This author who is also an alumnus of NMIMS, has experienced management education being delivered in the regular classroom mode as a student of the Institute, and also management education being delivered in the on-line satellite based mode, as a Faculty of the Institute. Though adjustments are needed by both Faculty and students in the on-line mode, it is clearly possible to extend this model to remote rural areas of India as well.

4. Conclusions

Both the above e-learning experiments were done by private, non-government funded Institutions. Both these Institutions thought of innovative ways of using the power of modern information and communication technology to extend the reach of education. In addition, in both these cases, great care

was taken to provide quality education and yet make it a viable business proposition.

The experiences of these Institutes could be taken to accelerate the reach of education to even remote parts of India. Public-Private Partnerships in this field would go a long way in achieving rapid literacy thereby bridging the digital divide through e-learning. Advancements in technologies such as Open Source will make education more affordable. In addition rapid advancements being made in regional language interfaces as well as voice and touch screen interfaces alongwith satellite technology will make education easily accessible to the rural people.

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