

# ICT in Education : Some Initiatives for the Underprivileged

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## Digital Divide

The term “digital divide” refers to the gap between individuals, householders, business and geographical areas at different socio-economic levels with regard to both their opportunities to access information and communication technologies (ICTs) and their use of the internet for a wide variety of activities.

The ‘digital divide’ reflects various differences among and within countries. There are two main reasons for “digital divide” Level of education and income. The other reasons are size and type of family, age, gender, language, background and location i.e. rural or urban. Out of these, level of education and income are directly associated with access and use of information and communication technology i.e. computers, T.V., mobile phones, internet, etc.

Several attempts are being made by India in the direction of reducing the digital divide to the minimum so that the dream of “Education for all” is fulfilled and everyone has access to higher education which is available through distance mode enabled by ICT. ICT has the power to improve education, make information more readily available, speed up commerce and create new channels for communication. Here are some examples of bold and interesting initiatives in this direction by willing individuals and state/central government.

## Hole-in-the-Wall Training Systems

The International Finance Corporation, a World Bank subsidiary has invested \$1.6 million in a project called ‘Hole in the Wall’, where computer kiosks are being placed in urban slums and street children with almost no education are teaching each other on the use of computers. The project encourages underprivileged children in India

to learn web-based curriculum through Internet kiosks. The aim is to improve education for poor children, ensuring equal access for girls and boys.

The project began in early 1999, on the initiative of Dr. Mitra, who heads research and development at the Natic Institute for Information Technology Limited (NIIT), a leading computer software and training company in New Delhi. Just outside his office is a wall that separates his air-conditioned 21st-century office from a slum. Mitra decided to place a high-speed computer in the wall, connect it to the Internet, and watch who, if anyone, might use it. To his delight, curious children were immediately attracted to the strange new machine. Within minutes, the children had figured out how to point and click. By the end of the day they were browsing.

NIIT went on to conduct further studies to determine if illiterate slum children could use the Internet without instruction. The ICT-education firm set up continuous video tape monitoring of the computer that they had set up. The video showed that young boys and girls from the settlement became highly proficient at using various features of the computer regardless of lack of proficiency in English, and without any instruction. Already ubiquitous in New Delhi and Mysore, the Hole-in-the-Wall systems are due to be spread throughout the country.

## India IT Freedom Project for Visually Challenged Students

Hailed as a gift of technology to blind school children in the State, the India IT Freedom Project was launched with joint participation of the State Government, Freedom Scientific Inc USA, the Devnar Foundation for the Blind and Karishna Enterprises in Mumbai. The first of its kind

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in the country, the project aims to benefit over 2,500 blind students in the State pursuing education in 20 schools. A professional training programme is currently underway. Teachers, as deputed by the State Government are being trained in computer software in 6-week training courses at Devnar Foundation. The Government is also providing free computers for 20 blind schools in the State.

It took six months to put together the project. With the introduction on the screen reading software, Job Access Speech (JAWS) developed by Freedom Scientific, it was possible to train blind children of eighth, ninth and tenth classes in computers. Added to this, Magic Magnification Software for low vision children was developed, along with Open Book OCR Reading Software and a Braille printer. The project will help blind students write examinations without the help of a scribe, as they can convert the reading material from the Braille script into normal form and vice versa. Plans to introduce a similar project for the benefit of university students and for secondary schools in some parts of the country are also underway.

#### **The Seelampur Project: Empowering Slum Women with ICTs**

Targeted towards the poor and semi-literate Muslim women of East Delhi's slums, this project directly links the ICTs to the alleviation of poverty, offering ICT based training in life-skills, empowerment and the usage of ICTs vocations such as tailoring, quilt-making and food preservation. Datamation Foundation implemented the project and UNESCO set up an ICT Centre equipped with a server, four computers, a Scanner-cum-Printer and Internet access. In addition, a local community needs based browser "Enrich" links the community to information, including different income generation specialties and health care modules that will enable the youth and women to lead healthier lives apart from earning sustainable incomes.

Datamation are also in the process of developing 50 multimedia CDs focusing on skills enhancement, women's empowerment,

and life skills to reach women who cannot come to the Community ICT Centre. These CDs will be shown via the existing cable network, for which local cable operators are providing free telecast time. The organization also plans to link producers with the buyers through a portal, while exploring alternate channels for selling women's products, such as setting up sales kiosks in hotels and the local market. The project uses extensive ethnographic action research components in collaboration with teams from the London School of Economics and Queensland Technical University, Australia.

#### **The Intel Computer Clubhouse Project with Katha**

Slum children and women from New Delhi are learning how to use a computer as a means for peer learning and economic and social advancement in the Intel Computer Clubhouse at Katha. A learning centre has been set up for the adults in the community, along with two labs for the 1200 pupil-school, where the community, including illiterate women train in and use IT. An innovative programme for those living in Bhumiheen, Navjivan and Jawahar Cam Govindpuri, New Delhi, this project works in partnership with Katha's Challenge 2010 Project for self-determinant and addressing the economic and social needs of slum children and women through the use of ICTs. Katha is a non profit organization that seeks to promote literacy, break down gender, cultural and social divides, and promote long learning.

#### **Free ICT Training for Disadvantaged Students by IBM**

IBM is working with Bhavan Vidya Bhavan (BVB) through the Gandhi Institute of Computer Education and Information Technology (GICEIT) to provide free IT training for students from disadvantaged backgrounds. This programme is bringing elementary computer literacy to participants from rural India, giving practical, vocational training in e-mailing, word processing, designing spreadsheets, business graphics and other related business application. Local language interfaces have been devised using specialized software to make the learning

experience more meaningful. More than 3,000 students in 15 schools have already benefited from the programme.

#### **Headstart Computer Assisted Education in M.P.**

Headstart, one of the largest computer enabled education programmes in India, is aimed at making the learning process interactive and interesting through computer. It has been initiated by the Rajiv Gandhi Shiksha Mission (RGSH) of M.P. Government. This is a project aimed at improving quality of learning through use of computers in classroom in primary + middle schools. Launched in 2000 as a pilot project in about 648 schools the programme was later expanded to over 2718 rural schools across the state at the elementary level. In future months, project organizations hope to make a headstart lessons available for use by other state government and private schools.

#### **Rural relations**

In order to prepare children from rural areas for life of work in modern age, Pradeep Lokhande, under the aegis of "Rural Relations", a rural relations organization that he runs in Pune, is working towards taking second hand computers to 28,000 village schools in India. Having personally visited over 4000 villages in India since 2000, he has installed 102 used computers. Used computers are collected from donors and given to schools free of cost after a thorough analysis of ICT readiness. After the schools see the value of using computers in their classroom, it is hoped that School will seek funds on its own to either upgrade existing computer or buy a new one and initiate computer education in school. The current figures show that 37 of 102 schools have been pushed into buying new computer or upgrading systems by students.

#### **Goa : Computers in Schools Project (GCSP)**

This is a computer based project attempting to improve levels of computer literacy and computer access to students in Goa, while training teachers to use them to teach effectively. In addition, the project seeks to promote after school hours use of computer facilities by adults in community for email

access, information and income generating schemes. With a high drop-out rate at the secondary school level in Goa, imparting computer skills to secondary school students and IT entrepreneurship development are particularly relevant. The vision and project is to help all secondary schools obtain a lab of at least eight internet ready computers with the help of the government, industry and community relying on team work and networking among volunteers. Being based on Linux, the software used in the project is freely distributable, moderately priced and legally copyable. Since 2002 the Goa government has been providing a few new PC's to each of Goa's 350 secondary schools, thus enabling every school in Goa to have at least IPC, the first state in India to achieve this goal. Simultaneously GSCP has provided over 450 mainly recycled PC's to over 100 schools.

#### **Project Shiksha – Computer Literacy**

Shiksha is about empowering students to learn in ways that can vastly elevate quality of life. The project aims to accelerate computer literacy by providing an end to end solution which includes software solutions, comprehensive training for teachers and students, IT curriculum development, and scholarship for teachers and students across India. Over 80,000 school teachers and 3.5 million students across government schools will have an opportunity to strengthen their IT proficiency via the initiative over the next 5 years. Committed as of Nov. 2002 Microsoft plans to set up 10 Microsoft IT Academy Centres under the project partnership with state education departments in addition to collaboration with over 2000 partner driven school labs. The software grant will also be sponsoring teacher and student scholarships to recognize teachers committed to deliver effective IT education, and students for driving innovation through technology.

These initiatives, it is hoped, will go a long way to enable students to go for higher education and in becoming self-dependent as these are meant to remove digital divide.

