THE PROBLEMATIC INTERFACE BETWEEN TECHNOLOGY AND THE SOCIO-CULTURAL CONTEXT OF OPEN AND DISTANCE LEARNING IN INDIA

DR. SEEMA SURI

SCHOOL OF CORRESPONDENCE COURSES & CONTINUING EDUCATION

UNIVERSITY OF DELHI

DELHI – 110 007

INDIA

ABSTRACT

This paper attempts to present a holistic assessment of the status of ICT adoption in open and distance learning in India and look into possible sources of problems: educational policies that are increasingly impelled by economic considerations, flawed planning, and prescriptions that delimit the ways in which technology can be used.

HISTORICAL CONTEXT

After Independence, there was a steady rise in the demand for higher education, a reflection of the aspirations of a growing middle class in India. Since the existing infrastructure could not accommodate the growing volume of students, the government set up the School of Correspondence Courses and Continuing Education at the University of Delhi in 1962 to extend access to traditional university teaching. As the response, in terms of enrolment, was very encouraging, 7 more Institutes of Correspondence Courses were set up by 1970. At the same time there were reservations about the quality of education being imparted. The methodology was print-dominated, and at their best, the study-materials sought to approximate a good-classroom lecture in print. Moreover, only traditional courses were taught and facilities were poor. Inspired by the success of the British Open University, the government decided to set up an open university that would have vocational courses and use media-based distance teaching methodologies. The Indira Gandhi National Open University was set up in 1985. Now, in addition to IGNOU, there are ten state open universities and 104 CCIs. In 2002-03, the number of students who enrolled in open and distance learning institutions accounted for around 22 per cent of the total enrolment in higher education. This figure is expected to rise to 40 percent by the end of 2007. Considering that only 7.5 per cent

of the school leaving population, in the age group of 17-23 years, proceeds for higher education, as compared to between 30-50 per cent in many developed countries, open and distance learning institutions have a major social responsibility: to achieve universal tertiary level education. These concerns have been incorporated into major educational policies: *The National Policy on Education* (1986), and its *Revised Plan of Action* (1992). Various committees set up by the Central Advisory Board of Education (1994), the highest advisory body on higher education, have acknowledged the ODL system as an instrument for the democratization of higher education.

Over the years policies have addressed the need to improve student support services, computerize administrative work, and utilize media in teaching. Like most of their counterparts over the world, the government, policy-makers, bureaucrats, and innovative academicians have made Information and Communication Technologies a central article in their quest to modernize higher education. The University Grants Commission has included, among its specific objectives: "Knowledge and the use of new ICTs" (UGC, 2003, p. 118). The UGC has committed itself to provide financial assistance for universities to set up computer-centres and organize short-term courses to train teachers and administrators in computer skills. But only a marginal number of workshops have been held so far. Grants were given to 136 universities to set up computer centres, of which 87 are functional. To develop human resources, the UGC has introduced post-graduate courses in computer applications in 67 universities. The Distance Education Council, the apex body for regulating open and distance learning in India, focuses on the same objective in its mission statement:

> Encourage the use of technology in education and provide opportunities for sharing technical resources and competencies through inter-university partnerships and consortia.

The theoretical commitment is there but implementation rather tardy. Detailed blueprints or workable strategies have not been prepared and there is a huge disparity between the perceived benefits of technology and actual use. The Distance Education council has not established a network between the open universities or tried to document and disseminate information about the status of technology adoption.

IT education versus IT for education: Shifting priorities

More recently, the Ministry of Human Resource Development has launched an ambitious strategy to make India a global leader in Information Technology. The *Interim Report of the Task Force on Human Resource Development in Information Technology* (Dec, 2001) proposes a plan of action to strengthen Information Technology education and training in India. Its objectives are to improve quality of infrastructure in IT institutions, triple the student intake by 2004, encourage research and interface with industry, extend IT education to regions where English is not the main medium of instruction and encourage faculty initiatives through a system of national awards. With a detailed schedule of implementation and expenditure outlay, there is a clear focus on sustaining the competitive edge in the software and services sectors, capture large shares of the global market, and expand to non-English speaking countries. The around Rupees 28,000 million expenditure is meant primarily for the Indian Institutes of Technology, the Regional Engineering Colleges, and technical training institutes. The terms of reference refer obliquely to ICT mediated education:

1. To double student intake in IT,
2. Spread to regional areas,
3. Improve coordination between private and formal sectors, and
4. To suggest measures necessary to improve the teaching of non-IT subjects by using computers and the Internet for all students.

(Department of Education, 2001, p. 2)

An instrumentalist bias is evident in the emphasis on technical education and training. It is part of a larger trend in higher education, where vocational and market-oriented courses are eroding the liberal orientation of the university. The phenomenon was anticipated by eminent social scientist Lyotard (1984):

> Knowledge is being exteriorized and commodified into information. In the postindustrial/information society what will be of utmost importance is the capacity to actualize the relevant data for solving problems as speedily and as efficiently as possible. The performativity criterion will predominate and only knowledge that can be translated into the productivity power of nations will be retained, the rest will be obsolete. (p.2)

Analysts see India as a classic example of the 'digital-divide', where its IT-enabled service sector is an off-shoring success but on the e-readiness measure, developed by IBM, it ranks 46 in the 64-country ranking (IBM, 2004). E-readiness is a measure developed to measure a country's e-business environment, its people's attitude to the Internet and its government’s technology initiatives. The educational authorities have formulated policies that look towards the global market and social equity is low on the agenda.

ICT ADOPTION IN ODL INSTITUTIONS

Apart from IGNOU, only two other state open universities have introduced media-based tutorial support, in the form of audio and videocassettes, and CD-ROMs at the study centres. IGNOU transmits its programmes through 10 radio channels, *GyanVani* and three television channels, *Gyandarshan*. Teleconferencing, one-way video and two-way audio is available across 150 study centres but the counselling available is of a restrictive nature. There are organizational problems like absence of two-way communication and a delayed response time. Facilities at the study centers are poor and the average pass rate of all programmes, of all levels, was a discouraging 8.5 per cent in 2001-02 (Reddy, 2002, p. 125). Apart from IGNOU, which offers four online courses, only one state open university offers a couple of web-based courses. There is not much research on the extent of outreach and an absence of accompanying documentation or validation.

In the Correspondence Course Institutes, attached to conventional universities, where 61 per cent of students studying through ODL mode are enrolled, the use of technology is non-existent. The students depend almost exclusively on the printed material sent to them. Teachers do not have the freedom to design or develop curricula, or innovate with methodology. There is little representation on decision-making committees and no control over financial disbursement. The University Grants Commission has been urging the CCIs to convert to distance teaching departments since 1992 and attain academic and financial autonomy, but bureaucratic short-sightedness, institutional apathy, poor infrastructure, and resistance from the academic fraternity have come in the way of implementation. Depleting funding and poor infrastructure compound the problems. For instance, the School of Correspondence Courses and Continuing

Education at Delhi University has one study centre to cater to 165,000 students. For minor problems like non-receipt of study-materials or exam schedules, students have to travel long distances to the main centre as there is no website, only six telephone lines and one fax machine. Merely 10 percent of the students attend the contact programmes, where teachers have face-to-face interaction. These usually end up as lectures instead of the problem solving sessions that they are meant to be. Pass percentages are low and attrition high. The situation is no better at the other CCIs.

The Indian Space Research Organization will launch an educational satellite, EDUSAT in mid-2004. With a capacity to uplink around 30 channels and five transponders that can support 70 channels and 5,000 remote end terminals, EDUSAT is meant to spread education to remote areas. It will be available for use by all sectors of education and has, understandably, generated a lot of excitement in the academic community, especially those involved in distance education. Scientists and educationists agree that more than the challenge of a successful launch is the development of educational software that is relevant and addresses the needs of a culturally and linguistically diverse nation. It is a classic case of the technology preceding any clarity about achievable outcomes. This will surely temper the euphoria over the educational possibilities of the satellite.

Emergence of alternate centres of higher education

Where traditional universities are slow to implement policies , private universities in India offer a range of market-oriented, attractively packaged courses, though at a higher price. The private universities use aggressive marketing strategies, something unheard of in public-funded universities, which don't have a budget for advertising. The central

government has not been able to enforce regulations, in spite of the Private Universities (Establishment and Regulation) Bill, introduced in 1995, as both state and central governments have legislative powers over education. Apart from the private universities, in 2001 there were 27 foreign universities, operating in collaboration with local institutions (Naidu & Bhalla, 2001). The enrolment figures for these are not available. They offer courses that have not been customized to local needs and are of questionable repute abroad. What is disconcerting is the manner in which the private and foreign universities have appropriated the philosophy and methodology of open and distance learning. Though the government has regulatory bodies like the University Grants Commission and the National Accreditation and Assessment Council, its position towards the foreign universities remains ambivalent as it neither recognizes nor regulates them. An exception has been made in the case of foreign universities "imparting technical education"(AICTE, 2003), wherein it has been made mandatory for them to obtain accreditation from the All India Council for Technical Education. If the *Joint Declaration on Higher Education and the General Agreement on Trade in Services* is passed at the concluding round of the WTO talks early in 2005, the categorization of 'education' as a service would ensure that the profit motive supercedes intellectual autonomy. The market will have a range of educational products, competing for a larger segment of students.

It is against this backdrop of imminent corporatization of education that ODL institutions have to remain focused on their social mission of extending higher education to the disadvantaged sections of society, maintain academic standards, and compete with alternate centres of educational supply which are profit-based.

THE OPTIMIST RHETORIC

Underlying most of the prescriptions on technology adoption is an uncritical and unreflexive faith in the power of technology to transform:

> We are poised at the threshold of another revolution, one involving Communications and Information Technology, and the Knowledge Media, which will have a profound effect on teaching and learning for all of us.
>
> (Lockwood, 2000)

There is a seductive corpus of literature on the beneficial role of ICTs in distance education. Definitions of these systems almost always subsume a technology component. A meta-analysis of literature on ICTs in distance education reveals that prescription and description outweigh empirical studies. Most of the experimental studies on the efficacy of media have quantitative research agendas and are based on behaviourist paradigms. There is hardly any evidence on the qualitative benefits of such methods and almost all the studies report gains that are not significant. Vision and mission statements are impelled by factors that are independent of the system of education. It is the pressures of a post-industrial society that shape the discourse on technology adoption more than hard research on the efficacy of ICTs. Embedded in technicist mission statements and policy directives are the imperatives of globalization, modernization, employment and an increasingly informationalized economy.

This paper will examine some of the dominant positions on technology adoption and interrogate their theoretical foundations. These discourses shape our perceptions and ideology. Educators, especially in developing countries need to make an examined approach to ICTs, without lapsing into alarmist rhetoric that results in investing in infrastructure that is neither cost-effective nor matches the requirements of the students.

Technological determinism

One of the most common models that is invoked to map the pace and amount of technology adoption is the diffusion model. With a bell curve of expansion of technology use in society, it dominates most of the studies on innovations in education. This model, by Moore (1991) is a graphic representation of the technology adoption life cycle:

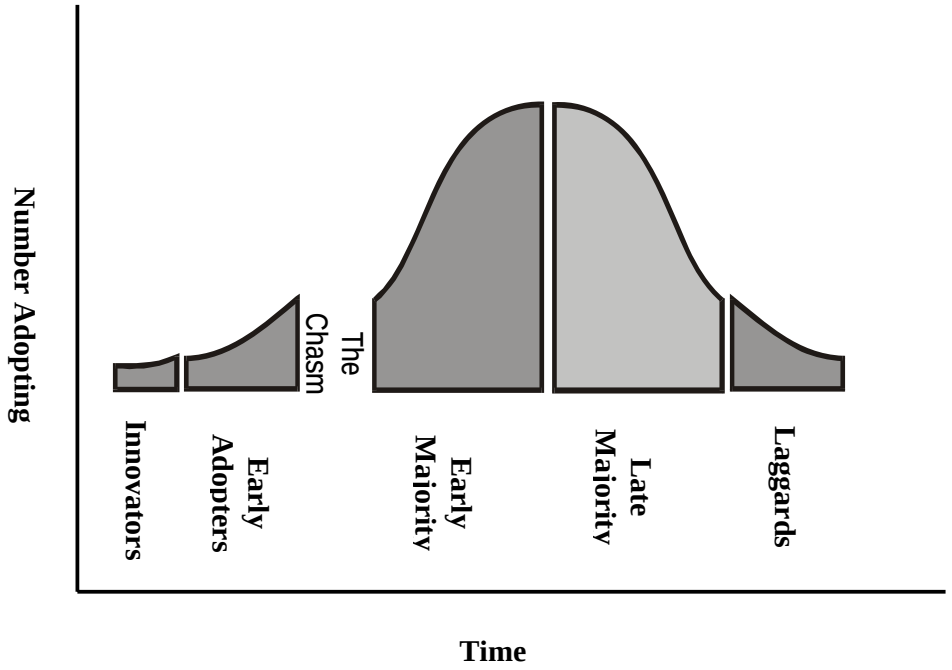

Figure 1: *The technology adoption life-cycle: (Moore, 1991)*

The model defines users as innovators, early adopters, early majority, late majority and laggards. Educationists use this model as a guide to study patterns of adoption and develop strategies to increase participation and use of ICTs. Based on technological determinism, these models are not sociologically sensitive, bypassing socio-cultural realities surrounding the use of ICTs in education. Romiszowski (2004) illustrated the

limited predictive capacity of this model. In a meta-analysis of ICT applications in education, he shows how the trajectory of most innovations shows a steep rise and fall, with a subsequent fall into a jagged plateau. The frequency with which this phenomenon occurs makes it generalizable: the fate of Programmed Instruction in Britain during the 1960s and Instructional Television in America between 1950-60. Romiszowski depicts the pattern in a graphic representation, which is more accurate:

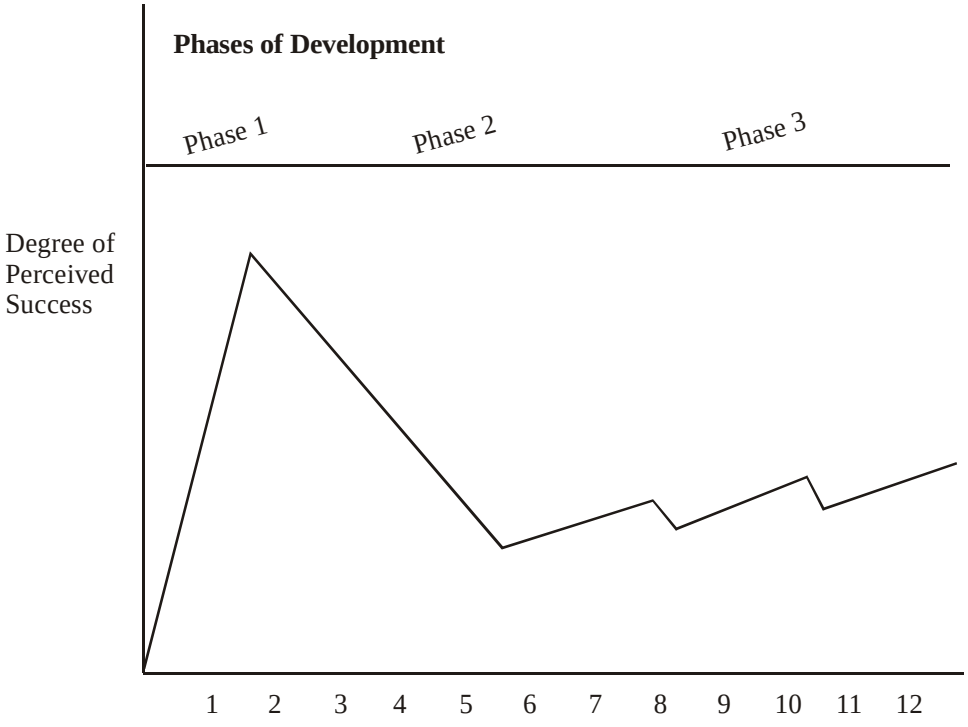

Figure 2: *Typical diffusion pattern shown by many recent educational Innovations: (Romiszowski, 2004).*

In another study Selwyn & Gorard (2003) point out how the British government invested millions of pounds on technology initiatives in education, but it has not yielded any observable benefits. Indian educators need to steer clear of rhetoric that urges technology adoption as a historical necessity, unstoppable and inevitable.

Another concept that has become a signifier of inequality is the 'digital divide': a 'code' for all inequities in relation to computers, the Internet, and the World Wide Web. Politicians, governments, educators, and corporate leaders have taken up the challenge to ‘bridge’ this divide by providing access. There is no doubt that the economics of gaining access are a major determinant of technology adoption; but this binary divide does not take differential use into account. Sometimes physical access is there, but it is conditioned by attitudinal, organizational, or gender related barriers. It could be a simple refusal to use technology as it is not perceived as useful or relevant, or there may be a lack of technical skills. Moreover, there may be varying degrees of use; a person may use a mobile phone but not use the Internet. Patterns of use are complex and correlated to multidimensional factors independent of access. The concept of the ‘digital divide’ misrepresents the problem of equity in relation to educational computing, resulting in an overemphasis on providing access.

Cultural readings

There is a school of opinion that resorts to cultural analyses to explain the non-uptake of technology. Koul (1995) observes that, in India, societal conventions like deference to parental authority, acceptance by family and peers takes precedence over self-actualization. Society is collectivist rather than individualist, where the need to affiliate oneself to a group is strong. Philosophical and religious beliefs undermine the importance of the self and the pursuit of goals related to self-development, resulting in associations of guilt with ambition.

Cultural evaluations stress the passive-receptive and teacher-dependent nature of Asian students. Robinson (1998) believes that such patterns of learning constitute cultural impediments to the philosophy and methodology of open and distance learning, which is an "industrial form of learning"(Peters, 1998,p.109): highly organized, rational and self-managed. In Indian society, education is “perceived in group terms where the influence of subjective non-linear variables would be more pervasive”(Kapur, 2002, p.187). Asian learners, according to them, don't want to emancipate themselves from authority and remain custom-bound, hierarchized, and heteronomous. The subtext of these typologies is that these conditions are not conducive for introducing technology tools in distance education.

It is not because of "cultural discontinuities" that there is a problematic relationship between the methodology of distance learning and the socio-cultural context. Cultural readings pathologize societies that have not embraced ICTs in prescribed ways, or use them differently. The rhetoric of different learning styles creates essentialist categories and glosses over economic and socio-politically grounded differences and inequitable access to ICTs. The problematic interface is more due to distorted representations of ICTs capabilities. The next part of the paper will bring to the fore the assumptions behind some of the most celebrated features of ICTs.

Positioning of ICTs

ICTs are positioned as a transformative tool; claims that are based on their perceived ability to support autonomous learning. Interactivity and learner-control are its most valorized features. The former concept has been annexed by the world of advertising. Alongside ATMs, online services, and the WWW, we have ‘intelligent’ washing

machines. Interactivity has become a cultural construct and is applied carelessly, even in academic contexts. Educators overlook the fact that communication between the computer and student is never seamless. Computer-enhanced discourse arises and proceeds via application interfaces that have limited semantic and discursive capabilities. Interfaces have not yet been optimized to match the cognitive capacities of the human operator. Our anthropomorphic vision ignores the dependence on sophisticated indexical tools put there by a designer. Representation of academic content on the computer is constrained by what can be processed into notational units and the algorithmic syntax, whereas educators using online teaching assume the objectivity of all knowledge. Dialogue with the machine will always be circumscribed by a series of choices inscribed in the machine and it is a very tenuous kind of control. The published literature on methodology in computer-enhanced instruction continually draws contrasts between 'teacher-centred' and 'learner centred' distance teaching. 'Interactivity' and 'learner control' are the characteristics, which are privileged over linear, passive instruction and hypertext is touted as the ultimate non-linear text. This hierarchizing makes educators apologetic about its more prosaic applications.

The China Radio and Television University depends on the transmission of lectures through radio and television. In addition to the 'broadcast lectures' delivered by experts, the students have to attend obligatory tutorial sessions. The University of AIR in Japan employs similar strategies. As the name implies, the primary mode of instruction are the radio and television lectures, which are secondary to the printed course material. These simple and practical solutions are viewed as something of an anomaly because of the total absence of any media pedagogics involved in the delivery of course content. Peters (1998) observes that these broadcast lectures use a "pedagogically minimalist approach

that does not conform with ideas of good distance education. It is also oriented towards an obsolete learning model, namely that of expository teaching and receptive learning." (p. 223). These interpretations delimit the ways in which technology can be used and dismiss those applications that don't harness the supposed cerebrality of computers.

Such views presuppose that it is possible to design educationally fruitful and empowering learning environments that are responsive to individual differences. Instructional designers seem to be on a collective quest to create optimal learning environments, whereas the factors that most strongly impact the ultimate success or failure of computer-enhanced learning have less to do with the technicalities and pedagogics of designing and much more to do with situational factors.

The approach to technology application should be heuristic and practitioners need not shy away from more pragmatic applications if they are effective. If a simple telephone line can solve a problem than there must be no hesitation in using it. Educational objectives should be desanctified and nebulous policies set aside when planning to integrate ICTs into education because policies that are initiated at the top have not rolled down to micro-level planning. In India, the IT based initiatives that have been most successful are in the non-formal sector because "there is increasing evidence of local efforts succeeding, where nationwide efforts have failed, for the simple reason that local efforts have addressed, local needs, local culture and local language."(Reddy, 2003, p. 252)

CONCLUSION

It is clear that open and distance learning have not been able to integrate ICTs into educational delivery. This is not to imply that ICTs alone can transform the quality of education. Situational factors should be taken into account instead of abstract and pedagogics, technological determinism, skewed policies based on political expediency, cultural readings that marginalize applications that are not used in prescribed ways, and distorted representations of the power of technology.

REFERENCES

All India Council for Technical Education. (April 2003). *AICTE Regulations for Entry and Operation of Foreign Universities in India, imparting technical education*. Retrieved Dec. 6, 2003 from <http://www.aicte.ernet.in/aicte/regulation_foreign.doc.>

Department of Education. (1994). *Report* of the CABE committee on distance education. New Delhi: Government of India.

Department of Education. (n.d.). *Interim Report of the Task Force on Human Resource Development in Information Technology*. Retrieved October 12, 2003 from < http://www.education.nic.in/htmlweb/it hrd_report/itbackground>

Distance Education Council. (n.d.). *Mission statement.* Retrieved Nov. 2003 from <http://www.ignou.ac.in/dec/index.html>

Evans, T. & Nation, D. (Eds.). (1996). *Opening education: Policies and practices from open and distance education.* London, New York: Routledge.

Government of India. (1992*). National Policy on Education with modifications undertaken in 1992*. New Delhi: GOI Press.

IBM. (2004). *The 2004 e-readiness rankings*. Retrieved March10, 2004 from www_5:ibm.com/services/uk/e_strategy/eiu_ereadiness.html

Kapur, V. (2002). Distance education in India and the USA: The cultural dimensions. *Indian Journal of Open Learning*, *11 (2),* 185-196.

Koul, B.N. (1995). Trends, directions and needs: A view from developing countries. In Lockwood, F. (Ed.), *Open and distance learning today*. Routledge Studies in Distance Education. London, New York: Routledge.

Lockwood, F. (Ed.). (1995). *Open and distance learning today*. Routledge studies in Distance Education. London, New York: Routledge.

Lyotard, J.-F.(1984).*The postmodern condition*. Minneapolis: University of Minneapolis Press.

Moore, G.A. (1991). *Crossing the chasm.* New York: Harper Collins.

Peters, O. (1998). *Learning and teaching in distance education: Analyses and interpretations from an international perspective*. London: Kogan Page.

Powar, K.B. & Bhalla, V. (2001). International Providers of Higher Education in India. *International Higher Education: 23(6),* 2-4.

Reddi, U.V. & Sinha, V. (2003). India : ICT use in education. In Farrell, G. & Wachhotz, C. *Meta-survey on the use of technologies in education in Asia and the Pacific 2003-04*. Bangkok: UNESCO Asia & Pacific Regional Bureau for Education.

Reddy, M.V.L. (2002). Students' pass rates: A case study of IGNOU programmes. *Indian Journal of Open Learning*. *11(1),* 103-126.

Robinson, B. (1995). Research and pragmatism in learner support. In Lockwood, F. (Ed.), *Open and distance learning today*. Routledge Studies in Distance Education. London, New York: Routledge.

Romiszowski, A.J. (2004). How's the e-learning baby? Factors leading to the success or failure of an educational technology innovation. *Educational Technology*. *44 (1),* 5-25.

Selwyn, N. & Gorard, S. (2003). Reality bytes: Examining the rhetoric of widening educational participation via ICT. *British Journal of Educational Technology*. *34(2),* 169-181.

University Grants Commission. (1993). *Upgradation of Correspondence Course Institutes to the distance education mode.* New Delhi : UGC.

University Grants Commission. *Annual Report 2002-03*. New Delhi : UGC.