

## **DEVELOPMENT OF THE ENVIRONMENTAL EDUCATION IN URBAN AREAS: THE OMPEPT PROGRAM IN THESSALONIKI**

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**Abstract.** In the past, the nature and wildlife protection was the dominant theme of the environmental education. All the data show that today and in the future, we must place more focus in global and urban environment, because this is in the heart of almost all the other environmental problems. In this framework, the Organisation for the Master Plan and Environmental Protection of Thessaloniki (OMPEPT) applied an environmental education program, aiming to promote environmental education by placing more focus on urban environment. The program includes mainly educational material containing a scientific analysis of the Thessaloniki environmental problems and environmental education paradigms corresponding to the previous analysis. The 20 subjects of the program are organised in three main categories: 68% of the total material refers to the urban and global environment, 21 % to the natural environment and 11 % to the cultural environment.

**Keywords:** environmental education, education orientation, urban environment.

### **AIMS AND BACKGROUND**

The urban population of our planet is about the half of the global population. The continuous and rapid increase of the global urban population combined with the continuous increase of the global population is strongly related with the local, regional and global environmental problems<sup>1,2</sup>.

The international experience shows that the application of any environmental and developmental policy in order to solve local and global environmental problems is inefficient without social participation. A prerequisite for the public participation in the environmental protection is not simply the environmental information but the environmental education and awareness of the citizens. The efficiency of the environmental education depends significantly on its thematic orientation. The environmental education today could fulfil its role by being in correspondence with the modern environmental priorities in local and global scale<sup>3-5</sup>.

The thematic orientation of the environmental education in USA, UK and Greece was examined in a previous study and it was resulted from the journals content of the corresponding environmental education associations for the period 1996-1997. The natural environment topics are the most frequent (43-60%). The urban and global environment topics have a very low presence in Greece and UK (12-13%) and relatively low in USA (29%), where they are the second choice<sup>3</sup>. It is

remarkable that the urban and global environment topics have the first position (about 28%, taking into consideration other subjects, too) in the Greek journal during 1998<sup>6</sup>.

The thematic categories of the environmental education programs applied in Thessaloniki schools, during the period 1995-1998, have been examined in another study. It was resulted that, almost the half of the programs (47%) is dedicated to the natural environment and only the 24% refer to the urban and global environment. The school and cultural environment subjects have the 13% and 16%, respectively<sup>7</sup>.

The main conclusion resulted from the above mentioned studies is that in the past, the nature and wildlife protection was the dominant theme of the environmental education. All the data show that today and in the future, we must place more focus on global and urban environment, because this is in the heart of almost all the other environmental problems.

In this framework, the Organisation for the Master Plan and Environmental Protection of Thessaloniki (OMPEPT) applied an environmental education program (in collaboration with the Aristotle University of Thessaloniki and funded by the Hellenic Ministry of Environment, Physical Planning and Public Works), aiming to promote environmental education by placing more focus on urban environment. The architecture and some data of this program are presented in this paper.

## EXPERIMENTAL

The OMPEPT environmental education program aims to the information and awareness of the students and citizens, regarding the environmental problems and their possible solutions in the Thessaloniki Metropolitan Area.

The program includes mainly educational material (an environmental education manual) addressed to the educators but also to institutions involved in environmental protection. The manual contains a scientific analysis of the Thessaloniki environmental problems and environmental education paradigms corresponding to the previous analysis.

The total educational material is developed in 342 pages. The environmental science and education subjects cover 270 pages. For the preparation of the manual, 23 authors had participated: 12 environmental scientists and engineers and 11 environmental educators.

The environmental subjects of the program are classified in 3 main thematic categories: urban and global environment, natural environment, and cultural environment. The thematic category of the urban and global environment includes 5 subcategories: atmospheric pollution; vehicle and environment; industrial pollution; energy and environment; urban and industrial solid wastes. The thematic categories of the natural and cultural environment include one subcategory each one: wetlands and urban regeneration, respectively. The architecture of the pro-

gram and the 20 environmental subjects organised in categories and subcategories are presented in Table 1.

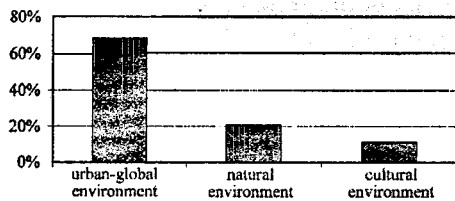
**Table 1.** Specific subjects of the various thematic categories applied in the framework of the OMPEPT environmental education program in Thessaloniki

	Urban and global environment				Natural environment	Cultural environment
air pollution	vehicle	industry	energy	solid wastes	water ecosystems	urban regeneration
Urban air quality	traffic	industry and development	energy use	urban wastes	wetlands	ex-military camp
Global problems	gasoline vehicles	liquid wastes	buildings	industrial wastes	river delta	archaeological site
	diesel vehicles	air pollution			lakes	
	gas stations				sea gulf	
	vehicle mechanics					

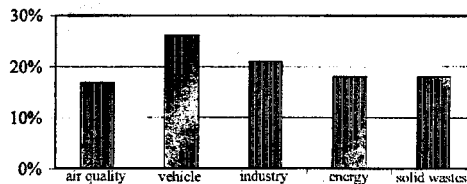
## RESULTS AND DISCUSSION

The OMPEPT environmental education program is oriented mainly to the urban and global environment (Fig. 1). The 68% of the total volume of the environmental science and education material refer to the urban and global environmental topics. The natural environment topics cover 21% and the cultural environment 11% of the total volume of the program. The predominance of the urban and global environment is in correspondence with the modern environmental priorities in local and global scale.

The predominant thematic category (urban and global environment) of the program contains five subcategories (Fig. 2). The vehicle subjects have the highest percentage covering the 26% of the category total volume. The industry subjects



**Fig. 1.** The percentage of the various thematic categories applied in the framework of the OMPEPT environmental education program in Thessaloniki



**Fig. 2.** The subjects percentage of the urban-global environment thematic category applied in the framework of the OMPEPT environmental education program in Thessaloniki

have the second position with 21 % of the category volume. The other subjects: air quality, energy and solid wastes have almost the same presence (17-18%).

The relatively high role of the vehicle subjects in the frame of the urban and global environment category is in accordance with the continuous increasing trend of the vehicle fleet in the urban areas and the corresponding increasing trend of environmental impacts caused by vehicles.

A secondary aim of the program was to strengthen the links between environmental scientists and educators and to reflect this effort on the final product of the program. The extent of the environmental science and education approaches of the various thematic categories is presented in Fig. 3. The ratio between environmental science and environmental education extent is almost the same in all categories. The extent is 61-65% for the environmental science and 35-39% for the education approach.

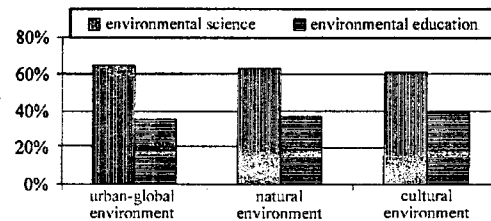


Fig. 3. The extent of the environmental science and education (in percentage) of the various thematic categories applied in the framework of the OMPEPT environmental education program in Thessaloniki

The potential and the expected efficiency of the OMPEPT environmental education program can be preliminarily evaluated by three criteria: a) the participation in the program presentation-training procedures; b) the interest to receive the program manual; and c) the educators opinion about the usefulness of the manual.

Regarding the first criterion, it is important to note that almost 500 educators from Thessaloniki schools participated in the presentation-training procedures of the program. It is also significant to underline that 700 school educators and 200 public and private institutions of Thessaloniki have been interested to be informed for the program detailed content and to receive the manual (second criterion). In a survey<sup>8</sup> realised among 250 educators (60% from the secondary and 40% from the primary education schools of Thessaloniki) it was resulted that 89% of the educators consider useful an environmental manual for their work (third criterion), 9% had no opinion and only a 2% answered negatively.

Based on the above criteria preliminary evaluation, we can conclude that the OMPEPT environmental education program responds well to the needs of the environmental education in an urban area. A further evaluation of the program application parameters in various schools is envisaged in a future work.

## CONCLUSIONS

The OMPEPT environmental education program is oriented mainly to the urban and global environment. The 68% of the total volume of the environmental science and education material refer to the urban and global environmental topics. The natural environment topics cover 21% and the cultural environment 11% of the total volume of the program. The predominance of the urban and global environment is in correspondence with the modern environmental priorities in local and global scale. Based on the criteria for preliminary evaluation, the OMPEPT environmental education program responds well to the needs of the environmental education in an urban area.

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