

## “ROLE OF EDUCATION IN GROWTH AND DEVELOPMENT OF INDIAN ECONOMY”

\* Ms. Anita P. Patel

Education is an abstract entity and its concept is dynamic. It is a continuous process. Education deals with ever growing man in ever growing society. The word “Education” originated from the Latin word which means “to bring up” or “to nourish”. Education means drawing out the hidden potentialities and qualities of the students. Education should clarify:-

Man’s relation with man,  
Man’s relation with the universe  
and

Man’s relation with God, the creator.

The term “Education” identifies it with the process of instruction and training that goes on in an institution of learning.” “The systematic development, cultivation of the natural powers, by inculcation, example etc.” – Funk and Wagnall’s College Standard Dictionary. Education is a social process which is responsible for fitting up the members of a social group, for life in the group. It is a “Directive, purposeful and creative process”. Education provides both experience to the individual and his adjustment to the environment. It is also a process which is individualistic as well as social in its nature. Education means growth and better behaviour. Education modifies the behaviour. It brings such changes in the behaviour which are for his good. In the past, the education was the filling up of the mind with stuffed knowledge and was not concerned with the present, but it was looking to the future. It is a “phase of the social process that is fostered by society for the purpose of fitting its members for life in the group”. Education is no more considered to be something which means hard labour. It is a joyous process. The attitude of happiness is essential in getting education. Educational process is dynamic in its nature. It brings about growth through learning and goal-seeking.

**Quality Education—A need-**Quality education is today’s need as it is the development of intellectual skills and knowledge which will equip learners to fulfill the needs of professionals, decision makers and trainers. In traditional system of education, students simply go to the class, passively attend the lecture, absorb whatever they can and focus on the examination to acquire high percentage. In this mode of teaching major emphasis is on theory teaching and syllabus completion. The education system needs

to make students as learners, innovators, scholars, researchers and trainers. They need to acquire in depth understanding of practicing world. They are to be made thinkers, problem analyzers and solvers, decision makers, group leaders. Education is the most powerful tool for change and hence it must train the minds of those being educated to cope with the change. The term “Education” is a part of learning which in one sense or another, under the control of men, with the degree of control varying according to circumstances. Therefore, education can be divided into various kinds—

**1. Formal education-**Formal education is that which is consciously and deliberately planned for the modification of behaviour, with a particular predetermined objectives in view. Formal education is undertaken in schools or institutions, specifically established and maintained for the purpose. It therefore, takes the form of schooling, tuition and instruction.

**2. Informal Education-**It is not pre-planned. It is quite incidental. This education starts from the very birth of child and continues till death. In short, it is that modification of behaviour which comes about necessarily and spontaneously, without any conscious effort for it.

**3. Milieu Education-**The kind of learning that takes place almost automatically. eg to walk on sidewalks; to eat certain foods and to avoid others ; to live in houses. Milieu education is also known as social contagion.

**Specific Aims of Education-**Education is not as single aim activity, Different aims represent different ways to looking at the same thing. It can be summarized by following four specific aims—

- A Vocational
- B Culture and Happiness
- C Moral
- D Spritual

**Education—A way towards Growth and Development—**In the past century, we progressed from a stage where the application of science to manufacturing techniques or to agricultural practices became the basis for production; it was the industrial society, where mass production depended on a relatively small cadre of highly skilled labour

---

\* Head, Home Sci. Dept., Arts, Commerce & Science College, Bethak Road, Khambhat, Gujarat, Dist.:Anand

commanding a much larger group of semi skilled labour, was vertically integrated. During last quarter of 20<sup>th</sup> century, three technologies emerged, which have changed production, transportation and life style of the people profoundly. These are information, communication and biotechnologies. The convergence of increased computing power, reduced communication costs among people, institutions and countries, which has significantly increased the speed of production and distribution (UNDP, 2001). It is also seen that knowledge produced by Research and Development, (R & D) inventions created in universities and industrial laboratories are creating the so called knowledge industries. These include not only high and medium technologies based on new materials-micro electronics, computer aided design and manufacturing, bio-technology, advanced process control system etc, but also communication services, finance, insurance and other business services and methods e.g. E-business, and community, social and personal services (Guruz,2003). In short, the late 20<sup>th</sup> century saw the growth of a knowledge centered, as opposed to a manufacturing centered economy. Consequently, knowledge and people with knowledge are now the key factors of production, main drivers of growth and major determinants of competitiveness in global knowledge economy.

Education has been found a major source of productivity growth in post-war era, and because education increases productive human capital, it contributes to overall increase in economic growth. It is estimated that from 1948 to 1973, education and the innovation accounted for two-thirds of the increase in U.S. economic growth. Mankiw, Romer and Weil (1992) incorporated in the production function physical capital and human capital investment rates separately, thereby providing a link between education expenditure and growth. The endogenous growth model by Lucas (1988) allowed the 'external effects' and thus long run growth is now a function of physical and human capital. Externalities like non-rivalness and non-excludability gave a larger role to higher education institutions in knowledge production and dissemination. Numerous models incorporating R & D activities and the production of 'ideas' have been development. An increase in the country's average level of schooling by one year could increase economic growth by 6% to 15% (Dowrick, 2003, Kruege, Lindahl, 1999). Decline in labour force quality could cut the rate of productivity growth attributed to education by one-half or more over the next 20 year, limiting wage growth and fiscal revenues and ultimately standard of living (Heckman and Masterov, 2004). A research paper entitled

'Knowledge and Development – A Cross Section Approach', (Derek and Dahlman) examines a very broad range of knowledge related determinants of economic growth employing cross-section regression that span 92 countries for the period of 1960-2000. the authors find that the stock of human capital, the level of domestic innovation and technological adaptation; and the level of information and communication technologies, infrastructures all exerts statistically significant effects on long-run economic growth. In a knowledge economy, higher education benefits more than just those who attend. Knowledge economy relies heavily on a well trained workforce comprising knowledge workers that can not only apply knowledge but are also capable of analysis and decision making based on information. Some macro economic studies of the education show that the variations of growth rates among countries can be explained partly by the initial level of human capital (Barro, 1990; Azaridis and Drazin, 1990; Mankiw, Romer & Weil 1992; Barro and Lee, 1994). Boutrolle (2003) in her review of econometric models that test the impact of average education level in the population on economic growth for a sample of developing countries in middle east and Asia, finds that only the number of graduates of tertiary education seems to have a positive and significant relation to growth. She also finds that the effect of different levels of education varies according to the economy's level of development.

At a more advance stage of development, characterized by a decline in the agricultural population, migration from rural to urban areas and rapid industrialization, it appears that the proportion of secondary school graduates in the labour force in the main human capital indicator correlated with economic growth (Avakov, 1987; Mamohon, 1998). According to models developed by Sorensen (1999) and Funke and Strulik(2000), when a country reaches an advanced development level, the role of human capital on economic growth moves from a direct impact through increasing the capacity of the labour force as a whole to manage innovation and technical progress. it is higher education and research that contributes to innovations and their diffusion. Most countries with high enrolment ratios in higher education became 'Leader' in technology, with high levels of achievement in technology. The role of education in economic growth for developing countries is highly significant (Joshi, 2006). The research on India also proves this. In one of the earliest attempts to estimate the contribution of education to increase in productivity, quality of labour force and economic growth in India, the relative

contribution of education to increase in productivity per person was estimated to be as high as 14.01 percent during 1948-49 to 1968-69; and 0.36 percent. Of improvement in the quality of labour force was attributable to education (Dholakia, 1974). As per the later studies, the contribution of education to economic growth in India was asserted to be as high as 34.4 percent (Psacharopoulos, 1973). The study of Sivasubramonian (2004) estimated the sources of economic growth in India between 1950-51 and 1999-2000, and found that education, along with land, labour and physical capital contributes significantly to economic growth. Along with increased educational requirements, new skill requirements have also emerged. General reasoning, problem solving and interpersonal skill have become more important in today's workplace because most new positions are created in education, health care and office settings, where there are higher levels of human interaction. In manufacturing, as technology takes away most of the manual processing tasks, employees spend more time interacting with each other to effectively manage the new technologies. The emergence of new and advanced technologies has led to an increase in jobs that require tertiary level qualifications even at the entry level; the rate of increase is expected to accelerate.

Just a few years ago, we could not have imagined a university without classrooms, or a library without books, nor could we imagine a university existing 10,000 miles away from the students. Yet, all this is true today. The University of Phoenix, for example, one of the most dynamic amongst the distance learning universities, has an enrolment over 2,00,000 students across the world. A for-profit corporation, it is listed on the New York stock exchange. Currently, there are more than 1000 corporate universities competing for educational markets in the U.S. and abroad (Douglass, 2005a). Thus, a student today has a wider array of choices which are much easier to access, because all are listed on the internet. In short, the system of higher education is vital for the knowledge economy and is also highly affected by the forces of the knowledge economy. Author (2001) points out that among the factors that make one region take-off in high technology, concentration of skills that forms the basis of what he calls "deep craft" ranks first. Today, there are 47 such clusters or global hubs of innovation worldwide, where companies, research labs, universities, financiers and corporations are converging, creating a dynamic and conducive environment that brings together knowledge, finance and opportunity. Thus, higher education is moving towards a new system of governance, where market forces and public policy

instruments are converging in new ways. The state is generally withdrawing from directly regulating or managing institutions. The system of higher education is classified as 'elite', 'mass' and 'universal' states when the Gross Enrollment Ratio (GER) ratio is less than 15 percent, between 15 and 50 percent, and more than equal to 50 percent respectively (Trow, 1973). Accordingly, elite higher education shapes the mind and character of the ruling class and prepares students for broad elite roles in government and society; mass higher education undertakes transmission of knowledge and prepares students for broad and elite roles; and universal higher education is connected with adaptation of the whole population to rapid social and technological changes (Brennam, 2004). With wide variations between rural/urban areas, and across the states, the system reflects very diverse characteristics. In urban metropolitan areas, enrolment stands to advanced developed nations, such as the United States (83%), Australia (74%) and the U.K. (64%), in rural areas it is very low, stands with underdeveloped African countries. In India, public expenditure on higher education has been less than half percent of GNP for over two decades. This constitutes 12 percent of total public expenditure on education compared to around twenty percent prevalent in most other countries, of the total government support about one-fourth comes from the central government (CABE, 2005b). Many thousands of students leave the country every year to study abroad. Indians form the largest group of foreign students in the USA followed by Chinese and South Korean, though there are some reports of a decline in their number in recent years (Douglass, 2005b). Indians can save a lot of resources and perhaps also generate additional resources, by encouraging both for-profit and non-state actors in foreign collaboration to provide quality education.

It can be said from the various points of the above discussion that the current state of the higher education stresses a need to revisit its overall performance. Certain steps in this direction have already begun. In the words of the prime minister "the time has come to create a second wave of institution building and excellence in the field of education research and capacity building so that we are better prepared for the 21<sup>st</sup> century." It is with this broad task in mind that the National Knowledge Commission was constituted on 13<sup>th</sup> June 2005 with the time frame of three years. The commission has been given a mandate to guide policy and direct reforms focusing on certain key areas; such as education, science and technology, agriculture, industry, e-governance etc. The commission has submitted its first report on 29<sup>th</sup>

November 2006. The report states “there is in fact a quiet crisis in higher education in India that runs deep. It is not yet discernible simply because there are pockets of excellence, and enormous reservoir of talented young people and an intense competition in the admission process... The reality is that we have miles to go. “ And the commission suggests to reform existing universities undergraduate colleges, change in entire regulatory structure, governing higher education, explore every possible source for financing investment in higher education and need to enhance quality and expansion of the system. UGC has also arranged regional conferences of Vice chancellors of the universities that were aimed at raising and discussing critical issues of higher education. They also suggested reforms in the system. Consequently the prime minister has announced establishment of eight IITs, seven IIMs, five Indian Institute of Science Education & Research, 30 central universities in his speech to the nation on 60th Independence Day The outlay for education during the 11th five-year plan represents a four-fold increase over the previous plan and stands at Rs. 2500 billion. In nutshell, higher education system faces some major difficulties, which are very real and serious. To overcome them requires not only massive rearrangements in both the provision and the utilization of public as well as private resources, but also profound and durable changes in institutional cultures inside and outside higher education.

#### **Some Future Notes**

The convergent and mutually reinforcing impacts of globalization and the information and communication revolution have radically changed not only the methods and structure of production, but also the relative importance of factors of production. A well trained work force and well informed people, that can apply not only know - how, but is also capable of analysis and decision making are the key factors of development, main drivers of growth and major determinants of competitiveness in the global economy. To fulfill the need, an education system is required which is flexible,- basic education should provide the foundation for learning, and secondary and tertiary education should develop core skills that encourage creative and critical thinking. In addition, it is necessary to develop an effective lifelong learning system to provide continuing education and skill upgrading to persons after they have left formal education in order to provide the changing skills necessary to be competitive in the new global economy. India will have to address four major issues to embrace the knowledge economy, which are; strengthening the economic and institutional regime,

developing educational and skilled workers, creating an efficient innovative system, and building a dynamic information infrastructure. To create a sustained cadre of “knowledge workers”, India needs to develop a more relevant education system and reorient classroom teaching and learning activities, starting from primary school. As a part of the whole system, higher education will have to undergo a sea change. To be precise, the Indian higher education system will have to focus on access and equity (along with efficient output), public-private participation, quality and relevance so that the anticipated interweaved benefits can be reaped for the knowledge economy objective accomplishment. For enhancing the access the role of the private sector will have to be brought in to the main stream. The private higher education sector will take place on a larger scale in coming years. The growth of private higher education would lead to increase in the number of students who would pay for their own education, thus providing incentives for the government to redirect its saved significant proportion for those in need.

Issues of quality assurance and quality enhancement should become the priority -to reap the benefits of internationalization of higher education. A pragmatic approach to enhance the equity and access should be given due attention. The quality level of the public and private institutions should be published and brought to the notice of general public. Since the Indian system is very large, the University Grants commission cannot monitor all the private institutions. The UGC can frame clear cut policy and ask the different states to institute a separate agency for the purpose as per the guidelines of the UGC. The objective should be regulate rather than to control the institutions. The thinking of the state will have to be changed with time. The rules of effective governance will have to be accommodated in prior preference strategy. As higher education will grow and become a major institution in the economy and society, employing enormous resources, the management of higher education institutions will become increasingly important and specialized. Academic scholarship and intellectual leadership skills shall no longer be the most important for running higher education institutions. Efficient management, political networking and fundraising skill shall be the priorities across both public and private institutions. A knowledge -driven economy not only requires higher skills in the workforce, but also continuous updating to adapt to changing demand. The rate of increase in jobs that require higher qualifications is expected to accelerate. Lifelong learning and continuing education is likewise expected to expand,

leading to a blurring between initial degrees and continuing education certificate. In the global knowledge-driven economy, a global labor market exists that allows companies to recruit talent from all over the world. Thus there is a growing demand for degrees and credentials with international recognition. The issues of access, equity, quality,

relevance, and efficiency shall be the major drivers of India higher education in order to gear up the path towards knowledge economy. We will have to put in positive and constructive efforts as stakeholders of higher education to build the, knowledge economy for the prosperity of our region, nation and world as whole.

### **Reference:-**

1. Aazariadis C. and Drazen A. (1990). "Threshold Externalities in Economic Development," *Quarter Journal of Economics*. Vol 105.
2. Dholakia B. H. (1974). *the Sources of Economic Growth in India*. Baroda: Good Companion.
3. Douglass U. (2005) "A Transatlantic Persuasion: A Comparative Look at American's path towards access and equity in Higher Education", - in David Palfrey man and Theodore Tapper, Eds. *The Politics of Access to Higher Education*, Routhledge and Falmer Press.
4. Guruz, K. (2003) *Higher Education in "The Global Knowledge Economy"*, Convocation Address Binghamton, New York.
5. Joshi K. M. (2006). *Human Capital and Economic Benefits of Education Understanding the investment Arguments*, OSED Working Paper No. 1/06, March.
6. Lucas R. E. (1988). "On the Mechanics of Economic Development", *Journal of Monetary Economics*, 22: 3-42.
7. Mankiw, N. G, Romer, D. and Weil, D.N. (1992). "A Contribution to the Empirics of Economic Growth", *Quarterly Journal of Economics*, 107: 403-17.3
8. Mc Mohan W. (1998). "Education and growth in East Asia," *Economics of Education Review*, Vol. 17.
9. Psacharopoulos G. (1973) "Returns to Education: an International Comparison", San Francisco, CA, Jossey bass.
10. Sivasubramonian S. (2004). *The Sources of Economic Growth in India*. New Delhi: Oxford University Press.
11. Tilak, J.B.G. (2003). "Higher Education and Development in Asia", *Journal of Educational Planning and Administration*, Vol. XVII, No.2.
12. U. N. D. P. (2001). *Human Development Report*.
13. Dr. S. S. Mathur, "Educational Psychology". First Edition, 1962.
14. Harry S. Broudy, "Building a Philosophy of Education," Second Edition, 1965. University of Illinois.
15. "Vishleshan" – Volume 29, No-4, 2004.
16. UGC Sponsored State Level Seminar Report – "Harnessing Information Technology in Higher Education", Petlad – 2007.
17. Prof Nila Oza 38<sup>th</sup> Gujarat Economic Conference, Feb 2-3' 08.
18. John W. Hanson and Cole S. Brembeck, "Education and the Development of Nations", Michigan State University, 1971.
19. J. C. Aggarwal, "The Progress of Education in Free India," New Delhi, Second Edition, 1973.

## **FACTORS AFFECTING ASSOCIATIVE LEARNING IN ENVIRONMENTAL EDUCATION AT PRIMARY STAGE**

\* **Arti kalani**

The one aim of education that has remained central through the centuries & through the centuries & through many structural & procedural changes, has been the development of the student's rational power. Although the schools have served various needs of the society in teaching for citizenship vocational skills, moral character & the like, it has been recognized that it is the person who has become able to use his rational power "who can bring all valid purposes into an integrated whole" (Educational policies commission, 1961). An individual begins to learn soon after his birth & goes on learning throughout his lifetime. The infant learns grasping sitting, standing & walking. The child learn to speak & write, count & draw, button his coat & lace his shoes, say " Good Morning". There is a vast array of behaviour patterns that is learned in the home & the school, in streets & the playground, in fact wherever the drama of life is being stages. Some of these learning are universal, everybody learns that the sun rises in the east. Some learning are individual as the extraordinary talent of star musical or a master painter. Some products of learning are simple & some are complex & it is our task in educational psychology to inquire what the general nature of learning is, whether there are different kinds of learning & what theories psychologists have offered to explain learning.

The history of the association of ideas is long & varied & dates back to the beginnings of human thinking. Aristotle attempt to explain memory in terms of association of ideas. One idea recall another because they are associated with each other. Recall by association is facilitated by the factor of contiguity, Contrast & Similarity. Certain condition help to make association stronger as the frequency ; regency & intensity with which experiences occur. Drill, practice, repetition etc. improve the learning of multiplication tables, spellings or grammatical forms, recent experiences are more clearly remembered than remote ones and if a friend is drowned in a swimming meet, any pool stream or seaside will revive the tragic event. Ideas should be presented with clarity & impressiveness supplemented by interesting & striking illustration or anecdotes and in relation to

the daily experience of children. Some of the factors which influence associative learning are intelligence, motivation, interest, attention, attitude, fatigue, student involvement retention.

### **Rationale for the study**

We have exploited the natural environment to our will. Today we are face to face with a severe environmental crisis. The problem of environmental degradation is not limited to any particular country or region, it is global. The three- mile Island, Chernobyl/ and Bhopal may be located in three different parts of the globe, but the tragedies that struck them had repercussions on the whole ecology of the earth. Pollution is making the earth unsuited to life. 'Rivers and lakes are dying'. 'Desert are on a march'. Natural resources are being depleted'. These are not mere slogans to be repeated every now and then. Our attitude towards the use of environmental resources must change. We must re-educate ourselves to treat the environment with greater caution and control. It is this realization that gives environmental education a place of prime importance. Responsible citizenship can be developed through environmental education. The strategies are known. The tools are available. The real challenge lies in a willingness to do things differently.

### **OBJECTIVES**

1. To study the affect on environmental education at primary school children.
2. To study the nature of learning at primary school level.
3. To study the factors affecting associative learning at primary school level.
4. To change the attitude of the pupil about the environment and motivate them to protect the environment.
5. To develop the skill among the pupil to solve environmental problem .
6. To encourage the pupil for active participation in solving the environmental problems.
7. To assist the pupil to have the complete knowledge about the environmental problems.
8. To give importance to the cleanliness of our environment.

---

\* **Lecturer S.S.G. Pareek P.G. College of education, Jaipur.**