Consultation on 'National Policy on ICTs in School Education'

Short Discussion Paper
The promise of educational radio

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THE PROMISE OF EDUCATIONAL RADIO
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At a conference on Digital Learning in Delhi [18-19 October 2005], the participants sat bemused as Dr. Sugata Mitra of NIIT gave a very engaging account of his 'Hole in the Wall' project. Dr. Mitra explained how Delhi slum children with no education and no knowledge of English quickly picked up computer skills when given unsupervised access to a computer and the internet.

This project in 'minimally invasive education' was later extended to rural India, prompting a rather disbelieving audience to ask how the Hole in the Wall computers could function in remote and rural India, with erratic electricity supply, negligible telecom penetration and next-to-no maintenance.

Dr. Mitra gamely reeled off an impressive catalogue of solar-powered UPS, self-rebooting, maintenance-free PCs, VSATs and other marvels of digital technology that could presumably keep computers running forever in the boondocks, but it sounded more like a Rube Goldberg whimsy than a recipe for ICT in education.

Not surprisingly, the recommendations that emerged from the discussions emphasized "the need to think of ICT in education beyond computer aided learning and incorporate other technologies like community radio and other media. These mediums would not only be cost effective but also has a greater outreach potential."[1]

Classrooms and radio have always gone together, and radio has been used to teach everything from mathematics in Thailand (Galda, 1984) to civics education in Botswana (Byram, Kaute & Matenge, 1980). The first School Broadcast project in India was commissioned as early as 1937, and regular school broadcasts began in 1938 from Bombay, Calcutta, Delhi and Madras AIR[2]. Over the years, various educational radio projects have been carried out in the country, with mixed results.

AIR's educational programmes

All the Primary channels of All India Radio broadcast educational programmes on a regular basis on fixed time slots. AIR's educational programmes are aimed at students as well as teachers of primary, middle, secondary and senior secondary schools, and are generally produced in collaboration with national educational agencies like NCERT (National Council for Educational Research & Training) and CIET (Central Institute of Educational Technology).

The Language Learning programme, popularly known as the 'Radio Pilot project', was started in 1979-80 jointly by AIR and the Department of Education (Rajasthan). Its aim was to teach Hindi to schoolchildren as their first language in 500 primary schools of Jaipur and Ajmer districts, on an experimental basis. The broadcasts were found to be useful in improving the children's vocabulary, and a similar project was initiated in the Hoshangabad district of Madhya Pradesh.

Apart from AIR's in-house educational programmes, the Indira Gandhi Open University (IGNOU) also broadcasts its educational programmes from AIR studios.

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[1] Digital Learning, Vol 1 Issue1, Nov-Dec 2005

[2]   "This is All India Radio" – U L Baruah, 1982.

IGNOU-AIR Interactive Radio Counseling (IRC) was launched in May 1998 for students of Open / Conventional Universities. AIR Bhopal and IGNOU ran this as an experimental programme for a year, to provide academic counseling in various subjects and to instantly respond to students' queries; but with its success, it was extended to other AIR stations. Presently, Interactive Radio Counseling is being provided every Sunday for one hour from 186 radio stations of All India Radio.

Other educational programmes on AIR

Due to its immense reach – covering over 99% of India's population and land area – many agencies use AIR's radio channels for broadcasting their educational programmes.

Teaching English through radio:

1. **CLR's interactive radio programme**

The Centre for Learning Resources (CLR) has been broadcasting interactive radio programmes over AIR stations in Maharashtra since 2000, to improve the spoken English skills of students in government schools that use Marathi as the medium of instruction. CLR developed bilingual interactive programmes which allows the students to hear English being spoken as well as to practice spoken English during the radio lessons. In addition to improving their language skills, the students also learn useful concepts related to secularism, gender, health and so on.

CLR radio programmes have also been successfully tested in Jharkhand, Uttarakhand and Rajasthan, and studies indicate a substantial increase in reading skills of those students who listened to the programmes.

2. **EDC'S T4 project**

The Education Development Center's dot.EDU India Technology Tools for Teaching and Training (T4) project is being implemented in Karnataka, Chhattisgarh, Jharkhand and Madhya Pradesh. It's an interactive radio training tool that targets students and as well as teachers, and encourages them to adapt learning activities on their own.

These Interactive Radio Instruction (IRI) programmes are funded by the state governments and broadcast over AIR stations. Recently, Chhattisgarh expanded its EDC-developed programme, "English is Fun" to reach approximately one million children. The program is part of a two-state radio initiative that involves 7 million children in more than 80,000 schools.

Gyan Vani

IGNOU's own Gyan-Vani (Educational FM radio channel) was launched in November 2001 to extend mass media support for education, suited to local needs. Gyan Vani channels are operating at present in 26 cities, and are scheduled to expand to a total of 40 cities, but expansion plans have been held up due to logistical issues, as well as lack of manpower and software. In theory, Gyan Vani stations operate as media cooperatives, with programmes contributed by different educational institutions, NGOs and institutions like IGNOU, NCERT, UGC, IIT etc. How far this collaboration happens on the ground is a matter for conjecture.

Each Gyan Vani station has a range of about 60-KM radius, covering an entire city or town and its surrounding area. Gyan Vani is meant for both conventional and non-conventional education, addressing local educational, developmental and socio-cultural needs. The stations broadcast in English, Hindi and the language or dialect of the region, for 4 – 12 hours daily.

During the last phase of private FM expansion in India, which covered 91 cities, the government had reportedly offered 87 FM channels to be used exclusively for education. Of these, 36 were to be set up by IGNOU, while the other channels were to be opened up to private players. Regrettably, this proposal did not see the light of day.

Off the record, IGNOU EMPC officials admit that Gyan Vani hasn't lived up to its potential, with its 26 existing radio channels struggling with lack of staff and software, offering little more than endless repeats of their meager library of programmes.

Campus and Community Radio Stations

In December 2002, the Ministry of Information & Broadcasting notified a policy for licensing campus-based community radio stations. The licensing process proved so cumbersome that India's first campus-based community radio station was launched only in 2004 (Anna University's *90.4 Anna CR*), and just

75 educational institutions had applied for licenses until 2006, when the government revised its Community Radio policy, making NGOs and other civil society organizations also eligible for CR licensing[3]. Under the new scheme, some 5000 community radio licenses could be made available to eligible organizations, which include educational institutions, civil society organizations and Krishi Vigyan Kendras (KVKs).

So far, only 34 campus radio stations have been licensed, of which 30 or so are operational.

Most of the campus licenses have gone to universities, engineering colleges and mass communication institutions, along with a sprinkling of schools. (Recently, 11 government schools in Bihar (Patna and Nalanda) were given the first round of clearances for setting up campus radio stations under a state government scheme). Transmitting over a range of 5-10 kilometres, these FM radio stations are also expected to serve the community beyond the campus walls, and to produce programmes 'on issues relating to education, health, environment, agriculture, rural and community development', according to the government's Community Radio Guidelines.

Community radio initiatives

In the absence of true community radio in India, a number of NGOs are using innovative methods for non-formal education using a variety of audio narrowcasting and broadcasting platforms. School Audio through cable has been in operation in Budhikote village, Karnataka, since January 2002. The School Audio project is a spin-off of the *'Namma Dhwani'* cable audio service being run in Budhikote by MYRADA and VOICES, a development communication NGO. Twice a week, educational programmes are 'cable-cast' to the local government school. Namma Dhwani, through MYRADA, has applied for a community radio license, and should be on air by mid-2008.

In the Kutch region of Gujarat, the Kutch Mahila Vikas Sangathan (KMVS), an independent organization of rural women, focuses on adolescent girls' education, basic functional literacy within *sangathan* members and development of context specific educational curricula on different issues for literates and neo-literates.

In 1999, KMVS launched a weekly radio programme '*Kunjal Panchchi KutchJi*' for expansion of literacy as well as to build an information network. The 30-minute serial is broadcast in the local

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[3]   'Policy Guidelines for setting up Community Radio Stations in India', 4.12.2006 – MIB

Kutchi dialect, over All India Radio's local stations in this region of vast distances and poor communications.

Nepal, which has had community radio since the mid-1990s, has successfully experimented with educational programmes on CR. Hamro Pathshala (meaning "Our School" in Nepali) is an initiative in distance education at the Madanpokhara community multimedia centre (CMC) in Palpa, Nepal. Launched in August 2005, this educational programme uses both community radio and new media to reach young students from marginalized communities who are facing their School Leaving Certificate (SLC) examinations. Over 15,000 students from 60 high schools in the region reportedly benefit from the programme[4].

Satellite radio for education

EDUSAT, according to the Indian Space Research Organization (ISRO), is the first exclusive satellite for serving the educational sector. It supports radio broadcasting, along with audio-video on C-band and Ku-band, and is built around the concept of digital interactive classrooms and a multimedia system.

The satellite has multiple regional beams covering different parts of India, which theoretically enables programmes to be broadcast in relevant local languages - India has 18 official languages and over 1500 dialects. "India will require 10,000 new schools each year and meeting the teaching needs on such a scale [by conventional methods] will be impossible," Madhavan Nair, chairman of ISRO told *New Scientist* at the launch of the satellite[5].

EDUSAT can provide connectivity to schools, colleges and higher levels of education and also support non-formal education including developmental communication. The nation-wide beams are being harnessed by agencies like IGNOU, NCERT and the All India Council for Technical Education (AICTE), to reach hundreds of Receive Only Terminals (ROTs) and Satellite Interactive Terminals (SITs) located in schools and colleges, many in remote areas.

Content generation is the responsibility of user agencies, but it is a matter of concern that, nearly four years after the satellite was launched, much of its capacity is lying idle.

Satellite access for radio broadcasting is also available on other platforms like WorldSpace, which offers a 'development channel' to agencies like Equal Access for networking community FM channels (as in Nepal), or for directly broadcasting development and educational programmes for community listening on WorldSpace receivers.

Podcasts

Many educational and language programmes are now available as podcasts[6], most of which can be downloaded freely from the internet, like the BBC's English learning programmes – Talk about English[7]. Podcasts offer the advantages of routine and regular addition of new content, the ability to review the content at your own time and pace, and the ability to receive new content that one can select through subscription.

Web portals have been set up specifically for hosting educational programmes, like Education

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4   www.comminit.com/experiences/pds2007/experiences-4289.html
5   http://space.newscientist.com/article/dn6423-india-launches-worlds-first-education-satellite.html
6   'There's something in the Air: Podcasting in Education' – Gardner Campbell. *EDUCAUSE Review,* vol. 40, no. 6 (November/December 2005): 32–47.
7   http://www.bbc.co.uk/radio/podcasts/tae/

Podcast Network (www.epnweb.org), and there's a slew of free and open source software and hosting services should one wish to set up an educational podcast service in India.

Audio Technologies for the 'print-disabled"

A number of IT tools are now available that can revolutionize ability of illiterate and otherwise 'print-disabled' persons to read and write. For instance, TTS (text-to-speech) and OCR (optical character recognition) systems can make the computer a basic reading and writing tool for children with limited language skills.

Though institutions like the IITs, IIIT Hyderabad and CDAC are engaged in developing TTS engines for Indian languages, and several Indian language TTS systems like Subhashini, Dhvani, Vaachak, Asharir etc are available, much work remains to be done to develop robust OCR systems and Text-to-Speech engines made for Indian languages[8].

The promise of radio

U.K. Open University's notable success with educational radio has demonstrated how invaluable radio can be for weak students, who benefit from the medium as a supplementary learning tool. But the use of radio for distance education in India, as mentioned earlier, has had mixed results. AIR's educational broadcasts are constantly hampered by the lack of radio sets in classrooms, the difficulty of coordinating school broadcasts with class-room timings and more significantly, by the lack of good broadcasters who have a passion for education and conversely, of teachers who are also good broadcasters.

All the same, it has been amply proved that radio – rightly used - can improve educational quality and relevance, lower educational costs and improve access to education, particularly for disadvantaged groups. It is most effective when supported by trained facilitators, group learning, group discussion, feedback and the use of multimedia approaches. There is no single ideal format for educational radio. Innovative programming like those developed by Sesame Workshop in Africa, for instance, offer some very effective approaches to non-formal education over radio.

India spends just 3.4% of its GNP on education. Over 35% of the population is illiterate, and the drop out rate in schools is staggeringly high, with 40% of all school-going children dropping out during the primary stage itself. The percentage of dropouts goes up to 67% by Class X.

The Supreme Court of India (in 1993) has declared education of children up to 14 years to be a fundamental right, but school attendance is related to the perceived importance of education by parents, and also to socio-economic factors. Though child labor (by children below 14 years) is illegal, children constitute an import workforce, especially in rural India. Other factors that lead to denial of schooling are lack access to schools, the poor quality of education and high student-teacher ratio – 1:42 on average in primary schools, and as high as 1:62 in the state of Bihar.

Using radio for education and community development is part of the 75-year-old Reithian ambition for radio broadcasting. Even in the early days of broadcasting in India, it was laid down in principle that 'educational broadcasts should not attempt to replace the teacher, but to supplement his work'. In 1939, the then Controller of Programmes of AIR, Lionel Fielden, had written that educational radio should focus on two areas: "(a) topics which will be found useful in widening the mental horizon of students but which do not normally fall within the four corners of school or university

[8] "ICT tools for visually impaired persons" – Consolidated Reply, ICTD Community, Solution Exchange, 30 April 2007

syllabus, and (b) such aspects of school subjects as cannot be adequately dealt with in an average institution owing to the difficulty of the school system such as lack of time or intellectual limitations of an average teacher."[9]

Despite rapid developments in communication technologies in the last few decades, radio broadcasting remains the cheapest mode of mass communication in India, catering equally to the needs of the rich and the poor, rural and the urban masses and reaching the remotest parts of the country. In a country where the literacy rate is 65%, and fewer than 50% of homes are electrified, the humble transistor radio plays a vital role in the country's socio-economic and cultural development.

Rural and deprived communities, with low literacy rates and little access to formal education, stand to benefit the most from distance learning through community radio. When communities begin to set up their own low power radio stations – and 5000 such community radio stations are possible in India, according to government estimates – we could witness a revolution in education far beyond anything dreamt of by the purveyors of digital technology in a digitally divided society.

Children and youth can be easily and cheaply trained, and the goals of universal primary and secondary education for all can be reached more easily with broadcast support. Among the poor and marginalized people of the country, radio could even create a new class of people - educated but illiterate.

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[9]   Report on Progress of Broadcasting in India - Lionel Fielden, March 1939.