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THE NEED FOR EMPHASIS ON ENVIRONMENTAL EDUCATION FOR NATIONAL DEVELOPMENT IN MALAYSIA

Sumiani Yusoff

Abstrak

Peningkatan kesedaran masyarakat terhadap isu alam sekitar perlu dipupuk di bangku sekolah lagi. Peningkatan kesedaran dan pengetahuan mengenai alam sekitar amat penting, tetapi masih terdapat beberapa kepincangan dalam usaha memupuk kesedaran alam sekitar di kalangan pelajar sekolah mahu pun pelajar institusi pengajian tinggi. Kertas ini mengulas beberapa masalah berkaitan dengan kesedaran alam sekitar dari aspek kurikulum pendidikan dan juga penglibatan badan bukan kerajaan dalam usaha meningkatkan kesedaran alam sekitar dikalangan pelajar. Integrasi yang lebih berkesan di antara kesedaran alam sekitar dengan kurikulum pendidikan dicadangkan sebagai cara untuk mewujudkan pelajar - dan seterusnya masyarakat - yang peka akan tanggungjawab mereka terhadap pemuliharaan alam sekitar di negara ini.

Introduction

Our generation has witnessed unprecedented economic growth and technological progress which, while benefiting many people, have also unleashed severe social and environmental consequences. In the country, beginning in the late 1970s and gathering momentum ever since, society's concern regarding the environment has changed. The demand for cleaner environment required better skills and knowledge amongst the engineers who are also associated with development and the resulting environmental problems (Peavy, Rowe & Tchobanoglous, 1984).

Malaysia is undergoing rapid industrialization towards achieving developed nation status by 2020, yet this country has aimed at balancing economic and social development with environmental protection. Besides implementing preventive environmental management measures, improving the national education system is crucial in the context of national development as education is a powerful factor in shaping future citizens who support environmental conservation. Ultimately the kind and type of education which a society chooses to give its citizens would reflect the development goals, hopes and aspirations of that society.

The 1972 Stockholm Conference on the Human Environment reinforced the close link between society and environment. It presented the role of education as that of promoting new perceptions to guide new patterns of behavior between man and environment and between man and man. The emphasis draws on the emergence of man's capacity to use and

alter his environment on an unprecedented scale. In this context, development becomes a common factor linking education with the environment. Thus, environmental education and training are needed to raise awareness of the long-term adverse impact of environmental degradation and unchecked development (United Nations Conference on Environment and Development (UNCED), 1992).

Environmental education in Malaysia should be geared towards achieving sustainable development. Even though environmental education can be carried out in both non formal and formal ways, the focus should favor the educational institutions including schools and universities in implementing an environmental syllabus. (National Council for Science and the Environment (NCSE), 2000).

Problems in Developing Awareness of Environmental Issues

Many reasons account for the poor public awareness and low civic consciousness that spawned environmental deterioration in the country. Among them are: poor understanding and education on environmental issues, lack of knowledge and lack of information. Many are still unaware of environmental problems affecting or produced by them. Although they may feel vaguely uneasy, most do not care unless directly affected.

Besides that, there is a dearth of information on environmental problems in the country; studies done are unavailable to the public; and very little effort is undertaken to make easily available the full facts of our environmental problems (Sumiani, 1997).

Implementing environmental agencies often operate under severe resource constraints, sometimes leading to limited response towards environmental complaints. Or, where it occurs, the response is either inadequate or too slow. Besides that, being unfamiliar with environmental education, information, legislation and environmental impacts of human activities, people are unlikely to show spontaneous efforts or demands for environmental protection and enhancement. The desire to satisfy basic social needs could very well override even basic environmental considerations. Especially for a developing country like ours, the level and pace of socio-economic advancement has important implications and influence on the political will and the efficacy with which institutional regimes are developed and applied for environmental protection and conservation (Sani, 1998). Hence, the environment sometimes gets badly affected and unfortunately so does the population and human race.

Malaysia's Commitment Towards Sustainable Environmental Development

The importance of environmental protection in the context of sustainable development has been expounded by the World Commission on Environment and Development (WCED, 1987), which maintains that "Humanity has the ability to make development sustainable, that is, to ensure that it meets the needs of the present without compromising the ability of the future generation." Thus, for the benefit of future generations, the environmental protection provisions have to be ensure Malaysia's efforts towards achieving Vision 2020 will materialize.

Vision 2020 states:

"In the pursuit of economic development, Malaysia will also ensure that her invaluable natural resources are not wasted. The land must remain productive and fertile, the atmosphere clean and clear, the water unpolluted, the forest resources capable of regeneration, able to yield the needs of national development. The beauty of our land must not be desecrated - for its own sake and ours for economic advancement."

To achieve better understanding of sustainability as a concept and to foster environmental responsibility requires significant support for national environmental education and curriculum development as these are consistent with the national environmental objectives and agenda (Third Outline Perspective Plan (OPP3), 2001).

The Objectives of Environmental Education

Ensuring environmental protection and universal health demands solutions based on wide dissemination of relevant knowledge, innovative technologies and responsible practices. With modern information technology and efficient knowledge dissemination, environmental education can ensure optimal resource use. With the ever-increasing complexity of environmental issues, education in Malaysia should be geared towards instilling environmental responsibility and accountability starting from the primary, to secondary and tertiary level. Environmental education finds its legitimacy as an effective instrument for creating consciousness of ecological balance by maintaining that development need not necessarily degrade the natural environment. Environmental education holds that sustainable development is possible and warns against indiscriminate development that disregards ecological balance. It is aimed at creating a future society where people are aware of civic responsibilities and are prepared to play a useful role as producers and as citizens conscious of their environmental impact (NCSE, 2000).

UNESCO (1978) defines Environmental Engineering as "a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges and fosters attitudes, motivations and commitments to make informed decisions and take responsible action".

The statement clearly depicts an approach in achieving sustainable development which could be adopted for the country. Generally these objectives will only be attained by manifesting the following:

- Awareness and sensitivity to the environment, its importance and challenges; Knowledge and understanding of the environment and its challenges;
- Values and attitudes of concern for the environment and motivation to improve or maintain environmental quality for the sake of human survival;
- Skills to identify and help resolve environmental problems (which are actually human survival issues) and;
- Participation in activities that lead to resolution of environmental problems

The guiding principles of environmental education are given below (United States Environmental Protection Agency (USEPA), 1996).

1. Environmental education should: Consider the environment in totality - natural and man-made, ecological, political, economic, technological, social, legislative, cultural and aesthetic.
2. Be a continuous, lifelong process both in school and out of school.
3. Emphasize active participation in preventing and solving environmental problems.
4. Examine major environmental issues from a world point of view, while paying due regard to regional differences.
5. Focus on current and future environmental situations.
6. Examine all development and growth from an environmental perspective.
7. Promote the value and necessity of local, national and international cooperation in solution of environmental problems.

Present Status of Environmental Education in Malaysia

The development of the school curriculum in Malaysia emphasizes the integrated curriculum on general education concerned with the balanced growth of students through developing basic skills and inculcating healthy life long attitudes and moral values that are fundamental to maintenance of Malaysian society. Environmental education in the primary years incorporated an infusion of many subjects, which deal with the social, cultural and biophysical environment directed towards achieving a balanced and harmonious relationship between not only human beings and nature but also among the various ethnic groups in Malaysia. However, there is no specific subject on environmental education in the secondary school syllabus. The curriculum is carried out in a multiple infusion basis where the biophysical environmental education is located in the sciences while the social and cultural aspects are situated in the humanities.

At the tertiary level, the syllabus does incorporate to a certain extent environmental related topics and contents. Unfortunately some of the courses offered are not compulsory and most are taught later towards the end of the course period. Because of this, some students have very minimal exposure and lack environmental awareness and responsibilities. Therefore a more organized and well-planned curriculum has to be formulated to improve the contents of environmental aspects in the syllabus.

Future Consideration in Curriculum Changes

Throughout the developments taking place in environmental education, Malaysia has been taking steps to improve on its education curriculum. With respect to environmental education, the behavioral changes involve both cognitive and affective outcomes.

Johnson (1978), highlighted various characteristics in the approach of environmental education:

1. It is inter-disciplinary
2. It is a continuous, life-long education process
3. It adopts a holistic perspective which examines the ecological, social, cultural and other aspects of a problem
4. It is a problem solving approach

Environmental education programs should also include:

- Flexible, fun and relevant teaching material to promote continuous education through involvement in research, incentives and standards
- Teach science as a process aimed at understanding the environmental changes due to human activities and responses
- Enhance incentives for interdisciplinary research that could integrate natural and social sciences relevant towards better understanding of human activities that can degrade the local, regional and global environment

Now, however, most of the resources spent on formal environmental education are devoted to increasing awareness, knowledge and understanding of the environment which is more cognitive in approach i.e. dependent on the element of persuasion in getting people to realize the long term damage to the environment caused by short-term development goals and to develop desirable environmental values that will commit them to environmental protection. It is felt that our education system needs to emphasize a more comprehensive scope of education that integrates environmental ethics and values. Alternatively, legislation and enforcement to keep environmental polluters in check and punish negative behavior in a supportive environment must supplement these environmental knowledge and values (Idris, 1984).

Environmental education can also be carried out in non-formal ways, for example by raising public awareness through campaigns and published materials by non-governmental organizations (NGOs). The NGOs playing an important role in environmental education in Malaysia include the Environmental Protection Society of Malaysia, the Environmental Management & Research Association of Malaysia, the Malaysian Nature Society, and Worldwide Fund for Nature Malaysia. Apart from distributing information on the environment, they also tend to be more action oriented in raising environmental issues and mobilizing public opposition to developmental projects that affect environmentally sensitive areas.

Effectiveness of the formal environmental engineering education has to be enhanced amongst the university undergraduates to equip our future national workforce with knowledge of comprehensive environmental issues and enable the drawing up of legislation based on sound understanding of basic environmental principles. These undergraduates are the future decision-makers who could help conserve the environment in their proposed

policies and actions. Hence concerted effort is required to integrate the environmental courses effectively into the mainstream curriculum. The students should be introduced to environmental-related issues early during the course and such exposure must be expanded constructively over the course duration (Nik Ablah, 1988).

Also, all undergraduates especially the engineering students, irrespective of their discipline, need to be exposed to sufficiently broad-based environmental related courses in addition to the more specific areas of environmental studies. Practical training experience through real life case studies are needed, and these must address the technical aspects of environmental issues, for example conducting an environmental impact assessment study (EIA) where the interaction of engineering students with their counterparts from other faculties enhances their environmental engineering knowledge. Other practical courses like field studies, laboratory analysis, and seminar projects can also be included as components of environmental courses. It is crucial that engineering students realize the importance of environmental considerations in the construction, design or operation stages.

At the tertiary level, the curriculum should also develop and coordinate a multidisciplinary, cross-sectoral program to include education on natural resources, including public education to better understand how ecosystems are connected across the physical environment (Sumiani, 2003). Only then can we achieve more effective application and translation of environmental knowledge and science into management that fosters better understanding of environmental change.

Suggestions and Recommendations

Environmental education is multi-faceted, and this can help people make wise choices in their various roles - as consumers, employers, and citizens - by assimilating, analyzing and evaluating the complex and diverse sources of data and information about the environment. For sustainable development to occur it is clear that the environmental dimension must be an integral part of educational transformation.

Some recommendations to improve the environmental dimensions in education are:

1. Curriculum development and studies

Resources should be increased to foster better curriculum development and further studies. A comprehensive and interdisciplinary curricula and support are needed for implementation and dissemination. Environmental education should be made top priority and partnership programs involving federal, state and local organizations should be encouraged.

2. Collaboration between institutions of higher learning and different segments of the community

Partnerships between learning institutions and communities should be established to enable and enhance student involvement in service learning and community partnership in handling.

and solving environmental issues. Such partnerships would support knowledge transfer amongst different sectors of the community.

3. Training and research program

There should be more funding on training and research projects on sustainability and its integration into different aspects of environmental education.

4 Environmental literacy

The government and its related agencies should assist all involved in national development to integrate environmental literacy, knowledge and assessment in their ongoing and future development programs that affect the environment.

5. Non formal environmental education program

All federal, state and local agencies can help increase support for environmental education curriculum development through non-formal programs. The non-governmental organizations and the private sector could work with governmental agencies to promote environmental awareness and education programs. Examples are campaigns, talks, nature center tours and dialogue sessions.

Conclusion

Serious efforts are required to address current environmental problems and steer Malaysia towards sustainable development. To help achieve sustainability, national environmental education strategies should be comprehensive, integrated and large scale. The present national education strategy has to be re-examined and improved, with the education curriculum formulated for maximum environmental understanding and knowledge. Education for sustainability needs to be entrenched in our education system, with schools and higher learning institutions as centers for developing sustainable society skills. Since environment and development are intertwined they must be integrated into educational activities to ensure the education system produces environmentally responsible citizens. Finally, to successfully implement an environmental education strategy demands high level commitment and collaboration between various groups.

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