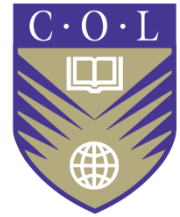


Face to Face with Distance Education



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Delivering the
The Professor G. Ram Reddy Memorial Lecture

Sanchar Kendra
Indira Gandhi National Open University
New Delhi, India

2 July 1996

Vice Chancellor,
Distinguished Guests, and
Colleagues,

I consider it a singular honour and a great privilege to be here this evening to remember and pay tribute to a caring leader, a great teacher, a wonderful friend, a faithful husband and a loving father. Professor Gaddam Ram Reddy was all of these things and more. Professor Reddy was a virtuous man; a man of high morals and great humility. He loved India with a passion and was immensely proud of this country and its many achievements; he was rightly proud of this university. He is no longer with us, but he continues to be with us.

I did not know Professor Ram Reddy as well as many of you listening to this lecture. That is my loss, but during the little time that I knew him, he taught me many things and one that I treasure and remember is the story of RAIBYA and his two sons PARA VASU and ARVA VASU. I will not repeat the story this evening, but those who know it from the MAHABHARATA will recollect the sad end to RAIBYA's life in the hands of PARA VASU. The message that Ram Reddy left for me through this story is the difference between EDUCATION for KNOWLEDGE and EDUCATION for LIFE (or VIRTUE) - learning is one thing but learning for life another. Through learning, one should know the difference between good and evil and unless "learning" itself goes deeper and beyond the cramming of information, "knowledge" will not become a virtue.

In the years that I knew Professor Reddy, one subject that was the main feature of our conversation every time we met, was education and its many challenges in the coming decades for the world in general, but

more so India in particular. Though he was full of praise for its achievements in education, he also feared that the country was not confronting the magnitude of the educational challenge aggressively - he was concerned not only with numbers but also with the value of education to manage our day-to-day life. Ram Reddy also feared that, in general, not enough was being done to bring education to ALL and that those who practised education were not paying sufficient attention to issues such as quality and relevance; those who were using education were not seriously appreciating the value of the service that was being provided nor its purpose; and those who were managing education were not tracking society closely enough to respond to its needs efficiently and cost effectively. Perhaps, these worries may have been the catalysts that encouraged him to move in the direction of distance education and open learning; he saw, in this innovation, an opportunity to address many of his anxieties especially those that had to do with quality, relevance, speed and efficiency. Tonight, in this lecture commemorating his memory, I wish to visit some of these issues in the context of the coming millennium and the role of distance education within it.

Most of us, or dare I say all of us, in this hall tonight are children of the 20th century. We inherited a planet from our forefathers which had, at most, one billion people, less than a dozen cities with more than one million inhabitants, and a priceless fortune in renewable resources; millions of species of organisms both animals and plants; great deposits of fossil fuel as well as ground water and other useful minerals such as copper, tin, mercury, zinc; a clean air, plentiful supply of fresh water; favourable climate with an intact ozone layer and fertile soil. With a resource using species such as the *homo sapiens*, conflicts were not avoidable but they were mostly local and generally confinable.

As we stand at the threshold of the 21st century, we could ask ourselves what would be the legacy of OUR century to our children and grandchildren. We could simply ask, for instance, whether we have left the world a better place for them to live than the one we inherited or we could either individually or collectively review humankind's performance during the last 95 years and make some judgements; whether we make these judgements ourselves or not, future historians will have a feast assessing us. Our century has witnessed some truly remarkable and great events: there is of course the end of *colonialism*, the achievements in *science and technology*; a freer *flow of information*; a few uncertain steps toward *universal rule of law*; a greater *access to education and health* for most and an acceptance of the principle of *equality for all human beings*. These achievements, remarkable as they are, have run in parallel to some terribly shameful things we have done to ourselves. In practice, many of our fellow human beings are still *denied equal access to justice, to decent living* and an equal share of the planet's wealth; we have, as we progress industrially, *hurt our environment*, in some cases, irreparably; *violence* and *barbaric military practices* are still widespread; and *institutionalised terrorism* is with us in its many forms. Given that we have no more than five years remaining in this century, it is unlikely that our generation will have the capacity or the political will to solve many of the problems we have created for ourselves. The problems we will leave behind may appear local in context but they are global in impact. Let me reflect with a few examples:

- In early 1980, an airline attendant named Gaetan Dugas died in the city where I now live; he died of kidney complications brought about by years of infections brought on by a failing immune system. Gaetan is a celebrity of sorts; his immune system failed because of a virus. That virus is notoriously known as the HIV and it causes AIDS. Since then, this unknown disease has infected

some 8 to 10 million people globally; its presence has been reported in at least 140 countries. Although not discovered until 1981, the virus itself has been circulating in the human environment for centuries, dormant and in small pockets. We are still not certain what prompted its emergence in the eighties, but its spread reflects the conditions modern human beings create for its rapid transmission. Rural urban migration, air transport, trade in blood products, liberal sexual behaviour and methods of substance abuse have all made a contribution to turning otherwise local and "slow" moving virus into a global and "fast" one. The AIDS virus is by no means the first nor the last of such health threats of this century. The travelling influenza virus from Chinese population centres; the familiar and re-emerging scourge of malaria, dengue and yellow fevers; the ugly Ebola are but a few known examples of the enormous "virus power" that our environment harbours and then becomes infected, which, by and large, seems to be the consequence of human behaviour and life style.

- From about the mid-eighties, the human race has continued to add about 100 million or more people to its population every year. The planet now carries about 5.5 billion people and by the turn of the century this figure will be roughly 6.2 billion - most of the growth taking place in our parts of the world. The growth of populations as we well know has global implications not only in terms of numbers but also in the way these unfold. For example, our poor will grow at a much faster rate than our rich. This imbalance is dangerous - if one looks at the armed conflicts of recent years, most of them have poverty as the common denominator (Sri Lanka, East Timor, Cambodia and Afghanistan). Not only do populations grow but the age structure of these populations will also alter. This alters dependency ratios - the richer parts of the world are ageing (and therefore a larger part of the population will be out of productive work), while the poorer parts will be young and at school (necessitating greater investments in education and other services). Large populations lead to another problem, i.e., migration of people from rural to urban centres. It is estimated that by the year 2020, some 3.6 billion people will be living in mega-cities and most of these cities will be in the now poor parts of the world. Municipal governments will be challenged far beyond their capacities to provide transport, waste disposal, crime prevention, health, education, nutrition, nursing, education, jobs and recreation. Larger populations also lead to a lot of pressure on the natural environment including global warming, ozone depletion, deforestation, erosion of the biodiversity, poisoned rivers, air, etc.
- Two years ago, the Mexican peso plummeted and along with it the Mexican equities market; I was living in Hong Kong at the time and saw the Hang Seng index dive the following day; that evening the local television stations carried graphic stories of two Hong Kong punters jumping off the 40th floor of two Hong Kong high-rise buildings - their fortunes were wiped out. In this increasingly interdependent world of ours, there is no crisis that is local. This includes the debt crisis of the third world as well. In 1993, the external debt of developing countries amounted to US\$1.8 trillion and their debt service amounted to 22% of their export earnings; in total, these countries may pay up to US\$150 billion in debt servicing against receiving between US\$90 - \$100 billion in loans and aid. These interest rates go back to the North. One would think that there should not be any adverse impact on the debt collectors. Think again! A recent study by the North-South Institute of Canada indicated that because of cut backs on imports, including food imports as a consequence of the debt burden, it cost Canada 130,000 jobs and US\$24 billion in

earnings over a seven-year period. Canadian banks are owed US\$24 billion by third world countries.

- Canadian banks also feature in another global concern; they seem to be a conduit for American money resulting from drug sales, inadvertently and increasingly playing a role in the transfer of such funds. The production of illegal narcotics and their abuse by millions of people across the globe have, between growers and users, brought about powerful players who have corrupted governments; law and enforcement officials; banks and legitimate governments in dozens of countries from remote Latin America to far-flung Asian locations. The production, processing and sale of illicit drugs continue to increase despite all the efforts and energy that have gone into controlling the menace; it is no longer a problem of London, New York or Sydney, it is also a problem of Kuala Lumpur, Bombay, Kabul and Bridgetown.
- The threat of drugs is only equalled by the threat of the arms race in terms of its potential to cause damage; while the former slowly and insidiously works its way through communities killing people, the latter does so dramatically and quickly. When a count was done not too long ago, it was estimated that there are some 30 million people under arms across the world, give or take a few million; global military expenditure was running at more than US\$1.7 million per minute; there were at least a dozen spots of armed conflicts between nations, religious groups, ethnic groups and, potentially, one could add at least another two dozen locations to this list. Willingly or otherwise supporting or benefiting from these conflicts is an arms industry that is also world-wide. The United States alone is known to supply arms to no less than 130 nations of the world with France, the former Soviet Union and China not far behind. The lesser of the big suppliers include countries such as Brazil, Argentina, Israel, South Africa and India. The arms trade is all inclusive from small arms to ballistic missiles and from nerve gases to nuclear material. Our nations are prepared to go to war not on ideological grounds anymore but on very primeval things such as land, water, trade - where sustained negotiations have a much greater rate of success than dropping bombs.
- The last on my list of dilemmas that humanity is confronted with or the sad inheritance it will leave behind is the state of the environment. Putting aside the North-South debate on the subject, the facts are:
 - (a) global warming;
 - (b) the ozone layer;
 - (c) depleting biodiversity; and
 - (d) the state of our air and water.

Like me, you too may come to the conclusion that we are not leaving an enviable inheritance to our children and their children. Through our science and technology, trade and travel, communication and confrontation, the damage we have done to our health, wealth, environment and education is not confined to the immediate communities we live in; local concerns have been transformed into global ones; local problems into global ones. This increased global interdependency of nations on their cultural, political and economic activities has made it even more important, at this tail-end of the century, that individuals

of all nations have to be empowered with the knowledge and skill to bring about a transformation to their environments and living conditions.

Throughout the ages, education has been the most powerful agent of change; since discovering it, those human beings who have received it seemed to have benefited mostly from the experience whether it be for personal or social development. At times, some people may have seen education as a root cause of all our ills, but even they will not begrudge the fact that the acquisition of knowledge has enabled individuals to gain a more profound understanding of human development and building relationships among individuals, communities and nations. It is fashionable in some quarters today to be extremely critical of education, especially for economic and financial reasons. Equally, there are enough people around the world who see human development as the core of any development process; that even in times of economic adjustments and austerity, some services such as education - the empowerment of individuals through the provision of learning, a basic human right and a social responsibility - must be protected. It is this desire to empower individuals that led those who gathered at the Education For All Conference at Jomtien in 1990, to declare among other things that: "***Every person - child, youth and adult - shall be able to benefit from educational opportunities designed to meet their basic learning needs.***"

To travel from where we are today, in education and educational provision, to where we should be by the next decade, will demand a lot of commitment from every part of humanity. The task of providing an education to all throughout their lives will not only be a challenge to our intellectual and fiscal resources, it will also be a challenge to our technological capabilities and pedagogical skills. Look at the task ahead:

- At the start of this last decade of the present millennium, globally, more than 960 million adults are illiterate; two-thirds of them are women and girls.
- More than 100 million children, mostly girls, currently do not have access to primary schooling and this number is growing.
- More than 100 million children and countless millions of adults fail to complete their basic education programmes, while millions more satisfy school attendance requirements but do not acquire essential knowledge and skills.
- More than a third of the world's adult population (some two billion individuals) have no access to printed knowledge, new skills and technologies that could improve the quality of their lives and help them to shape social and cultural changes.

What should be obvious from the statistics is the level of investment that will be required to bring education at the basic level to about one-fifth of humanity, beyond basic level to another fifth and lifelong learning opportunities to a third fifth. Just to keep up with the basic needs alone will require more resources in the next ten years than all that has been done in the last ten. Not only have we to cope with a resource need, we also need to present education to those who need it, in a meaningful and user friendly basis. This is a challenge for the academic community. Education in one form or another will have to be presented to a whole range of new clients including:

- **Those who are functionally illiterate: Apart from the 900 million illiterates, there are almost half as many adults who cannot cope with the demands of daily life on the basis of their literacy levels (i.e. reading a health label, instructions to operate a radio, etc.).**
- **: Annually in Asia alone, 15 million people become disabled as a result of war, diseases, accidents and malnutrition. Their major hope for self-improvement will have to be the education that has to reach them.**
- **: Long-term unemployment is a pathology; training people in such situations will pose special pedagogical challenges.**
- **: The gender gap, despite our knowledge of the benefits of educating women - is still appalling. Given the nature of cultural and religious hurdles, ways may have to be found to circumvent these barriers to deliver education to an important half of humanity.**
- **: Require vocational training to be part of a productive economy; a combination of apprenticeship: employment and self education need to be designed to assist them; failing to do so will be a catalyst for socially disruptive behaviours, social refusal and criminal activities by an undereducated and disgruntled population.**
- **: Roughly some 125 million people today live outside their countries of origin. The flow or the movement of people, either for political or economic purpose, is not expected to slow down. To better enable the process of settling down, educational programmes teaching from language, social and job skills have to be designed and delivered.**

Providing learning to a diverse group of learners who may or may not have previous learning experience will need an infrastructure that is flexible, global in reach, interactive and affordable. This learning will also require a curriculum that will enable learners to face the challenges of the 21st century and which will require all of the following skills:

- **Communication skills: Especially in a multicultural environment; the mobility of today's populations makes it increasingly necessary that we appreciate the cultural differences of people outside our own communities and countries. For peaceful co-existence to happen there will have to be shared values and insights on political and social issues.**
- **Which will require, in the first place, the ability to frame problems, to ask the right questions and to apply information technologies to solve them.**
- **and together, made up of individuals with different backgrounds and cultures. Part of these skills will also include skills of leadership and negotiations and an ability to collaborate.**
- **to be a lifelong learner which would mean identifying for oneself what needs to be learnt and to go about acquiring this learning. The learning technologies being developed will enable individuals to access this learning at a time and pace to suit ones individual needs. This implicitly means that every educated person must spend a portion of his or her time keeping up with developments in technology.**

The academic community collectively needs to re-examine not only the way it delivers education but what that education itself is. The tradition of crammed knowledge must give way to useful knowledge that enables learners to lead a virtuous life.

For the first time in the history of the human race, we have an opportunity *if we want* to reach almost every single community on the planet. Twentieth century technology has made it possible for educators to reach millions in a single moment. Consider for a moment what has been possible in the last decade of the century:

- In Honduras, for example, the use of a specific oral rehydration solution to treat diarrhoea, reduced the risks of dehydration from zero to 40% of all episodes of diarrhoea just one year after a systematic programme of public education was launched.
- In this country, condom sales increased from fewer than 25 million in the late 60s to more than 160 million in 1979, and 75% of the increase was accounted for by a new brand introduced through a marketing approach that relied heavily on consumer education.
- In South Africa, part of the transformation from the viciousness of apartheid to participatory democracy required educating the people not only on what democracy is but also their role in it; a mass voter education campaign took the population from being passive victims to active citizens in six months.
- In British Columbia, the Knowledge Network reaches almost the entire province with university level courses in science, arts, economics and mathematics.

A rough estimate indicates that there may be more than 16,000 radio stations and more than one billion radio receivers in operation around the world. The development of the wind-up radio and miniaturisation of transmitters can only increase this capacity. Television is now found in every nation on earth. Cellularisation and further development of wireless technology will enable telephonic capabilities to reach individuals even in the remotest corners of earth. The Internet via the electronic highway has some 30 million subscribers and it is expected to double every year. Satellite transmission, cable networks, video recording, durable transistors, the Internet, multimedia hardware and extremely intelligent and friendly software are all opening up opportunities for people even in the poorest part of the planet to access information and knowledge.

There is a revolution taking place out there in programming technology that is showing the way to expand teaching, training and educating. Some interesting examples mentioned at the Jomtien Conference in 1990 (the start of this decade) include:

- A rock video motivating young people in Mexico to delay sexual activity, thereby reducing health and psychological risks.
- A radio-based lottery in the Gambia that teaches rural women about a new remedy for diarrhoea.
- A mass campaign in Turkey to increase the catchment for child
- immunisation campaigns.

- An introduction course to computing via the Internet with global outreach.

This revolution opens up so many opportunities for us to educate humanity, to intellectually enrich it for greater participation in the affairs of its communities, alter attitudes to life styles, change behaviour for better health and retrain and reskill for greater productivity and income. For example:

- Close to 150 million young people are expected to seek tertiary level education by the first quarter of the next century; the wherewithal to provide this education through Aristotelian ways is not there; new technologies and methods of delivering tertiary education will provide a solution.
- Those entering the workforce today may have to be retrained at least five times by the end of their working life to keep themselves gainfully employed. The planet's workforce at the turn of the century is expected to number some two billion; taking such individuals out of work for training is a waste of time and is not acceptable both by individuals and employers; self-instructional methods will have to be the answer.
- The number of youths out of school, globally, numbers 100 million; to bring them into the mainstream and a personally satisfying life will need carefully constructed and delivered education; present classroom methods may not be suitable for one reason or another; distance learning methods should be tried.
- Seventy to eighty percent of cancer deaths in the USA can be avoided if the behaviour associated with such deaths can be altered via mass educational programmes.
- Five to ten million people are estimated to be infected with the HIV virus associated with AIDS. The only assured cure at the moment is prevention: people learning what the virus is, how it is transmitted and altering their behaviour accordingly.

Technology does not teach: it enables the delivery of teaching and shifts the responsibility of learning away from the teacher to the learner, thereby transforming the relationship between teachers and learners. We are entering an era where both multimedia and hypermedia are bringing together, under one umbrella, the essence of print, audio and video signals, computer assisted instruction, computer conferencing and computer assisted group learning. At the heart of this teaching and learning transaction will be the institutions and teachers in them. The challenge for the education community will be to create pedagogies of learning that will set the educational parameters within which the technologies will contribute to effective learning. Even before the arrival of the newer technologies, the community of distance educators across the world have been at the forefront of a paradigm shift that has been taking place over the past 30 years both by design and circumstances. These circumstances dealt mostly with the users of distance education who needed:

- Increased and flexible access to information.
- Increased and flexible opportunities for interaction between mentors and peers.
- Increased students time on task.
- More opportunities to control their own learning.

- Learning to be more relevant to their daily lives.
- Greater response to their individual circumstances.
- Regular and sensitive encouragement.

By design, in responding to the needs of learners, distance education has been instrumental in making some fundamental changes to long held beliefs about where, when and how teaching and learning should take place; what is critical is not where students are located but whether they can interact with a teacher or teaching programmes. Bringing about the desired levels of interaction between students, teachers and programmes will mean subscribing to a list of "good principles." [Adapted by William Renwick from Arthur Chickering and Zelda Gamson in *Good Practice in Undergraduate Education*.] Let me share them with you, because many of you will recognise them:

1. **Effective learning takes place when courses are carefully created** : Admittedly, courses are created out of an assessment of needs, a teacher's experience and knowledge, institution wide consultation or simply a continuation of current practice. Courses may vary greatly but they have one thing in common - they are a related and cohesive body of knowledge which lead to some clear outcome. Whatever is the genesis of a course, great benefits can be derived by the users of a course when they receive comprehensive information about the course, what benefits they can derive from it, what they should do to prepare for it and how they will be assessed.

2. **Teacher-learner contact** : Frequent communication between learners tutors/teachers is a great motivating factor for successful learning. Teacher interest is not only essential to overcome learning problems but also enables students to measure their own value systems about their studies as well as their own future. Technological tools assist in this task.

3. **Active learning**: Students do not learn much from memorising facts and reproducing set answers, they derive greater benefits by being active in their learning. Talking, listening, discussing, writing and relating their own experience and applying it in the context of their lessons are all part of an active learning process. Good distance teaching does this.

4. **Peer support in learning is highly beneficial** : Sharing one's own ideas and responding to the ideas of others improve thinking and increase understanding. Learning can improve by it being a team effort rather than a collection of solo performances. Study cell facilities provide tremendous opportunities for peer supported learning.

5. **Feedback** : Knowing what you know and what you do not know can be a focus for future learning. Regular feedback on their performance helps students learn better and deeper.

6. **Setting tasks and deadlines** : Using time effectively is critical for students; what this means to teaching is a clear understanding of appropriate pacing of learning through tools such as assignments, tutorials, television programmes and/or radio lessons.

7. **Pathways to learning** : Must be mapped to facilitate different styles of learning.

Bill Gates, the enormously successful technological entrepreneur, in his recent book, *The Road Ahead*, reflected that ***we are all beginning another great journey. We aren't sure where this one will lead us either, but again I am certain this revolution will touch even more lives and take us all further.*** It seems to me that how much further we want to go as educators and as agents of change is capped not by technology, not even by resources but by our own imagination. Relying on present knowledge of instruction and the technologies of print, audio and video, with human intervention at specific times, will not be enough for the agenda of the 21st century. We are required to put in place organisations and people who can deliver courses at any location chosen by the learner; we need partnerships and associations which will work in a linked network of providers, thereby providing unlimited choice to the learner; we need new strategies for course development and certification; and we need arrangements that will link students among themselves; link students to tutors and tutors to tutors; we need a fresh look at our curriculum and we need a curriculum that is dynamic - not one which confines learners to fixed points but one that is seamless and open. I am told the technology to do all of this is there. What is needed is a vision to make it happen. As the seer said " *where there is no vision people will perish*".

Mr. Chairman, friends and colleagues, let me conclude this lecture by quoting one hero (Arthur Clarke) of mine: ***"men need the mystery and romance of new horizons almost as badly as they need food and shelter. In the difficult years ahead we should remember that the snows of Olympus lie silent beneath the stars, waiting for our grandchildren"*** . My other hero, the person whose memory we are observing this evening, would agree to this most enthusiastically.

Thank you.