CONVOCATION ADDRESS II

HIGHER EDUCATION : PAST, PRESENT AND FUTURE

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More than ever before in human history, the wealth-or poverty-of nations now depends on the quality of their higher education. Those with a larger repertoire of skills and a greater capacity for learning can look forward to a lifetime of unprecedented economic fulfillment. But in the coming decades the inadequately educated will face a life scarcely better than one of quiet desperation.

As knowledge becomes more important, so does higher education. Countries need to educate more of their young people to a higher standard. A degree is now a basic qualification for many skilled jobs. The quality of knowledge generated within higher education institutions, and its availability to the wider economy, is becoming increasingly critical to national competitiveness.

Improving higher education is therefore in every country's interest, and has legitimate claims on public funds.

It is said that almost every seven days, a new university campus is opened to students somewhere in the world, and in the following week at a different location another university would begin its operations.

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The developed world is reacting promptly with education, where it is a major political priority. High-quality human capital is developed in high-quality education systems, with tertiary education providing the advanced skills that command a premium in today's workplace. Most developed countries have seen a substantial rise in the proportion of their young people receiving higher education. Life-long learning is also being used to help workers adjust to rapidly changing economies.

If we consider what is happening in the developing countries, it will be important to ascertain whether they would be able to compete in the knowledge economy or whether they face a future of increasing exclusion, unable to develop the skills required for this new century.

Knowledge is said to be like light-weightless and intangible. Therefore, it can easily travel the world, enlightening the lives of people everywhere, though billions of people still live in the darkness of poverty. In part at least, people live in darkness because to turn on the light, they cannot reach the switch, which happens to be "education". Higher education has never been as important to the future of the developing world as it is right now. It cannot guarantee rapid economic development-but sustained progress is impossible without it.

Higher education simultaneously improves individual lives and enriches the wider society, indicating a substantial overlap between private and public interests in higher education. Higher education raises wages and productivity, which makes both individuals and countries richer. It allows people to enjoy an enhanced "*life of the mind*," offering the wider society both cultural and political benefits. It can encourage independence and initiative, both valuable commodities in the knowledge society.

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An important ingredient of the public interest in higher education, is its role in creating a meritocratic society that is able to secure the best political leaders, public servants, doctors, teachers, lawyers, engineers, business and civic leaders. These people should be selected from the most educated, as an economy is less likely to develop when they are chosen from the wealthiest, rather than the most talented.

It is encouraging to note that steps are being taken in this country to expand the quantity and improve the quality of higher education as a top development priority. In any country the importance of higher education depends very much on the products it delivers to the society and the role it plays in overall nation-building activities as a whole. Higher education should be able to discharge its responsibilities and therefore should adjust itself to the need of the time. No country can claim complete success in achieving these traditional "nation-building" goals, but in most countries some progress has been made on several fronts, such as expansion, differentiation and the knowledge revolution. These are not only changing higher education but also the environment in which they exist. These powerful influences in our country have caused educationists to look afresh at the systems of higher education and think creatively about what they could achieve. .

It has become necessary to provide increasing opportunities for students - especially those from less affluent backgrounds - with specialized skills, because specialists are increasingly in demand in all sectors of the economy. In doing so, it would be necessary to produce a body of students with a general education that encourages flexibility and innovation, thus allowing continual renewal of economic and social structures relevant to a fast changing world. Such students should be taught not just what is currently known; rather their knowledge should be kept updated, so that they will be able to refresh their skills as the economic environment changes. It would

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also be necessary to increase the amount and quality of in-country research, thus allowing the selection, absorption and creation of new knowledge to be done more efficiently and rapidly than is currently done, within the country.

Considering the current situation, any higher education institution definitely needs a clear mission supported by a well-designed academic programme. The most important aspects to be considered for success would be the need for high-quality staff, committed and well - prepared students, innovative approaches to teaching, and creativity.

Knowledge has become a springboard for economic growth and development, making the promotion of a culture that supports its creation and dissemination, a vital task. Until very recently face-to-face instruction has accounted for an overwhelming proportion of all-formal education and training. The unit costs of face-to-face teaching are relatively inelastic and insensitive to volume. To reduce these costs significantly alternative instructional methods are required. However, there are few instances where alternative approaches to education and training have reduced costs to such levels as to have a noticeable impact on national education budgets. Meeting this challenge will require more cost-effective methods of education and training. It is particularly important that higher education addresses this issue.

To supplement conventional formal education in Sri Lanka, over two decades ago distance education was introduced. Distance education is an increasingly important part of the higher education system, with its ability to reach students in remote areas and also to address the higher education needs of adults.

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The teaching methods used in the early Christian Church illustrate different approaches to education and training, highlighting some key concepts of modern distance education. Jesus Christ taught face to face in small and large groups. Teacher and taught had to be present personally at the same time for what is now called "*synchronous communication*". Paul, His apostle commonly called Saint Paul in the Christian world faced the challenge of instructing a dispersed community. He developed a method of distance teaching. He wrote letters to individual churches expecting the local church elders to disseminate the information to the community who assembled together for worship. This is analogous to study groups and day schools through tutors in modern distance education. These hand written letters or epistles of Paul the apostle were available for self study even at home, not only for those to whom they were written, but even for the believers in this day and age.

The intervention of printing and the introduction of universal postal services facilitated distance education to reach individuals in their homes or places of work. Asynchronous communication between individuals for educational purposes became possible. This led to the offering of correspondence courses. Another variant of distance education began in Britain in 1836 when the University of London introduced its external examination system. While the original aim was to offer a credible examination service to people studying in small colleges, by the end of the century, it had grown to a world wide examination system and service.

In the past, distance learning was seen mainly as a cost-effective means of meeting demand. Despite inadequate recognition, it provided quality comparable to traditional modes of education.

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Appreciable growth in the mobility of learners in this country causes great difficulties and hindrances in the process of their acquiring higher knowledge and upgrading skills through the existing systems of higher education. Some of these traditional systems often tend to be quite rigid and are incapable of absorbing pressures caused by the movement of students. Such movements of learners seeking higher education through the distance mode are even more prominently visible, and in many circumstances, are absolutely unavoidable due to pressures of job placements and requirements. Another fast growing change in the patterns and perceptions of seekers of higher education and training is the substantial increase in the number of learners who cannot undergo higher education through a system of uniformly and rigidly prescribed time schedules. The only way the aspirations of this category of learners can be met is by providing education, which can be completed at their own pace and as per the time available to them.

It is now more clearly understood than ever before, that making provisions to meet challenges influenced by mobility of learners, time available to them and several other constraints, is absolutely crucial for the upgrading of knowledge and skills for development. Furthermore, cycling and recycling of human resources is required for national, regional or international development for the betterment of our people and societies. In essence, we have to develop, promote and establish systems, which could provide and facilitate flexible and easily accessible education, and upgrade skills to meet the contemporary requirements of heterogeneous groups of learners with multi-dimensional expectations and objectives.

In this changing scenario and in the background of a very dynamic process of transformation of our societies and environment due to an amazingly rapid growth of new technologies and their powerful applications, it has become increasingly important to establish a functional and well defined

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system for credit accumulation and transfer between different programmes of learning within an institution and those in other institutions in our region. The new technologies have also given a new hope to facilitate and fasten our efforts to meet the desired goals.

While horizontal differentiation is driven by the increased demand for higher education, vertical differentiation is a reaction to the demand for a greater diversity of graduates. In general, economic development is associated with a more refined division of labour and therefore higher education institutions have an essential role to play in imparting necessary skills.

While during the past 20 years, distance education has been able to free itself from the low status associated with 'correspondence education', it would be necessary to put into context the distance education model what it is today, placing it in the wider framework of higher education, and ask whether new technologies might make it more or less competitive.

The history of distance education reveals three salient features:

- There are two basic approaches to distance education: remote-classroom teaching (synchronous communication) and correspondence study (asynchronous communication).
- Distance education encourages the division of the processes of teaching and assessment into separate operations, which be carried out by distinct individuals or institutions in different locations.
- Technological developments have determined the progress of distance education.

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It is helpful to trace the evolution of distance education in terms of the technologies on which it has drawn. According to Holmberg, distance education operates by conducting a 'guided didactic conversation' between the institution and the student. The separation of institution and student in both time and space requires the use of media for communication between them. Distance education has evolved by the progressive incorporation of additional media into the earlier versions of correspondence tuition and remote-classroom instruction.

As distance education has evolved, so have the roles of student, teacher and institution in the teaching system.

Key features of the pedagogy of distance education could be considered as -

- in traditional education a teacher teaches. In distance education an institution teaches and according to Keegan, this is a radical difference.
- the correspondence tradition of distance education is student-centered and based mainly on asynchronous communication and interaction.
- the remote-classroom approach to distance education is teacher-centered and based mainly on synchronous communication and interaction. with the term 'interaction' not being used in a consistent manner in distance education.
- the knowledge media may bring the correspondence and remote-classroom traditions of distance education together.

While the structure of the education and training industry has changed considerably in the recent decades, for the growth of distance education, four important favourable trends have been :-

- growth in demand from working adults for part-time education,
- readiness of governments to invest in distance education,
- development of communication media, both mass media and personal electronic devices,
- availability of computing systems to support complex logistics.

In addition to these, there could be other trends, which could create a more competitive industry:

- growing numbers of universities offering part-time and distance education courses;
- business and industry have expanded in-house training schemes;
- government funding formulae, which would encourage competition between institutions.

The principal challenge to the flexibility of universities is the changing nature of the student body. A definite advantage of distance education is its contribution to lifelong learning. The term 'lifelong learning' is now part of the vocabulary of the industrialized world. It describes the need for people to continue their education and training throughout life because they will face multiple careers in changing economies and enjoy longer lives in evolving societies.

It was predictable that the spreading culture of lifelong learning would eventually change the attitudes of young people to their initial post-compulsory education. Academic programmes designed to launch graduates into lifetime careers are unlikely to be the best preparation for lives of multiple careers and regular job changes. Moreover, if work and study are to be combined throughout life, why not combine them from the start by finding a job and taking a degree part-time? For University undergraduates for example finding a job, now seems more of a challenge than obtaining a degree - and where employers appear to value work experience as much as a degree - the combination of work and study is a sensible option for young people.

In this connection, in the process of social reconstruction, the academia and the educational institutions have to play a participative and significant role. There have to be some drastic changes in our attitudes and perceptions about higher learning. Some of the institutions of higher education in our region are providing excellent research and academia. Although this is something to feel proud about, in addition to support extended for research for the sake of advancement of self enquiry and knowledge, it would be necessary for the store houses of knowledge to look around and play a decisive and effective role in transforming knowledge into action for social reconstruction.

In order to meet all these demands it could be concluded that the traditional conventional system, being able to handle only small groups of learners, has great limitations. In fact these institutions have not been developed with the aim of conducting massive educational or training programmes and to meet the expectation of life long learners, particularly those with different levels of academic achievements.

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Available resources of other systems however can be harnessed by using Open Distance Learning (ODL) technologies to incorporate and disseminate their impact for much larger target groups of learners. It is in this area that the other systems of education have not been able to contribute to any appreciable degree of success. Some ODL systems have successfully made a dent to contribute to the noble objective of efforts leading to the betterment of our society.

Therefore it is essential that social reconstruction should include massive awareness programmes, skill up-gradation programmes, and programmes of training of trainers. In general no significant intervention was made until the last decade by the institutions of higher learning in these areas. However, emerging trends in ODL systems very actively and successfully have handled massive programmes, which are so crucial for various areas.

Furthermore, ODL systems can make an impact to provide massive awareness programmes to meet the expectations and aspirations of different cross sections of our societies covering various age groups of our people as by using adequate communication technologies, ODL would be able to reach remote and less developed areas.

In order to meet some of these objectives, conventional universities become dual-mode institutions and offer some courses through distance education. The adoption of distance education by conventional universities should encourage universities dedicated solely to distance learning to assess their competitive advantages. By emphasizing that distance education is simply a component of the wider enterprise of education and training, this development also counters the tendency to claim that distance education is a separate academic discipline.

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While it is expected that 'distance teaching universities can be cost-effective in comparison with conventional universities, it is said that very few of the distance teaching universities have proved their ability to produce graduates at an average unit cost significantly below that of conventional universities in the country, with the exception of the UK Open University, as stated by Rumble and Keegan in 1982, nearly two decades ago.

Since that time, various studies have established the superior cost-effectiveness of the dual mode universities, but not necessarily of smaller distance teaching institutions or of the distance programmes of conventional universities.

The dual mode universities have allowed countries to expand access to higher education much faster than would otherwise have been possible. The lower unit costs of these universities, compared to conventional universities, have impressed policy makers because distance education has been the basis of the success of these universities.

With the modern technology of the World Wide Web it now seems possible to offer distance education throughout the globe, albeit only to the tiny fraction of the world's population that currently has access to this technology. This should be viewed in the context that most people in the world have yet to make a telephone call.

Dual mode universities have played an increasingly integral part in the higher education system of their countries. With governments and employers now encouraging conventional universities to adopt the methods of distance education, the different types of universities will need to work together more closely and many of their programmes will have a greater focus on lifelong learners in the home and the workplace.

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The dual mode universities have made considerable progress in establishing their reputations with the public and their credibility within the academic community. However, these gains cannot be taken for granted. The rapid expansion of distance education now underway in universities of all types, could tarnish the new image of this mode of learning unless close attention is paid to quality. The production processes are a key difference between the present operating methods of conventional universities and the dual mode universities.

Lest it is misunderstood, this shift is not a move from campus-based to distance learning, rather it is a shift to an integrated, networked model that gives to the student both the initiative to learn and the access to the necessary learning resources. It lessens the control of the conventional universities and strengthens the integrity of the distance model.

As conventional institutions adopt various techniques of distance teaching, some use the term 'flexible learning', also called 'multi-channel learning' to describe their activity. The aim is to augment or replace conventional classroom activities with a range of technologies such as interactive multimedia, computer-mediated conferencing, and e-mail. The strengths of this approach are flexibility and interactivity. A weakness, according to Taylor, is that it does not yield refined study materials. However, the role of specially prepared materials is a matter of controversy. For example, Bell and Tight argue that such materials are not essential and that authors such as Lewis place too much emphasis on this component of distance education.

Criticizing universities is today a popular pastime in many countries. The precise strictures vary in content and force from one country to another but five accusations have wide occurrence:

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- National university systems are not accommodating the volume and variety of student demand;
- Higher education is too costly and does not deliver graduates with the skills employers value;
- Teaching methods are too inflexible to answer the needs of diversifying student body;
- The quality of higher education is not assured;
- The sense of the university as an academic community is being eroded.

Can new technologies - and new uses of old technologies - help to resolve the crisis of higher education? Will they help universities deliver the radical and continuing improvements in cost-effectiveness and value for money that are needed? Will they enable institutions to answer questions about quality with more confidence? Can they help to re- create the spirit of community within the academy?

The majority of the world's universities carry out most of their teaching activities on a campus. Such institutions face problems due to demography, changing political attitudes to higher education, and rapidly evolving technological infrastructures.

Many universities now see new technologies, both systems and hardware, as an important part of their strategy for change. Many believe that universities will become more efficient if they take advantage of the information infrastructures now being built. The response of universities to these challenges is influenced by their previous investment in campus facilities and by an ethos that resists seeing university teaching and research as a production process.

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Technology-based teaching will create new educational systems. They will eliminate geographical and jurisdictional boundaries, integrate academic and real-world concerns more closely, and give students wider and more affordable choices.

Universities feel the growing pressure to develop technology-based course delivery systems using the information infrastructures now evolving in many countries. As they respond to such pressures, they may have to change their approach to teaching as it would closely resemble distance education, notably in becoming more learner-centered.

The world of the 21st century will require dramatic improvements in the cost-effectiveness of higher education. Although the dual mode universities have already set a new standard, much more is required. Although a drive for cost advantage will usually overlap with a quest for differentiation, it is helpful to distinguish between the two objectives. Does the university seek primarily to reduce the costs of instruction or is it mainly concerned to make its teaching more distinctive?

The unit costs of teaching can be cut either by adding more students without commensurate increase in expenditure or by making instruction more efficient without changing student numbers. British higher education adopted the first approach, in a striking manner, in the period 1988-94. Student numbers went up by 50% and unit costs went down by about a quarter.

As universities make choice about differentiating through technology, the question of what is valuable to the buyer will be fundamental. All universities aim to create competitive advantage for the buyer through their course. As media evolve, first the distance teaching universities and then conventional institutions will expect their students to acquire various

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technological devices for use at home such as video-cassette recorders, computers, modems, so that they can take advantage of the new possibilities.

Competitive advantage can be achieved by cutting costs or providing a distinctive product. Universities that incorporate new technologies into their teaching would score on both fronts. In the foreseeable future, differences in teaching methods will be more obvious to students than reducing costs especially as they may face the additional cost of buying new devices for their personal use. Technology is a major lubricant of competition. Changes in technology transform the structures of industries and are great equalizers. Although the education industry has traditionally been rather impervious to technological developments this may now be changing.

The analogy with the use of technology-based teaching methods by universities is clear. Some students will always be attracted to new technology for its own sake (the innovators). Others will quickly see the potential for more convenient and efficient learning (the early adopters). The key question is, will the pragmatic solid citizens, on whom the success of the university depends, be attracted to form an early majority of users?

When universities move to technology-based teaching methods, students are likely to face additional expenses as well as the challenge of change. Making the new delivery systems attractive to students is therefore a crucial element of any technology strategy.

The key lesson is that the early enthusiasm of some students may not be a representation of the majority. To attract the majority a university must apply technology to the teaching of particular subjects so that students' learning is more effective and enjoyable. This means producing a whole product that integrates course materials and tutorial support.

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If students find technology useful in particular courses they will gradually acquire enthusiasm for the idea of technology-based learning. If this is done well the university will gain competitive advantage by being perceived as a reliable first choice for such courses.

It would be necessary to find out how universities should develop a technology strategy within their planning processes in order to examine the issues conventional universities must consider in developing such strategies. The thoughtful and skilled application of new technology also provides important opportunities for universities in their administrative and operational activities. Collaborative ventures that bring together the academic resources of conventional institutions with the logistics capacity of the dual mode universities have great potential for providing students with the choice of a well-supported course.

Conventional universities embarking on distance teaching tend to focus first on producing learning materials. They should also give attention to student supported opportunities for peer interaction to the extent that resources for these developments may have to be found by cutting back on other activities. The cost- effectiveness of tutorial provision is a key area where technology can help. This implies that the development of a university, technology strategy requires debate, time and leadership. Such a process must inspire a vision of the future that is attractive to all concerned.

The principal routes to competitive advantage are either cost leadership or differentiation. Technology can help a university travel either route. A challenge in implementing a technology strategy is to balance the discipline that support cost leadership with the innovation and the risk factor that yields differentiation. In order to determine where technology can be applied to greater effect in reducing costs or creating valuable

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differentiation, a university needs good information on the costs of its activities. Lack of such information is a weakness in most institutions.

An effective technology strategy must start from the skills and resources already available in a university. This is not just a question of the skills and resources in a place, but how well they work together and whether the university could create new capabilities by combining them in different ways. There is another reason for starting from a university's academic strengths when identifying the capabilities on which to base a technology strategy. Distance - taught or technology-based courses are much more public than classroom instruction. The university should be aware that its total image in quality, depends on these new offerings. Therefore, it should put its best academic foot forward.

In considering financial resources for a technology strategy three points could be made. The first being that technology should be treated as a recurrent expense and not a capital expense. Inappropriate accounting hinders a technology strategy by focusing too much on large equipment decisions.

The second reason being that, to make these adjustments successful, universities will need clarity of purpose based on a few simple ideas, such as the fact that students will be the final arbiters of the technologies that are adopted as students are more likely to prefer technology-based teaching if it yields a complete learning experience and is well integrated with other university activities.

The third reason is that, new technologies have considerable potential to enhance the blend of knowledge, community and conversation, which is the essence of the university. They can increase the richness of interaction among students and give them access to scholarships more than ever before.

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The knowledge medium through technology is successfully bringing together the traditions of distance learning experiences and other university activities.

Finally, it could be said that, incorporating new technology into teaching could be immensely beneficial to universities as academic communities, through these technologies will make instruction more of a collective endeavor, teaching will recover some of the intellectual vitality and prestige, which has for too long been reserved for research. Furthermore, the application of these technologies in teaching contains much uncharted territory where there is splendid opportunity to develop knowledge about them in a systematic manner.

The universities, which have greatly expanded access to higher education, using previous generations of technology, have already demonstrated that where academic learning is concerned, application of technology has been more effective.

Developing a technology strategy, tests the effectiveness of a university's collegial decision-making and human resource management. Those institutions with a high morale and a collective sense of purpose will have an advantage because the capabilities required for a successful strategy, emphasize coordination and integration of activities across the university processes for the promotion and preference of staff should place value on activities that advance the technology strategy.

The most important skills and resources for a technology strategy are those capabilities that are durable and difficult to replicate because they combine particular strengths of the university in a unique way. For conventional universities a wide technology strategy is needed to secure the benefits, in space utilization and learning productivity, that new methods can bring.

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Some substitution of capital for labour in the teaching function should be a declared aim.

It is clear that the knowledge media through multimedia centres can help universities respond to the rising expectations of those they serve. Equally clear is that, if they are to take full advantage of the opportunities that technology offers, universities will have to make some difficult adjustments. Even institutions that do not elect to teach students off campus, will need to adopt some of the approaches that have been developed for distance education. These include focusing on learning productivity, requisition notions of institutional quality and changing the deployment of faculty within the teaching function.

Finally, for your information, let me pose a question. "What is education?"

This is an easy question to ask and a difficult one to reply. As can be expected, different people give different answers. According to Joseph Addison, "education is a companion no misfortune can depress, no crime can destroy, no enemy can alienate, no despotism can enslave. At home, a friend, abroad an introduction, in solitude a solace, and in society an ornament. It chastens vice, it guides virtue, it gives at once, grace and government to genius. Without it, what is man? A splendid slave, a reasoning savage".

A reply to a question given by Aristotle also emphasizes the importance of education. When asked how much superior, educated men are to those who are uneducated, he replied: As much as the living are to the dead !

If education is this important, higher education must be even more important.

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Therefore, let all of us who have, in some way or the other been involved in both the conventional system of education and also the distance education methodologies strive to promote an integration of both these systems for the benefit of the future generations and the development of education and higher education in this country.

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