

SUMMARY

Towards Strategic Environmental Education in Dana Biosphere Reserve

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As raising environmental literacy among all citizens has become one of the current international priorities, environmental education (EE) splits its essence in all educational systems. Therefore, the purpose of this study was to improve the current situation of EE in Jordan through investigating the most effective approaches of the strategic EE in Dana Biosphere Reserve (DBR) in Jordan. The research team organized a workshop to developing a common framework in which they assessed the Jordanian context of EE incorporation in DBR site, threats, and partners, as well as the assessment of the current EE programs and activities in DBR. after that they suggested a strategic EE activities aimed at improving environmental knowledge, awareness, and attitudes of local communities and school and university students.

The strategic EE approaches literature that had investigated in this research were:

1. ***Learner-Centered Approach:*** The emphasis in this approach is on learning rather than on teaching. The learner participates in determining educational objectives and has considerable control over content and method. Attitudes of self-awareness and power to control environment are fostered. Local initiative, self-help and innovation are encouraged in order to equip learners to analyze critically and take action to resolve their own practical problems.
2. ***Cafeteria Approach:*** This approach is featured in place of the sequential, prescribed curriculum associated with schools. It consists of a curriculum, which includes several options and flexible activities, and strong entertainment features. Examples include local newspapers and radio, market day exhibits, posters, mobile libraries, drama, role-play, games, puppets, and epic narrative.
3. ***Workshops in Natural Settings Approach:*** Many studies have verified the effectiveness of teaching through the environment. Therefore, educators construct learning activities that often require moving into natural settings surrounding the learners, to have direct contact with natural environment, and to explore environmental issues. Training workshops in natural settings have a strong effectiveness on the trainers' environmental awareness and behaviors. Thus, the use of natural settings, such as agricultural lands, forests, rivers, marshes, parks, and urban nature and protected areas, could improve the public environmental awareness and behaviors. Most of EE workshops in such natural settings are organized for formal and nonformal educators to increase knowledge, skills and behaviors in EE content and methodology, and

understanding of current education reform strategies and issues. Natural setting activities may include training workshops on: pedagogy, learning standards, student assessment and connecting EE programs to schools.

4. **Public Folklore Approach:** Public folklore and traditions are essential means for enhancing human relationships and building consensus over common issues such as environmental issues. It is possible for the “environmental message” to be part of the public folklore and traditions, since national folklore and traditions are economic, active and psychologically effective means.
5. **Story Telling Approach:** Stories as a traditional means of communication have been used by people of all ages. Stories can explain natural phenomena, and mold culturally appropriate behaviors as well as they enrich life by stimulating imagination, clarifying emotions and suggesting solutions to problems. Stories are successful in doing so, because they simplify complex situations, which cope with enormous amounts of information. Within the field of EE, there is a strong and growing awareness of the value of stories. Many researchers were arguing for an increased role of stories as vehicles of knowledge transfer argue that the use of stories and talking about what others are doing to solve environmental problems may be as or even more effective than the traditional approach of learning by doing. There is a significant association between interesting stories and attitudes toward taking conservation actions. Therefore, environmental educators should investigate the pedagogical use of story telling to teach environmental concepts and ideas.
6. **Environmental Action Approach:** Some EE researchers are attempting to move beyond studying issues and promoting routine activities. They want to add a focus on education through long-term action projects such as recycling. In addition, Greenall Gough and Robottom (1993) have described a model to investigate the environmental issues called “Environmental Action Project.” They take the study of water quality in a coastal school as an example to explain the components of their proposed model. Their model was a comprehensive environmental action program, which includes research, record keeping, and correspondence and so on. Environmental action approach emphasizes environmental action instead of environmental behavior as a goal. Moreover, it focuses on the integration of multiple student learning areas and their combined effect on positive environmental action.
7. **Movies Approach:** several studies have examined the influence of Movie-based Approach on environmental knowledge, awareness, concern and attitudes. The media are powerful sources for influencing environmental attitudes and values. He stated that television and films provide a promising medium for EE, given that students learn better when they acquire information through several senses. Films about wildlife lead to significantly more positive attitudes toward animals among Canadian children who watched these films than non-viewer.

The findings show that formal educators and awareness program leaders need more educational resources and EE training programs. Moreover, they should work more closely together. In addition, the researcher proposes an instructional model,

which is relevant to the situation of Jordanian schools. It sets up cooperation between formal education sector on one side and community organizations on the other side. The proposed model relies on the effectiveness of first-hand experience, learning by doing, and involvement in local environmental issues. In the model, students choose an issue of personal interest, investigate that issue in depth, and develop issue-resolution action plans that are subsequently evaluated and implemented. In this occasion, school laboratories become candidates to be the homes of EE programs, and the starting points of outdoor activities.

In addition, this situation should urge environmental educators to advocate the epistemological model for EE programs in both formal and nonformal settings. The model should be composed of the four interacting systems: the people, the environment, economics, and technology. The systems of the model would be organized in the framework of three conceptual schemes: (i) the interaction of biological and cultural inheritance with economics and technology; (ii) the interdependence of people and their environment; and (iii) people as the principal agents of change in environment, through the technologies they develop. Finally, other recommendations and proposals for improving formal and nonformal EE in developing countries, and areas for further research, are presented.