

## GLOBALISATION AND EDUCATION AN OVERVIEW

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### *Introduction*

We live in an era of globalisation – there can be no going back on it.

Countries have little choice whether to globalise or not. Globalisation is a rapidly ongoing phenomenon that generates a constant debate on its negative aspects. A far more profitable exercise would be to understand its manifestations, and the forces that drive it. This would help us in planning how to derive the maximum benefits for society as a whole.

No specific force or entity controls the direction and tempo of this new phenomenon. It represents a highly interactive system which has had, and will continue to have, great implications for the future of society.

Any discussion on the effects of globalisation on the field of education is incomplete without an understanding of the various aspects of this new phenomenon: the driving forces that have brought this about; its essential characteristics which will reflect in its impacts; the various areas of human activity where its manifestation can be seen in most tangible forms (e.g. economic and financial, social, cultural, and educational); and the manner in which the manifestations in these various areas interlink and constitute feedbacks.

### *The Driving Forces of Globalisation*

The phenomenon of globalisation has become possible primarily because of the advances that have taken place in science and technology, resulting in major disruptive technologies across a range of areas. The invention of the jet engine and a series of innovations that have brought about major changes in the scale of transportation modes has led to the ability to move people and goods using wide-bodied jet aircraft, giant ocean-going vessels, containerised transport and pipeline systems.

Communication has been enhanced through the use of broadband telecommunication channels. This has been made possible through fibre optics and laser technology, satellites, and wireless communications, all based on scientific discoveries (over the last century) and related technologies. Today technology has the power to connect every one of the six billion individuals that constitute the population of the globe – though this may not actually happen. The power of this connectivity on the human psyche and the areas of social interaction are truly profound.

Well before the advent of globalisation, Jean Jacques Rousseau had proposed that man was good by nature, a ‘noble savage’, like all other animals, but was corrupted by the growth of social interdependence converting the *amour de soi* into *amour propre*, which is unnatural. The result has been pride and the drive for self-aggrandisement.

Through these communication channels, one can move data from any one point to any other point on the Earth. The data can be instantaneously processed and analysed on computers, then displayed on screens of computers, mobile phones, television sets and the like. People and goods are moved at speeds that are still tangible; but data (e.g. bits) can be moved at the speeds of electrons and electromagnetic waves. This capability has meant that financial resources can be transferred on an almost instantaneous basis, thus transforming the economy.

The power of information technology has resulted in wholly new ways of communication such as electronic mail, search for information on the World Wide Web, digital storage and retrieval of all types of information, call centres, business process outsourcing, etc. It has enormously increased the power of the media. This revolution has created a global village and the emergence of the concept of a knowledge society.

It is true that a significant part of global society lives with the legacy of the past: as for example, the less developed nations, and in varying degrees the disadvantaged in all nations. Corresponding to this, there are the many divides that have been the subject of extensive discussions: the economic divide, the digital divide, the knowledge divide, etc. But overall, we now have new capabilities and powers available to human society as a whole, that had never been dreamt of before. Globalisation will have fulfilled its true purpose when these capabilities are used for the greatest good of the largest numbers, and not for the self-aggrandisement of a few.

In a lecture at The Royal Society in 1992, Akio Morita, one of the founders of Sony, had emphasised that science, by itself, does not result in technology and cannot be equated to technology. In addition, for the suc-

successful application or utilisation of technology, there is need for something which is different – ‘innovation’. Innovation is essential in all phases associated with a product such as finance, management, law and marketing if knowledge through science has to manifest itself as capabilities available to human society. Innovation calls for a spirit of entrepreneurship.

Other factors through which globalisation manifests itself, such as economics and finance, are equally important for ensuring that it reaches fruition. Thus, without an economic incentive – as for example, a market that would readily accept a product when delivered – a technology will not fructify; for that to take place, financial resources are essential. All of these constitute a feed back system that is connected.

### *Characteristics of Scientific Advance and its Impact on Globalisation*

The most important feature of the advance of science and technology is the extremely rapid exponential rate at which it is taking place; the doubling time is estimated to be about 15 to 18 months. This is more familiarly known as Moore’s Law in the areas of computers and microelectronics. It has been a characteristic of scientific and technical advances since the early 1900s, and in very different fields such as biotechnology.

This rate of growth of science and technology will trigger an advance in globalisation at a similar rate of growth. It is important for society, and various functioning elements that relate to it, to be able to adapt to such change. The capabilities provided by education will be the key to this. It would also be important to reflect on whether the average human brain can cope with such rapid change on a continuous basis. The issue is: what other effects will there be on evolutionary and other processes in respect of brain development and functioning, with its impact on the body?

Francis Bacon had remarked: ‘Knowledge is Power’. It is this power that drives the phenomenon of globalisation that we witness today. Those who have knowledge, or the means of acquiring it rapidly, are the ones who stand to benefit most from the advances of globalisation. A race is on here, the outcome of which will depend on the ‘survival of the fittest’. Education will be the key to that survival.

A second characteristic of the advance of science and technology is the number of disruptive technologies with a major impact that are emerging in parallel. These represent wholly new ways for the functioning of human society.

The third important characteristic is the requirement of very large numbers of trained professionals for the development of new knowledge,

as also for its application and utilisation. Not only is this a matter of scale, in terms of the numbers required, but also of the type of education now called for. This has to be highly professional and, unfortunately, narrowly technical. The services sector will gain in importance as activities in society become increasingly knowledge-based. As a result of this basic change, education has to provide for the development of human resources that is needed for this sector.

The Industrial Revolution caused the present industrialised countries to move from being major agrarian economies to predominantly industrial ones. The energy-intensive technologies and machine-made products resulted in a manifold multiplication of productivity, as also the mass-scale production of items with a high degree of uniformity. This brought costs down, and made abundant mass-consumption possible. It represented a step function shift in societal functioning. Engineering as a major profession, and as a sector of education, came into being as a response to this. With time, various sectors of specialisation developed in engineering, such as civil, chemical, electrical, mechanical and electronic, and an increasing number of other sub-disciplines. The products that were designed and manufactured with engineering capabilities also called for large numbers of trained personnel at lower levels, both for production as also for maintenance and servicing. From a pattern of skilled workmen with their apprentices, the scale enlarged to an extent where vocational training programmes on a large scale, such as in polytechnics and industrial training institutes, were required. Engineering colleges became an essential part of the university system, growing with time to the extent where they have become universities in their own right.

Similar to the advent of the industrial-age economy, we now find the corresponding needs of a completely new economy. Areas of business, industry and services have come into being that was not contemplated a quarter of a century ago. Our educational systems have to cater to the requirements of very large number of professionals in these areas.

### *Economic Aspects of Globalisation*

A major consequence of globalisation is the conduct of economic activity on a global basis without any reference to national boundaries. It is a successor to earlier movements towards trade on a free basis, without restrictions of any nature, particularly financial, in the form of duties and levies. Over a period of many years these issues were debated extensively at

a world forum referred to as Global Agreement on Trade and Tariffs (GATT). A body referred to as World Trade Organisation (WTO) has since been brought into existence. Further, the discussions now relate not only to physical trade but also various other aspects of economic activity that are relevant to the deeper economic integration of countries: as for example, finances, investments, services, technology. If any country places undue restrictions on free trade in any of these areas, in violation of international agreements, it will be liable to action. This is recognition of the highly interconnected and inter-dependent world that we live in.

The concept of globalisation involves the process of scaling from a national situation to a global situation. In the case of economic activities within a country, all the inputs required for production and services are obtained from any part of the country and made use of at the appropriate locations within the country. Thereafter they are marketed throughout the country; even in this, various barriers are sought to be erected and financial incentives and disincentives are laid out for the benefit of parts of the country or specific stake holders. Similarly, under globalisation, the same is attempted with a simple substitution of 'country' by 'world'. A seamless and borderless world would facilitate the movement of ideas, finances, resources and goods – and indeed of people. Restrictions on the various types of activities and flows would need to be kept to a minimum, subject to any locale-specific needs.

This would be an ideal situation – but the world is not a level playing field. There are, on the one hand, countries that have become well developed over long periods of time. These are referred to as the rich countries of the North. Amongst these, it is possible to implement the ideal practices of an interdependent economic system. Even here, because of age-old vested interests, there are barriers; we see the disputes between Europe, North America and Japan. We then have the so-called countries of the South, of the Third World, which are significantly underdeveloped. In between are the countries which are trying to emerge from this state of underdevelopment to become partners of the countries of the North; we thus have a highly heterogeneous and unequal set of players on the global economic scene. In this situation, the costs and benefits are unequal between the various parties. Relatively recently, industrialised countries colonised lands from which they could obtain commodities and raw materials; and these lands would, in turn, act as markets for the consumption of the industrial goods produced. This created a situation of dependence and exploitation that characterised the colonial period; it should not be repeated under the rubric of globalisation.

Often, the countries of the North regard the resource-rich countries of the South as desirable suppliers of resources, and equally as emerging markets for finished products. The controversies and conflicts relating to these issues have bedeviled the various WTO negotiations. Ultimately, it is essential to evolve a fair and just system that is not exploitative. Ethical considerations are generally ignored in this prevailing scenario of intense competition, and the focus on materialism.

There is a pressure of migration of people from the countries of the South, where populations have grown and continue to grow rapidly, to avail of the opportunities that they see in the wealthy countries of the North that have small or zero population growth. This aspect, however, does not figure in globalisation. The wealthy countries are prepared to allow migration from the South only of those who bring with them special capabilities of intellect or skills that would contribute significantly to their development.

In this era of globalisation, and its continuing growth, the comparative economic advantage of nations is becoming less and less dependent upon naturally provided factor endowments (e.g., land, labour and special resources) and more on the richness of human intellectual resources. Capital and productivity are crucial.

One important aspect of the newly emerging scenario is that the power of national governments is being reduced, since economic activity is being allowed to proceed on a global basis as defined by market forces. Earlier, some of the controls, levies and duties constituted sources of income for governments. The argument may be advanced that these new economic activities provide for employment, constitute a component of the gross domestic product (GDP), and result in foreign exchange earnings. Whilst this is true, it must be remembered that governments continue to bear the responsibility for massive expenditures relating to defence; infrastructure, development of science and technology; on social sectors such as education and health; and providing a social net for those who need it; etc. Governments are now able to raise fewer resources from society for all of this. Members of society with the resources now wish to spend these as they like; their wealth is regarded as an incentive for their entrepreneurial contributions to economic development. Generally, a market economy does not deal very well with those who are outside it, or with the social underpinnings of a good civil society. This is because economic impulses tend to be more powerful than social and cultural impulses. Unfortunately, there is no effective international cooperation that could be regarded as a form of supra-national governance to manage these market-driven forces. The market economy does not seem to recognize adequately that a good civil society is essential for its survival.

*Transformations in the Functioning of Society Brought About by Globalisation*

The most visible areas of societal functioning impacted by globalisation are the large number of technological artefacts that are now part of day-to-day living. These technological aids have entered our lives in the last century; and in the present form, in just the last few decades. Increasingly, life now revolves round services like fax, xeroxing, e-mail, search on the World Wide Web, ATMs, and instantaneous communications at any time and at any place. The tempo of life associated with this usage has now become commonplace affecting a large part of human society.

The impact of the audio-visual media exposes one to real time, or near real time, images of events happening all over the world. This leads to a picturisation in the human mind of global events, on an almost instantaneous basis, causing each person to closely identify with events that are taking place in the world as a whole beyond one's immediate neighbourhood. Unfortunately, various forms of unreal escapist entertainment have arisen through the overwhelming commercialization of the visual media. The entertainment and commercialization tend to focus on consumerism.

With the emergence of a market society one begins to see a globalised, homogenised culture in relation to clothes, fashions, cuisines, attitudes to sex, and the like. In many ways this culture is rootless. A rising tide of aspirations leads to a value system based on the monetary economy – the result is greed which tends to be insatiable, with the desire for self-aggrandisement divorced from ethical aspects.

However, there are also positive aspects such as the emergence of the hybridisation of cultures. Thus, the Blacks in the Americas have cultural traits inherited from their African ancestors, such as a sense of colour, and of rhythm. These are now part of many cultural forms that characterise the Americas.

The negative aspects arise when in the process of globalisation many valuable aspects of earlier cultural forms, including languages, are destroyed. Language is often looked upon as a technical device to communicate between two individuals and within social groups. However, any natural language ultimately represents a way of life and a way of thinking in which many aspects of the environment and of experiences are embedded. Thus, Chinese or Sanskrit will represent ways of looking at life, and arriving at solutions, in a manner which could be quite different from any one brought up in one of the western language groups. If destroyed, one will alienate oneself from past experience and intellectual direction in pursuit of the future.

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*Globalisation and Education*

This Joint Workshop explores at the impact and manifestations of globalisation in the field of education, which would have to be considered from the viewpoint of primary education, secondary education, vocational education, higher education and professional education.

The area of primary education lies essentially within the purview of individual nations and governments. This would cover the ability to read and write, a basic understanding of fundamental mathematical notions and a freedom to explore the scientific method that would enable finding possible answers to questions.

Though this is an area which has not been significantly affected by globalisation, there are some indirect impacts on this sector. For the bulk of society this is an area which has to be catered to by governments; this necessitates public resources. In the scenario of a rapidly developing market economy, governments have less access to resources; this is impinging on the scale as well as quality of education. The upper stratum of society is, therefore, increasingly taking recourse to private schools, which have resources and facilities, and thereby a quality of education that is in total contrast to the lack of these in the public schools. Private schools try to harmonise their levels to those that obtain at the best places elsewhere in the world. Those who have the wherewithal educate their children in such schools to prepare them for higher education that would be commensurate with the opportunities in the globalised world. This leads to a quality divide and an opportunity divide.

At the next level of education, which is secondary education, these inequalities widen considerably. Instead of education being a enjoyable process of learning, the children are pressurised into a pattern of obtaining certificates, higher levels of marks and into choosing subject areas that would give them the best opportunities for the next higher levels of education and their employment. At all levels in schools, the teaching and learning is directed towards the areas of future employment, particularly those that would result in higher emoluments. Such opportunities and emoluments arise significantly in areas of business, industry, particularly in service sectors, in finance and management. Regarded by society as the most desirable, it is towards these areas that the children gravitate; and subjects and courses that would enable this are at a premium. This constitutes a distortion of what should constitute a true educational process – in all of this value systems are given the go-by.

The area of vocational education is significantly the responsibility of nations and their governments. In spite of the fact that very large numbers of those with professional skills at the levels as imparted by vocational education are needed by society, there is a tendency for these areas to be looked down upon particularly in developing countries. It is often felt that only those who have been unsuccessful in getting into the profitable areas in higher education are the ones who opt for the stream of vocational education. There is, thus, a shortage of plumbers, electricians, various categories of mechanics, nurses, medical technicians and the like. Responsibility for this must lie with a highly skewed employment, salary and reward pattern, as also social value systems.

Higher education, including professional education, is still essentially within the purview of individual countries and in terms of numbers involved, the majority are financed by public resources. However, this is a sector that has been affected significantly by globalisation, with a great deal of privatisation and commercialisation making an impact.

The new globalised economy calls for specialized professionals. This has meant that instead of the old-fashioned broad-based university system, increasingly the tendency today is for universities to specialize in engineering, medicine, agriculture, management, law, and the like. Undoubtedly, the output from these institutions is of the highest quality in terms of narrow professionalisation and technical capabilities. However, the broader thinking individual, with developed value systems and well-honed civilisational qualities, as also a breadth in creative thinking, would still have to emerge from the old-fashioned liberal education. 'Renaissance Man'; 'a man for all seasons'; 'a polymath' were terms earlier used for individuals who were visionaries spanning multiple areas in creative thinking, in the arts, sciences, humanities, as well as in their own professional areas. Very few of this type will now emerge since the finest inputs are moving into narrower professional areas.

A large part of higher education and professional education is rapidly developing on commercial lines, as outputs from specific well-defined professional areas of such education find well-paying employment opportunities for which there is a huge, and growing, demand. This commercialization has particularly benefited from the fact that most traditional university systems, largely public and poorly financed, have tended to be complacent and resistant to change. This has caused some of the best members of the staff of traditional universities to move to commercial and professional areas in education that are available to them.

Except for determined individuals who choose subject areas of their choice, and pursue research in areas of their own interest, the vast majority, including the super-bright, are being pushed into a commercialised education system, which is turning out to be a process for generation of technical experts. The demands relate to professional competence and intelligence - all channelled towards the acquisition of power and wealth; knowledge is being regarded as a means towards this rather than as a product of scholarship in its own right. Education is being reduced to becoming as much of a product as anything else in the market place. In an earlier age, education was regarded as sacred; its purpose was to bring out the finest qualities and capabilities intrinsic to a human being.

It is abundantly clear that globalisation is making the most significant impact on higher education and professional education. In many ways, it is shaping priorities in defining subject areas and disciplines that are regarded as important, being related to employment opportunities and emoluments offered. It is also beginning to shape the research agenda in favour of areas and subjects that would have high value because of intellectual property rights, and would be relevant for activities that can lead to commercialisation. Scientific research, as conducted in academic institutions, is becoming increasingly more secretive because of confidentiality agreements with sponsors, and the fear of disclosing information that would be patentable. The transparency and openness characteristic of science is giving way to new requirements that could well affect the very conduct and further development of science. In many cases, one can also see a change taking place in the collegial pattern of academic institutions. There are several areas of activity where teachers merely wish to have secure academic positions for the access that this would provide them to a hardworking student population, which is most important for new ideas; but they also wish to minimise their teaching responsibilities, and are constantly on the lookout for well-paid consultancy jobs with earnings that are way above what their other colleagues might expect in other less-favoured disciplines.

Much of the above relate to the negative aspects of globalisation, arising from the commercialisation that is taking place in society as a whole, which is bound to have its impact on education. It is also important to consider what may be learnt from the manner in which business and industry functions, which would be of benefit to education. First, we must recognise that the present educational system has deteriorated into complacency. Teaching methods, curricula, disciplines and departments continue to be singularly devoid of innovation. Lessons may well be learnt from the man-

ner in which business and industry continue to produce new products to replace the old, in terms of performance, quality, and the like; and also develop new organizational approaches and pattern of functioning that are effective in the new competitive world. One cannot also bank on security and tenure, as academics or government servants tend to do; in the economic field employment and payments relate entirely to performance.

A further feature of business and industry is cost consciousness. It is time that academics awake to the realities of the world around, and deliver the maximum output at the minimum cost. While it is not required that market principles should be applied to education, work urgently needs to be carried out by educationists themselves, on methods of assessing cost effectiveness and monitoring it. The education system is in need of innovative change to be relevant to the unfolding scenario resulting from globalization.

I began with the premise that we should view globalisation from the perspective of deriving the maximum benefits for society as a whole. Having analysed the driving forces that have led to globalisation, the nature of the process and its impact on various sectors in the functioning of society, I would like to conclude on a positive note.

A powerful driving force of globalisation has been Information Technology. It can, and should, play a powerful role in education. We are witness to a very large number of IT related experiments in education that relate to: aspects of distance learning – virtual classrooms and universities; IT approaches to removal of illiteracy and in self-learning processes, etc. The problems foreseen in education are: of scale – how does one deal with such large numbers; of access to the world of knowledge; of ensuring that the best education is available to anyone who desires to have it; and finally of costs. Modern information technology has the power to yield positive answers to each of these issues.

It is possible through current technology to encapsulate the finest courses on any subject by great teachers, and to make these widely available in a direct, interactive distance mode, as well as in the form of video discs and such like, to reach very large numbers. This may be done at a relatively low cost. The expenditures involved are in the early priming stages, and not in the large-scale multiplication and dissemination. There are many experiments to prove that the basic techniques in information technology can be easily taught; in many cases, there can be self-learning processes. Once this is available, as also low-cost computing systems, it will be possible for the individual to use the internet and access the web. All of these are now becoming increasingly user-friendly. Once an individual

develops this capability it then becomes possible to access the world of knowledge; in many cases this can be done in real time.

Efforts are being made at the moment to create universal digital libraries which cannot only hold the printed word, but also material in other forms that need to be accessed, as for example, voice, video, etc. An inter-lingua approach to move effortlessly from one natural language to any other natural language is also being developed. Whilst these efforts at the moment relate to written language, the advances taking place in information technology should make it possible to carry these out with spoken languages. Though such movement from one natural language to another cannot easily deal with complicated aspects such as concepts, semantics, and poetry, it can do a great deal to ensure that existing languages, and the modes of thinking and culture that they represent, do not have to necessarily die out to be replaced by one or a few languages that everyone would have to master leading to a monolithic culture.

It must be recognised that the process of education cannot be converted to a mechanical process. The teacher will always play a very primary role in education, not so much to convey a mass of information or of techniques used for solution of problems, but more as a person who can bring out the intrinsic capabilities of the individual being taught. There is a human interaction between the teacher and the taught which brings out the fullest capabilities of the latter.

We need to utilise the powers and capabilities that have powered the forces of globalisation to further societal interests such as the preservation of culture, language and traditions, making it increasingly simple and inexpensive to relate to global as well as local knowledge systems, as also an understanding of motivational and cognitive forces to ensure that education prepares the ground for the development of better human beings, and a better society. The importance of value systems that make a good human being cannot be over-emphasised. It should be possible to ensure that the knowledge revolution that has propelled globalisation will lead to a new civilisational adventure in which the tested age-old value systems provide the direction and the powers of science and technology the motive force.