Valid Environmental Education: an issue of perceptions

Paul Pace

Introduction

Environmental education is "*... the educational process through which is imparted to its target groups the sensitivity, awareness, knowledge, skills, attitudes, commitment for actions and ethical responsibilities for the rational use of the environment and its resources and for the protection and improvement of the environment for the present and future generations*", (Schembri *et al.*, 1989, p.29). Implementing environmental education in the Maltese educational system does not simply imply the inclusion of environmental topics in syllabi, but a radical rethinking of the way the whole curriculum is structured, implemented and evaluated. This explains why sound local environmental education curriculum initiatives have characteristically experienced implementation problems (Pace, 1997a).

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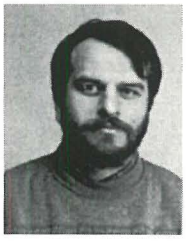

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This paper summarises the results of a study whose main aims were to establish whether the Maltese formal educational system and the main educational policy makers are receptive to the principles of environmental education (as defined by the Tbilisi conference - UNESCO-UNEP, 1978), and whether teachers are ready to assume the role of change agents within the formal educational system. The study was carried out on a sample comprising student teachers, practising teachers, education authorities from the Education Division and university lecturers involved in the teacher education programme. The results presented in this paper highlight the sample's basic perceptions about the environment and environmental education.

Underlying perceptions about the environment

Our perception of the environment invariably determines what we consider as being appropriate environmental education. The results obtained show that the sample perceives the environment as being made up of three major components: the natural environment, the built environment and the social environment, and that an environmental education programme should address all of these three components. However, on closer examination an underlying naturalistic interpretation (Lahiry *et al.*, 1988) of the environment was revealed. A large percentage of the sample, particularly teachers and education authorities, considered the natural environment as the major component of the environment and the main concern of environmental education initiatives.

Although acknowledging the interdisciplinary nature of environmental education, the majority of the respondents still considered science as its basis, possibly reflecting a deep-rooted belief that science is the only repository of 'valid' knowledge. Respondents seemed unaware of the possibility of achieving understanding about environmental issues from "feelings and intuitions" as much as from scientific knowledge (Clover, 1996). In fact, this present study found no statistically significant difference, vis-à-vis environmental education, between science and non-science student teachers. Science is not only seen as the main tool for an 'objective' understanding of environmental phenomena, but also as the main instrument enabling humans to interact with them. This approach puts humans at the centre of environmental discourse and defines the environment on the basis of human interactions, which has been characteristically exploitative. Consequently, when the sample was asked to describe the term 'environment' quite a large proportion cited different forms of 'environmental problems'. Resolution of these problems is usually sought in science and technology. This positivist anthropocentric view was observed in the majority of the sample, who believed that science and technology offer easy solutions for environmental problems, even though they acknowledged that these problems are difficult to resolve because of the cultural and social factors inherent in them.

Nevertheless, further evidence from this study and research on the development of environmental education in Malta (Pace, 1997 b) indicate that attitudes toward the environment, and therefore toward environmental education, are evolving. A common trend, weaving throughout the responses of all sample categories, points at an emerging stance supporting an interdisciplinary approach in the resolution of environmental problems and in the design of environmental education curricula.

Awareness of environmental issues

The level of awareness about environmental issues is one of the indicators of a population's level of environmental concern. This present study confirmed other research results regarding the identification of local environmental problems (Axiak, 1987;

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Planning Services Division, 1990; Kerr, 1992; Pace & Ventura, 1996). Air pollution (predominantly caused by heavy traffic), land misuse (characterised by the encroachment of buildings over 'green areas') and loss of biodiversity (comprising the hunting issue) were the three most cited environmental problems of the Maltese Islands. Also quite high was the score for land pollution (with special reference to the large quantities of waste generated). The research results also confirmed observations made by various authors (e.g. Chiang & Din, 1993; Espeut, 1993; Lahiry *et al.*, 1988) that pollution, in all its different forms – particularly air pollution, is the most commonly cited global environmental problem. While stressing that learners should be helped to develop a global perspective of environmental issues, respondents gave clear indications that they were aware of the international dimension of environmental problems both in the way they are caused and also in the way they can be resolved.

Nevertheless, the mention of sociocultural issues was conspicuously lacking from the list of local and foreign environmental problems cited by the respondents. For example, it is very surprising that overpopulation, a very topical issue in a country with the highest population density in Europe, was marginally considered by the study sample, as well as in the other local studies cited. While results might be showing a concern about issues that directly affect the respondents' health (e.g. air pollution), the aesthetics of their surroundings (e.g. unchecked spread of buildings, accumulating rubbish heaps) and their leisure (e.g. hunting), they also disclose a lack of awareness of the root causes of these environmental issues (e.g. a high population density). Concern about the symptoms and failure to identify and hence address the root causes are an indication of a lack of problem solving skills resulting in an inability to take appropriate actions in the right direction (Benedict, 1991). In his comparative study on values, Abela (1993) cites evidence confirming that Maltese fail to make a connection between cause and effect and claims that the problem could be deeper.

Abela (1993) maintains that the level of environmental awareness in the Maltese is very superficial and lacks internalisation. Attitudes and values are not adequately developed and pro-environmental action is rather lacking. His study seems to suggest that the Maltese have a tendency of considering problems of a social, economic and cultural nature as stemming from within the individual rather than being a response to external environmental factors. This might explain the results consistently obtained in studies on environmental problems in which issues not directly linked with the natural environment are trivially considered.

> ***... the predominant feeling was that the individual is helpless when faced with global environmental problems***

Environmental education as the basis of environmental responsibility

The vast majority of respondents acknowledged the environmental responsibility that humans share, but the predominant feeling was that the individual is helpless when faced with global environmental problems. The power of individual action was practically underestimated by all of the sample categories, except for university lecturers. The value of individual action was only acknowledged if it was backed up by numbers or by official policies. A possible explanation for this phenomenon could be the positivist perspective detected in the study sample. Influenced by the belief that science and technology have the power to resolve environmental issues, citizens tend to pass on their environmental responsibility to the 'experts' whose "*decisions count*" or who "*know what they're talking about*". Respondents entrusted environmental NGOs with the responsibility of safeguarding the environment and expected them to interfere in development plans involving environmental degradation. However, there seems to be a recurring doubt about whether sustainable development is really possible. This liberal technocratic outlook, also emanating from a positivist ideology (Pepper, 1984), was evidenced by the sample's relative uncertainty about whether "*environmental degradation is an inevitable consequence of development*" or not.

If membership in an organisation can be considered an indication of a person's degree of participation within the community (Gray *et al.*, 1985), the low affiliation of the respondents to organisations, particularly in the case of student teachers, is a cause for concern. The trend seems to confirm the individualistic

attitudes observed by Abela (1993), particularly in the younger generation, which are in direct contrast with the values characterising an environmentally responsible person (Gray *et al.*, 1985). Respondents belonging to an organisation tended to have a more positive attitude toward environmental education than non members do. Furthermore, members of environmental NGOs tended to view environmental education as the basis of a strategy promoting environmental responsibility.

The study also identified individuals who fall within the 21-50 age group as well as B.Ed. 4th year and PGCE students as the most receptive audience to an environmental education strategy promoting environmental responsibility. With reference to how such a strategy could be implemented, results showed that exposure to environmental education courses had significantly made a difference in the respondents' attitude towards the importance of environmental education. The data gathered also revealed a tendency of professional training courses to include environmental education as well as a relatively high percentage of individuals who felt the need to follow an environmental education course for their personal development.

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Conclusion

The goal of environmental education is essentially the development of an environmental ethic that would prompt the learner to take concrete actions to improve the quality of the environment by adopting a sustainable lifestyle. Over the years we have seen several interpretations of the term 'environmental education' that have not always reflected its true nature. Its successful implementation requires a rethinking of the way we perceive the environment, our interaction with it and what we mean by education. In my next paper I will be dealing with the second part of the study, i.e., issues concerning the implementation of environmental education in the formal education sector.

A more extensive discussion of the results summarised in this paper was presented at the 23rd Annual Conference of ATEE (Association for Teacher Education in Europe) held at Limerick, Ireland (24 – 30 August 1998). While thanking all those who have participated in the study, with this paper I would like to fulfill my promise of distributing a summary of the results – a promise that was delayed due to the theft of my laptop ... and all my research data! - The author

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