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Tele-Education And The Class Room:
The Indian Experience

By

Kethu Viswanatha Reddy
TELE-EDUCATION AND THE CLASS ROOM: THE INDIAN EXPERIENCE:

PROF.KETHU VISWANATHA REDDY

The main objective of this paper is to delineate the initiatives, prospects and limitations of tele-education in India.

0. Tele-education is made possible because of the rapid growth in the field of communication and information technology and large scale introduction of multi-media education approaches at all levels of education by several countries in the world.

This Electronic based education as argued by Pelton and also supported by the studies on education may certainly provide an opportunity for global networking, increased interactivity and more control for learners. But one cannot over emphasise the use of tele-education in developing countries. Pelton may try to give a rosy picture. He says that "it should come as no surprise that today most successful tele-education initiatives are at national or even "local" level. Hundreds of such national tele-education programmes exist around the world .. In short, electronic-based tele-education is not only well established but infact a multi-billion-dollar enterprise." (Joseph N. Pelton, 1990).

But whenever we talk of communication technologies and their use in education either at national or sub-national level, we may have to necessarily keep in mind the following determinants which influence them:

1. the geographic, demographic, linguistic and culture specifics and their nature and amount of complexity;
2. the educational scene, goals and strategies;
3. the developments in the field;
4. the communication policies and education;
5. the response to the use;
6. the scale of operations and the economics and finally
7. the prospects and constraints.

1.0 Let us examine the case of India in regard to the tele-education initiatives in the light of aforesaid factors.

Director, AVP & RC, Dr.BRAOU, Hyderabad - India - 500 482.
1.1. THE COMPLEXITY AND THE SPECIFICS

1.1.1 India covers an area of 3,287,782 Square Kilometers, occupying 2.4 per cent of the total world area. The population is estimated at around 844 millions i.e., 16 per cent of the world population. It is a plural society. According to 1961 census, as many as 1652 mother tongues are spoken in India. The VIII schedule of the Constitution of India records 18 major languages: Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Manipuri, Malayalam, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu and Urdu. English has the status of link language. Outside the VIII schedule, the 1981 census tabulates 90 languages with numbering above ten thousand and spoken by 29 millions. There are at least 10 major language speech communities among the 90 like Bili, Dogri, Khandesi, Kurukh, Santali and Tulu who claim to have them included in the VIII schedule of the Constitution. Besides these languages there are several other languages which present a challenge to the enumerators, linguists and planners. For example, North Eastern India, Arunachala Pradesh, Assam, Nagaland, Tripura, Manipur, Mizoram have 213 languages.

The major languages are recognised as languages of administration as well as languages of medium of educational instruction. The communication needs of these multi lingual groups are enormous and multifarious and pose a challenge to the educational planners. They "demonstrate the magnitude of functional heterogeneity". And this is inevitably manifested in the use of media in India, particularly Radio, Television, and Computers.

1.1.2 All India Radio Broadcasts its programmes in about 72 languages and dialects. The figures relating to use of languages in Television and Computers are not well documented, however, we may say that they have taken initiatives to use the major Indian languages in a limited way.

1.1.3 The literacy rate with reference to India's population for the aged seven and above is 52.11 percent (64 per cent among men and 39 percent among women. The percentage varies from urban to rural and plains to tribal areas). It has the characteristics of underdeveloped economy. 69 per cent of its labor force are engaged in primary sector (agriculture live-stock, forestry, fishing, plantation, etc). 13 per cent engaged in secondary sector (mining, manufacturing and construction) and about 18 percent in the service sector (trade, commerce, transport and communications, personal and community services). To provide educational services in such a complex situation, considering the requirements of specific geographic, linguistic and cultural communities and educational groups through tele-education programmes is a herculean task for national or any state government in India.
1.2 
THE EDUCATIONAL SCENE, GOALS AND STRATEGIES

1.2.1 Let us also look at the enrollment in education. In 1991-92 the enrollment in schools is about 157 millions, and in Universities and colleges 4.33 millions. There are 8,11,022 schools, 8,111 colleges', 196 Universities (including the deemed universities) and 887 polytechnics. The number of teachers trained or untrained is more than five millions. To ameliorate the handicaps in the educational scene and achieve universal literacy and qualitative education, India has adopted formal, non-formal and open channel learning strategies.

1.2.2 Though the geographic distribution of distance teaching institutions are uneven, the progress made in the field is noteworthy. There are 45 conventional universities that offer distance education programmes besides five autonomous open universities in India.

1.2.3 The first state level open university in India, Andhra Pradesh Open University, now renamed as Dr. B R Ambedkar Open University (BRACOU) was established in 1982 through an Act of State Legislature. The second is the national level open university, Indira Gandhi National Open University (IGNOU, 1985). The third, fourth and fifth are Kota Open University (KOU, 1987), Nalanda Open University (NOU, 1987), Yashwantra Chawan Maharashtra Open University (YCMOU, 1989) and Bhoj Open University Madhya Pradesh (BOU, 1992) respectively.

1.3 The development in the field of Modern Communication and information technology is available in India and to a large extent is confined to urban/industrial areas and the modern sectors of the economy. India has large radio and T.V. net working and also extensive telephone system. “Networking of computers and remote access to computer data banks are rapidly growing though the supporting infrastructure is some what limited” (Kiran Karnik, 1994).

1.3.2. All India Radio covers 96.2 percent of the population and the total area covered is 86.1 per cent through 162 broadcast centres. It is roughly estimated that there are over 50 million radio sets in the country. Doordarshan reaches to 83.6 per cent of the population through a net work of about 562 transmitters with varying powers. There may be approximately 43 million domestic TV sets and 64,600 community sets. Direct broadcasting satellite has become a reality. The use of audio and video technology during the last decade has increased and the use of computers is catching up. It is estimated roughly that over a
-4-
lakh of computers are in use in India. Audio conferencing via
telephone, teleconferencing via satellite or computer networks,
E-Mail, Internet, Compuserve are slowly gaining ground in
India. However, the developments occurring very rapidly in the
hardware formats are often pushing India to a corner. The magni-
tude of change of technologies is costly. Compatibility and ad-
justments to newer formats are posing several financial and
techno human problems.

1.3.3 When we look at the pace of development in the
field of communication technology in India, it is not significant
in any way if we take into account its magnitude and population.
The pre-industrial communication technologies are also quite
prevalebt. However, India has been using radio, audio, television,
and video programmes as a supplement to the printed texts
and supported by study centre based face to face tutorials.
Interactive technologies are yet to be applied at least in a
considerable way.

1.4 COMMUNICATION POLICIES AND EDUCATION

1.4.1 Challenge of Education – A policy perspective
(August 1985) has clearly spelt out its policy in regard to the
application of new technologies as follows:

"The availability of a satellite and a television network
covering a majority of the population is potentially one of the
most significant factors capable of contributing to the promise
of new educational initiatives. This technology can, undoubted-
ly, revolutionise the teaching-learning systems by enriching
formal education and also by supporting non-formal education as
well as the distance learning system". However, the policy
document warns against a euphoric reaction on this account and
further states: "A realistic assessment of the preparatory work
involved in realising the potential of these technologies leads
one to the conclusion that, in the short run, the gains from
these will be quite marginal. The process of distance education
through different media constitute a discrete system of pedagogy.
Before this pedagogy yields significant returns, diversified
programmes of training of varying duration will have to be orga-
nised". Further, the policy document has observed that "the
television medium has opened new vision not only for the enrich-
ment of formal education but also to imparting non-formal educa-
tion. As far as the existing channels are concerned, unless the
present policies are modified, competing demands on the time will
preclude its extensive use for educational purposes".
1.5 THE RESPONSE TO THE USE

1.5.1 India is predominantly an oral society. In all oral societies direct face to face contact and the use of spoken word have an edge over the use of mediated communication or electronic media or print word because of its deep rooted oral tradition. This may perhaps be the reason why an average learner enrolled in the open university always clamours for lecturing method in contact cum counselling sessions and demand more and more lectures. It is also a fact that the Radio lessons were not popular and audio visual aids were not accessible to the majority of students for various reasons such as lack of physical facilities, lack of required attitudes and technical inhibition in co-ordinators and counsellors in using and video lessons effectively. This is evident from evaluation studies conducted by Centre for Evaluation, Dr.B.R.Ambedkar Open University.

1.5.2 On the other side, factors like 'educational conservatism, lack of trained manpower, cargo cult, educational imperialism, the glamour of technology, lack of co-operation and coordination between the educational organisations nationally and internationally" are responsible for limited use of media even in distance education (Abdul W.Khan, 1994). In fact, there is an apprehension in developing countries that the tele-educational services may end up as "channels of Communication for the elite".

1.6 THE SCALES OF OPERATION AND ECONOMICS

1.6.1 The economics decide the scale of operations in tele-education. Assuming a situation where the Indian Government wish to provide to schools and colleges in the country, with one Radio-cum-Cassette player, one T.V. one VCP/VCR and one computer, the initial cost works out to more than six hundred thousand million rupees (around 20,000 millions US dollars). It would be multi-billion dollar project, if installation, operation, maintenance, staff, establishment of studios and equipment and programme production costs are added. Let us consider this in the light of VIII plan outlay for education (Centre & State) at 155997 million rupees (around 6000 million US dollars). The availability of individual radio/cassette player, VCP/VCR in all the thousand million homes is still a dream. Over 90 per cent of the homes do not possess these modern gadgets in India. India has to necessarily exploit the learner centre based situations either in the traditional class room or in the study centres of distance teaching institutions.
1.7. PROSPECTS AND CONSTRAINTS

1.7.1 In order to improve the quality in education and services, an integrated multi media approach is imminent by exploiting the existing potentials of AIR, Doordarshan and audio-video technology. Let us analyse how the potentials are being tapped in India so as to understand the prospects and constraints in providing tele-educational services either for the traditional class room or for off campus learning.

1.7.2 At present 48 All India Radio Stations broadcast educational programmes for schools and 29 stations relay. The services are entirely regional and are in 16 regional languages. The broadcast duration of this nature averages to 40 minutes a day. The broadcasts for primary school students are for general enrichment and the broadcasts for secondary students are syllabus oriented. The school broadcast component of the spoken word is roughly estimated to be 7.5 per cent in the total broadcast time. All India Radio also broadcasts the radio programmes produced by different distance teaching institutions (such as Universities of Delhi, Punjab, Patiala, Madras, Madurai Kamaraj, Dr.B.R.Ambedkar Open University, Indira Gandhi National Open University).

1.7.3 The Central Institute of Educational Technology (CIET) and six State Institutes of Educational Technology (SIET-S) are producing Educational Television Programmes for children for the age group of 5-8 and 9-11 both in school or out side school. These are telecast daily in the morning for 3 hours 45 minutes on about 220 school days in five regional languages viz., Hindi, Gujarati, Marathi, Oriya and Telugu. These are telecast Monday through Friday followed by programmes for primary level teachers every saturday. Non formal adult education programmes in regional languages are also being telecast by some regional Television centres as a part of their regular services. (Abhiman-yu Singh, 1992). The CIET has produced 715 ETV Programmes up to september 1992 and 914 language versions.

1.7.4 Four Educational Media Research Centres (EMRCs) and Nine AVRCs set up by the U.G.C. have been engaged in the production for Country Wide Class Room (CWCR) programmes and they are being telecast on national net work for one hour a day and with repeat telecast of these programmes for five days which account for 12 hours per week. The medium of the programmes is in English and no programme is in any major Indian language is telecast, though at least 60-75 per cent learners study in the regional medium. The target audience is primarily the under graduate students studying in semi-urban and rural areas. The U.G.C. also provided a number of ETV sets for the colleges in order to enable the students and teachers to view the programmes.
Doordarshan, in all its six channels is telecasting programmes 740 hours per week. Out of these 740 hours only 17.5 hours per week are devoted to educational broadcasts. This comes to only 2.5 per cent of the telecast time.

1.7.5 With the establishment of open universities in the country, learning materials are being developed in variety of media. Dr. B.R. Ambedkar Open University and Indira Gandhi National Open University have their own studios for production of educational programmes. Except IGNOU no other open university has been given TV telecast time. 30 minute course related programmes produced by IGNOU are telecast three mornings a week totalling to one hour and thirty minutes per week. U.G.C. and IGNOU Programmes are also available in the form of video cassettes.

1.7.6 The following table gives a picture of the support material produced by different autonomous open universities in India:

<table>
<thead>
<tr>
<th>University (Years)</th>
<th>No. of students</th>
<th>No. of Study Centres</th>
<th>No. of Courses</th>
<th>Video Programmes</th>
<th>Audio Programmes</th>
<th>Radio Medium Programmes</th>
</tr>
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<tbody>
<tr>
<td>Dr. B.R. Ambedkar Open University (1984-94)</td>
<td>60,000</td>
<td>92</td>
<td>116</td>
<td>136</td>
<td>332</td>
<td>1207 Tel(75 Eng(25</td>
</tr>
<tr>
<td>Indira Gandhi National Open University (1986-94)</td>
<td>75,000</td>
<td>214</td>
<td>176</td>
<td>405</td>
<td>621</td>
<td>not ava Eng(5 ilable Hin(5</td>
</tr>
<tr>
<td>YCMOU</td>
<td>38,000</td>
<td>220 subcentres 70, work centres 50, 200</td>
<td>72</td>
<td>220</td>
<td>Eng Marat</td>
<td></td>
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1.7.7 **THE TIME SLOTS**

Two examples of time slots allotted over radio and T.V. relating to BRAOU and UGC are given below.

**TABLE - I (Radio Programme)**

<table>
<thead>
<tr>
<th>University</th>
<th>Time</th>
<th>Broadcast Agency</th>
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<tr>
<td>Dr.B R Ambedkar open university</td>
<td>Monday: 7-15 a.m. to 7.45 a.m.</td>
<td>Hyderabad</td>
</tr>
<tr>
<td></td>
<td>Wednesday: 7-15 a.m. to 7.45 a.m.</td>
<td>B-217.8 M</td>
</tr>
<tr>
<td></td>
<td>Thursday: 10-30 p.m. to 11.00 p.m. with Shortwave support 62.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Friday: 10-30 p.m. to 11.00 p.m.M 4800 KHZ</td>
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The evaluation studies revealed that the broadcast timings particularly between 10.30 p.m. to 11.00 p.m. are highly inconvenient to majority of learners. Though the state wide coverage is the objective of the broadcasts, the learners from the remote areas are unable to listen to the programmes.

**TABLE II - Television Programmes**

<table>
<thead>
<tr>
<th>Institution</th>
<th>Day</th>
<th>Time</th>
<th>Telecast Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.G.C.</td>
<td>6 days</td>
<td>13.00</td>
<td>Doordarshan &amp; National Network throughout the country</td>
</tr>
<tr>
<td>National Net work</td>
<td>Repeat</td>
<td>4.00 p.m to 5.00 p.m.</td>
<td></td>
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</table>

From the study, the overall time available to educational transmissions and also the time slots, one can conclude that additional time slots are required; if not a separate educational channel.
1.8. CONCLUSION

India being a plural society, needs tele-educational services in at least all the major languages. The large number of heterogenous clientele, warrants the use of radio and television programmes and the low cost interactive technologies like audiovision etc. Use of sophisticated and update technologies in educational services in India is still desideratum.


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