Role of Environmental Education in Curriculum at All Levels

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Abstract: Environmental Education (EE) is essential for developing a healthy, sustainable society. Many current environmental problems are due to ignorance of basic ecological facts of life. To counteract this problem, well funded, scientifically accurate and carefully designed educational courses in schools and colleges are needed for an overall awareness of the public through learning basic natural resources so as to ensure that on-coming generations will understand the value and importance of pollution control, resource conservation and wildlife habitat protection. Education is concerned with development of an individual’s ability to think, reason, and create. One of its fundamental needs is how learners of all ages learn and what they can learn. The ‘how’ has much to do with the teacher and the ‘what’ of the curriculum or syllabus as the case might be; and ‘kind’ of interaction among the ‘how’, the ‘what’ and of course the receiver - learner. Our environment, therefore, is an inevitable concept. It is inseparable from life. It is part and parcel of life; just like a two-faced coin. Therefore, there is every need for our proper use of the ‘goodies’ it provides us with, realizing that our children, grandchildren, great grandchildren, and even beyond hope only on the same planet for survival. And as such every ‘development’, whatsoever (irrespective of the demands caused by the new findings in science and technology) should try to strike a balance between economy and ecology. This paper focuses on calls for the need for environmental awareness at all educational levels, especially in the developing countries such as India which has little or no provision for such awareness in curriculum / syllabus in areas of Environment Education.

Keywords: Environment Education, Sustainable development, Environmental Awareness, Immediate Technology

I. INTRODUCTION

No one will doubt the fact that our present world is different from the world of the agricultural and the industrial revolution – the pressure on the planet (environment) due to some human activities (unnatural) and some natural activities (flood, earthquake, eruptions) seem to be weighing much on the limited planet that mankind and other living organisms sharing the planet with us are adversely affected by, even the environment itself. This calls for new trends and ideas where all, both young and old, ‘educated’ and ‘non-educated’, privileged and non-privileged would take part in saving our planet from ‘total physical collapse’ since all life on earth depends on it for survival.

This societal transition is seen in part in ‘development’ as a result of the explosion of science and technology coupled with an exponential increase in the global population. This transforms, irreversibly, not only biological, but also the psychological and social conditions in which humanity is living. Mankind is faced with serious problems created by himself as a result of his activities. Such problems are pollution, over population (hence over demand for everything –food, water, energy, transport, just to mention but few) that deteriorate our quality of life and the ‘natural environment’; despite some claims to the contrary. These problems are not getting better as time goes on because of increase in demand of the quality of living by more people. This forced some concerned elites in the developed world – Organization for Economic and Cooperative Development (OECD) in April 1971 to analyze the serious need and urgency of establishing and developing new teaching programmes at school, college and university. That is to say that education (environmental) of pupils and students could be a contributing remedy since there has been little or no effort to make such problems in the past known to students.

II. EDUCATION – KEY FOR TRANSMISSION OF KNOWLEDGE AND SKILLS

Education involves the imparting of knowledge and development of skills for self-realization. It liberates man from the ‘shackles of darkness’, making life more meaningful and worth living. The English dictionary defined it as “the process of acquiring knowledge, the process of imparting knowledge especially in a school, college, or university”. Some scholars have various definitions. Salvano Briceno & David C.Pitt (1988), “education has always been part of the process by which people become fitted to live successfully in their world”. Sir Charles, quoted in Schumacher (1973), stated “we have to educate ourselves or watch a steep decline in our lifetime”. Schumacher further stated: “The essence of education is the transmission of values. That education comprises ideas that would make the world and people’s lives intelligible to them. Intelligibility gives one a sense of participation, defining education as “the transmission of ideas which enable man to choose between one thing and another, or, to quote Ortega “to live a life which is something above meaningless tragedy or inward disgrace”.

The teacher has the duty of imparting knowledge to the children; this knowledge is reflected in effecting changes in values, behaviour and attitudes of the learner. This can only be achieved by his ability to present the learner with the necessary materials needed for learning and involving him with it. The involvement makes the learner think, and the thought aids in development. The active involvement of the learner makes him think; the thought leads to development of skill. This, Piaget called the “intellectual development model” which is believed to be the true nature of learning. Albert Szen-Gyorgi states his position in argument for this intellectual development: “Books are there to keep the knowledge in while we use our heads for something better”. Thus, for the achievement of this model of Piaget, learners should be provided with the ‘necessary’ learning materials coupled with the teacher’s ability to involve learners to interact with them.
The purpose and objective of ‘any’ education will be farfetched without ‘quality’ interaction among teacher, learner and the teaching / learning aid. Teaching is concerned with helping children to learn new skills and gain new information. Learning in itself implies a change or changes in behavior. Thus, teaching is about changing children or learners’ behavior. The role of a teacher then is to bring about changes in the behavior of the children in the class. In this case, the teacher as ‘behavior changer’ is subject to analyzing and modifying his own behavior in order to modify those of his children. Delmont, quoted Fontana stressed this point further that, “It is quite clear that the teachers’ behavior can and does change pupils’ patterns in their work.”

On the other hand, ‘environment’ is a broad concept; be it natural, physical, social, built, transport, cultural etc. It refers to all or part of an object’s or a living being’s surroundings. Without going beyond the most urgent problems created by man’s presence on earth, namely, demographic growth and intensive use of natural resources (soil, mineral wealth, air, water etc.), it is obvious, then, that environment becomes everything that surrounds man, hence, everything that is used by man, including man himself. It involves components of things and happenings natural and unnatural that surround the area one lives. Allen V. Kneese defined it as “the whole set of surrounding conditions in which a human being lives….”

The human activities as a result of his search for ‘quality standard of living’ through science and technology have brought recent environmental issues and problems which never existed during the agricultural and industrial revolution. These problems, Stead, E. and Stead, G. called “the issue wheel”. Such issues include: the depletion of the upper ozone layer, over population, greater pollution, the potential for rising global temperatures, the death and destruction caused by toxic spills and dumps, the massive deforestation of the world’s rain forests for commercial purposes, the harm caused by numerous oil spills, the destruction of wildlife habitats for human development, the release of dangerous gases (green house effects) in the atmosphere such as sulfur dioxide (SO2), nitrogen oxide (N02), methane (CH4), chlorofluorocarbons (CFCs), the hydroxyl radical (OH), and carbon dioxide (CO2).

Ecological protection involves proper handling of all resources, which the environment provides to avoid unnecessary depletion. Economic success involves growth in development. Sustainability, itself, is a ‘big’ phenomenon which many scholars have given many interpretations. It has much to do with proper use, maintenance, as to keep a ‘thing’ going for a very long time. An English dictionary defined it as “to maintain or prolong, to support, to keep up the vitality”. Limited space does not allow extended definitions of some scholars; but the most recognised definition is one given by the World Commission on Environment and Development (WCED), “Development that meets the needs of the present without compromising the ability of the future generations to meet their own needs”.

Sustainability means to keep things going for a long time, considering the next and the next and the next generation. It means making sure that the environmental impacts of using those resources are kept within the earth’s carrying capacity to assimilate those impacts. The main gist here is the enhancement of future ‘sustainable development’ through coordination of new educational policies. Stead, E. and Stead, G stated thus: “educate, train, and motivate for improved environmental performance...” as one of their principles of the business charter for sustainable development. Here the need for educating pupils on the “things” of the environment is stressed. That is to say that the only way to create environmental consciousness and / or awareness in pupils and students is through education (by teaching related subject(s) in schools).

Education is seen, as the instrument that produces Scientists and Technologists, who are on the other hand responsible for satisfying the ever increasing needs of the society. This is seen in areas of micro-electronics (information technology), biotechnology, new materials (especially ceramics) and other ‘high technology’ field that have placed new demands upon the education sector at ‘all’ level. This new increasing demand requires change in educational policy; change in areas of what is taught (syllabus / curriculum); change in how it is taught (methodology); change in resource allocation to education sector; change in the number / proportion of the teacher and the learner; change in quality and level of training etc.

“Developing world also experienced this new demand – biotechnology, programmes with regard to computing, micro-electronic new materials etc. But some efforts to keep a pace with these new findings of science and technology from 1960 upwards have little been met as a result of a continued demise ‘demography’ whereby population increase has offset economic growth, ‘dependency theory’ whereby the international training network has evolved to the continuing disadvantage of the ‘South’ in relation to the ‘North’”.

Environmental education on the other hand, has been the concern of many scholars since it is argued that it has a big role to play in bringing change in people’s values and attitudes. Societal transition as a result of rapid development through science and technology caused by man’s taste for ‘quality living’ has adversely affected the environment. The human seems to be selfish in his ‘race’ for ‘daily bread’, caring less for the source of all resources. A close study on the way people use land (the greatest of all the material resources), for example, depicts carelessness. They cut trees, over-graze, burn, and kill much wildlife and fish. They seem not to have recognised that such changes despoil the favourable environment. Man is the master of all living organisms on the environment, the way he treats it affects all living organisms and environment itself. When the environment deteriorates, as a result man’s careless use, civilization declines and of course the chances of deteriorating man’s standard of living.

Other issues which demand change of values and attitudes of both North and South, East and West, young and old, and rural and urban are global challenges / problems – concerning resource use, energy utilization and environmental degradation, pollution, demography (more people, more ‘everything’) including more injury on the environment.

Considering all these, the ‘picture’ of the world (environment), should be made known to those living in ignorance of it through a ‘medium’ as to create environmental consciousness and awareness which mandates adequate use of resources.

Environmental education has been given different definitions but all emphasize its being “interdisciplinary”. The World Conservation Union (WCU) described it as “education, which focuses on the relationship between humans and their environment with a view to promoting attitudes and behavior of life”. Salvano Bricena & David C.Pitt described it as “education concerned with the quality of the human environment for healthy development as well as for healthy
life”. Adara described it as “education designed to develop a citizenry that is aware of and concerned about the total environment and its associated problems and that has the knowledge, attitudes, motivation, commitments and skills to work, individually and collectively towards solutions to current problems and prevention of newness”.

In the past, little attention was given to education in relation to a growing awareness of the problems of environment and development. That is to say that the societal transition ‘now’ as a result of science and technology and its ‘ugly’ effect on the environment calls for attention to education in relation to offsetting such problems. The cornerstone of EE is to identify the individual with the environment, as inseparable and interdependent parts of a single entity. For us to be alive is to be a part of our environment and to be separated from it means ‘death’. We depend on it always and in all sorts of ways, whether in the short term or long term, and as such the changes whether ‘positive’ or ‘negative’ affect us and we affect the environment. On the other hand, mankind being the master and controller of the resources from the environment owes much to the health of the environment in that the healthiness of the environment signals our own healthiness both now and in the long time to come; while the unhealthiness of the environment negatively affects us, now and even beyond. “It follows that to be ‘environmental’ education will always identify, explore and take into account as far as possible the variety of components of the system. The better we learn the better we realise the worth of our environment and the better should be our repertoire of behavior towards our environment. EE is concerned with the quality of human environment for healthy development as well as for healthy life. It seeks to improve the quality of the realized perpetual environment, develop understanding of the influences which restrict or modify it, by raising the quality of information and improving the capacity of acting responsibly with it, and, by heightening aesthetic awareness, improving sensitivity to its less tangible qualities and develop creative responsiveness”.

III. NEW SCIENTIFIC AND EDUCATIONAL ERA

Education has been embraced by all nations of the world, be it developed, developing and / or underdeveloped. This is so because of the inevitable gains of education in areas of producing Scientists, Technologists and other facets of professionals. And there is no gain saying that these products of education today in areas of production and advanced S & T have helped in bringing the world to a global village, where people can easily be reached in a second and other ‘goodies’ which help to make life worth living.

On the other hand, ‘development’ as a result of new findings in S & T through education has placed man on a high scale of living; and / or made life easier. This is manifested in “areas of micro-electronics (information technology), bio-technology, new materials (especially ceramics) and other ‘high technology’ field, which have placed new demands upon the education sector at all levels,”.

IV. INTERDISCIPLINARY / TRANSDISCIPLINARY

Here EE cuts across all other disciplines and subjects. That is to say those biophysical aspects of the environment cannot be considered without going beyond biological and physical sciences; similarly, the built environment (energy, transport, technology etc.) cannot exist outside science (subjects). On the other hand, science contributes much to the built environment through and across a range of disciplines. Environmental issues and problems that face mankind are so broad that disciplines from all areas are concerned and relevant. Mankind cannot, for example, solve his biophysical environmental problems with just the physical or biological sciences; nor solve his social environmental problems with just the behavioural sciences. On other hand, EE provides for the co-operation of disciplines and professions in regard to matters of environmental quality. EE is multidisciplinary and deals with real problems arising outside the four walls of formal education (classroom teaching and learning); in contrast with the Traditional Monodisciplinary school structures.

IV. STUDENT INITIATIVE EDUCATION

EE requires a ‘student-initiative education’ in the sense that it is fundamentally problem oriented. Such environmental problem may not be identified, or understood or even move closer to solution by mere ‘talk and chalk’ and / or rote learning; rather by the development of pupils / students capacity to solving such complex problems. As pupils and students get involve, they develop some experiences in taking the initiative. Students as leaders of tomorrow need to have experience in taking the initiative relative to the urgent requirements of society in areas of global challenges. Such experience might more easily be acquired through EE by planned development of the pupils and students capabilities.

CONCLUSION

EE as a problem-focused education requires a future time orientation. That is to say that EE focuses on the recent and urgent problems facing the world. There is no gain saying on this because the pressing planetary issues / problems recently as a result of advancement in science and technology call for a new ‘era’ in education. One of the main ways of responding to such advancement is through EE at all levels of education. EE is a part of this exciting challenge. It means that knowledge must be reorganized in terms of present problems and the needs of the community. This calls for the revision of the curricula, teaching methods and institution structures, regarding all of which much remains to be discussed and much has yet to be done. On the other hand, ‘current’ re-ordering should be encouraged as it relates to current societal needs, (based on basic disciplines; relevant problems and / or practical real life), while discouraging the ‘outdated’ traditions. EE enables one to recognize the factors that determine the nature and quality of the human environment so that one may respect and appreciate it to the full and appreciate constructively, as an individual and as a citizen in its management and development. Man, on the other hand is positively and morally compelled to take action to assure environmental quality for the future, and even for generations yet unborn. After all, every parent hopes for the best for the children, for example. Thus, EE is basically related to the ethics of environmental quality.

References


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