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ENVIRONMENTAL ATTITUDES OF THE 6th GRADE STUDENTS FROM RURAL AND URBAN AREAS: A case study for Ankara

KIRSAL VE KENTSEL ALANLARDA YAŞAYAN 6. SINIF ÖĞRENCİLERİNİN ÇEVREYE YÖNELİK TUTUMLARI: Ankara'da bir çalışma

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ABSTRACT: This study investigated environmental attitude of 6th grade students living in rural and urban areas in Ankara. Hundred and thirty-eight students were selected from four schools located in these areas. A 45-item questionnaire consisting of four dimensions was used to measure students' environmental attitude. Results of the study revealed that, there is a significant mean difference between students' attitudes with respect to school district.

Keywords: environmental attitude, environmental education, urban area, rural area

ÖZET: Bu çalışmada, Ankara'nın kırsal ve kentsel alanlarında yaşayan 6. sınıf öğrencilerinin, çevreye yönelik tutumları araştırılmıştır. Çalışmaya kırsal ve kentsel alanlardaki okullara devam eden 136 öğrenci katılmıştır. Öğrencilerin tutumları 45 madde ve 4 bölümden oluşan Likert türü bir ölçekle saptanmıştır. Sonuçlar kırsal ve kentsel alanlarda yaşayan öğrencilerin çevreye yönelik tutumları arasında anlamlı bir fark olduğunu göstermiştir.

Anahtar sözcükler: Çevreye yönelik tutum, Çevre Eğitimi, kırsal ve kentsel alanlar.

1. INTRODUCTION

Three goals of environmental education is defined in 1977 in Tbilisi Declaration (UNESCO, 1978) as; it is to enable pupils to deal with the natural, social and developed environment, it is to promote the ability to solve problems in complex systems, and to contribute to enable pupils to participate in political life. The concept of "the environment", on the other hand, has changed over time; early views focused on changing ecosystems and the impact of various forms of pollution, however the social, economic and cultural dimensions of the environment have been increasingly recognized and the inclusion of sustainable development even more broad.

Two of the basic factors comprising the social dimension of the environment, as far as the EE is concerned, are parents' level of education and their employment. Because, social and economical problems are strictly connected with environmental awareness, thus environmental damage. Supporting equal rights and investing in women's education, for example, would help stop population growth; women with higher education and incomes tend to have fewer children; the children they do have tend to be healthier and better educated. Creating all these trends can reduce poverty and help protect the environment.

It is proposed in this study that, one of the aspects for assessing social dimension of the environment is evaluating the students' attitude toward environment living in rural and urban areas. Depending on the first stage results of the current study that, there is a significant mean difference between students attending

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schools in rural and urban areas with respect to awareness for environmental problems, awareness of individual responsibility, and awareness on the national environmental problems.

Therefore, the current study attempts to put forward the conclusion that, environmental attitude of the students differs with respect to several social parameters and the starting point of an environmental education program is proposed to consider this result. This conclusion can be attributed to the concluding statements of "Thessaloniki Declaration" (UNESCO, 1997) that, "Education for Environment and Sustainability is proposed as the carries of the common and single message of hope for the future, and that the fear of future ("what will happen to the earth, if we do not protect the environment?") dominated EE, now is a "past experience"; the new determinant factors shall be self-responsibility and love for the Earth."

2. RESEARCH QUESTION

Is there any difference between the means of the scores on four dimensions of the environment attitude questionnaire; general awareness for environmental problems, awareness of individual responsibility, general attitude about solutions and awareness on the national environmental problems, for students living in rural and urban areas?

3. METHOD

3.1. Selection of Respondents

Hundred and thirty-eight students were selected from four schools located in rural (Mamak) and urban (Çankaya) areas in Ankara. The random selection of the schools had been realized according to the socio-economic background in which they were located. The aim was to have an equal number of rural and urban area elementary school students, so that suitable comparisons could be made.

3.2. The Questionnaire

A 45-item questionnaire consisting of four dimensions was used to measure students' environmental attitude. The questionnaire was developed based on the one used by Worsley & Skrzypiec (1998), which was originally developed from Herrera's (1992) Questionnaire of Environmental Beliefs. Items concerning general environmental issues, such as ozone layer, over population, etc. were kept and other statements concerning sustainable use of the natural resources, changing life styles and national environmental issues were added. Our aim was to provide a more complete description of the students' perceptions of; awareness for environmental problems, general attitude about solutions, awareness of individual responsibility and awareness on the national environmental problems.

It is a Likert type questionnaire measuring students' awareness on both global and national environmental problems. It consists of 45 items, the choices for each item are strongly agree, agree, undecided, disagree, strongly disagree and I don't know. The questionnaire is comprised of four dimensions; awareness for environmental problems – AEP- (12 items), general attitude about solutions –GAS -(15 items), awareness of individual responsibility –AIR - (13 items), and awareness on the national environmental problems –ANEP - (6 items).

The questionnaire has three pages, the first page contained measures of demographics and social status (age, school, classroom, sex, parents' education and employment status, etc) and the items in the other pages were arranged regardless of the specific issues.

3.3. Analysis

Statistical analysis included tabulation of frequency distribution of students' responses to EAS (Environmental Attitude Scale) and one-way MANOVA. The internal consistancy of the scale was determined to be .87 using Cronbach alpha.

4. RESULTS

4.1. Respondents' Profile

Data were obtained from 138 students from 6th grade classrooms of the rural area elementary schools (N=67) and urban area elementary schools (N=71). The mean age of the students in both rural area and urban area schools was 12 (Table 1).

Table 1: Respondents's Profile

Classroom	6th grade
Total number of students	138
Rural area	67
Urban area	71
Mean of students' age	
Rural area	12.35
Urban area	12.13

4.2. Social Status of the Students living in Rural and Urban Areas

Characteristics that indicate social status of the sample in the rural and urban areas are; father educational level (FEL), mother educational level (MEL), father work status (FWS) and mother work status (MWS). Related data are given in Table 2 for rural and urban areas.

As is seen from Table 2 and Figure 1, level of education of the rural and urban area parents reveal a distinguished character. The level of education for most of the rural parents extents only to the high school degree, whereas that for the urban parents is mostly university and higher. MEL in rural areas is mainly primary school, whereas that for the urban areas is mainly university. Although only 9 % of the fathers living in rural areas have university degree, that is for the urban areas is 41%.

Similar discrepancy is valid between the education levels of mothers living in rural and urban areas; only 1.7 % of them have university degree in rural and it is about 38% for those living in the urban. This

Table 2: Social status of the students in rural and urban areas

	Rural (%)		Urban (%)	
Educational Level	FEL	MEL	FEL	MEL
Primary School	31.3	56.7	8.7	10.1
Junior High School	31.3	23.3	5.8	4.3
High School	28.4	18.3	17.4	21.7
University	9	1.7	40.6	37.7
MS	0	0	15.9	17.4
PhD	0	0	11.6	8.7
Employment	FWS	MWS	FWS	MWS
Unemployed	11.7	89.1	4.4	42.3
Government	30.0	3.1	48.5	38.0
Private Sector	20.0	6.3	23.5	11.3
Employer	38.3	1.6	23.5	8.5

dissimilarity is worthy to be pronounced, as it is very important and useful while evaluating the students' responses.

Parents' employment status data, on the other hand, reveals that mothers living in rural area are mostly unemployed, whereas those living in the urban work mainly in the governmental sector. Although fathers' work status seems to be similar for rural and urban for private sector and employer cases, unemployed percentage for rural is more than twice that of the urban.

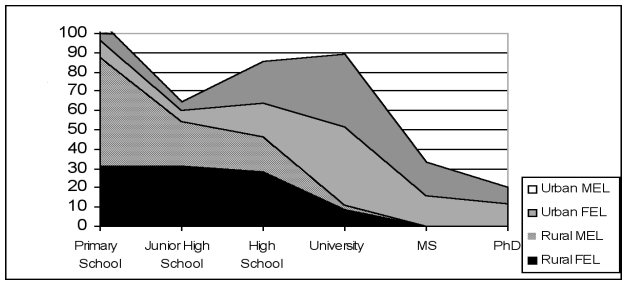

Figure 1. Parents' level of education for Rural and Urban Areas.

Table 3. Students' Responses

		Rural Area (%)						Urban Area (%)					
Item No	Statement	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree	I dont know	Strongly disagree	Disagree	Undecided	Agree	Strongly Agree	I dont know
3	Environmental pollution is a temporary problem	31.8	25.8	16.7	10.6	10.6	4.5	44.3	25.7	7.1	12.9	10.0	0
28	Humanity is abusing the environment	2.1	18.2	19.7	19.7	16.7	13.6	11.3	2.8	15.5	32.4	28.2	9.9
37	The natural sources of energy, such as sun, wind and water, can never be exhausted, so energy will never be scarce on earth.	22.7	16.7	30.3	12.1	6.1	12.1	33.8	18.3	16.9	14.1	9.9	7
8	Protection of the environment is more important than economic growth.	10.4	11.9	25.4	25.4	16.4	10.4	8.7	11.6	26.1	14.5	33.3	5.8
38	In dealing with any kind of problem we need to first consider how it will effect the environment.	1.6	9.5	19	25.4	27	17.5	7.2	4.3	14.5	30.4	40.6	1.4
40	Society should encourage the conservation of nature.	6	10.4	20.9	17.9	32.8	11.9	3	7.5	14.9	28.4	43.3	3
20	Turkey needs to be industrialized, therefore environmental destruction due to industrialization can be discarded.	14.9	19.4	20.9	14.9	6	23.9	38.6	14.3	17.1	17.1	7.1	5.7
23	There are many plant animal species in our country that are at the edge of extinction.	10.6	7.6	12.1	24.2	34.8	10.6	11,6	8,7	1.4	33.3	44.9	0
42	The solution of the environmental problems in Turkey is closely related with raising environmental awareness.	4.7	6.3	29.7	28.1	15.6	14.9	9.9	7	7	9.9	28.2	38
15	Fast food consumption is harmful for both ours and nature's health.	19.7	9.1	22.7	13.6	21.2	13.6	15.9	14.5	20.3	20.3	21.7	7.2
19	If we do not change the current consumption patterns, land de gradation and topsoil losses will increase to the point where they can no longer support crops.	6.1	4.5	24.2	19.7	22.7	22.7	5.7	8.6	20	28.6	28.6	8.6
24	Individual responsibilities are very important in protecting the environmental pollution.	10.4	6	10.4	19.4	52.2	1.5	12.7	4.2	4.2	15.5	59.2	4.2

4.3. Students' Opinions

Frequency distribution of students' responses to the questionnaire is given in Table 3. Each three item in the table refers to a dimension, namely; item no's 3, 28, 37 stand for AEP, 8, 38, 40 for GAS, 20, 23, 42 for ANEP and 15, 19, 24 for AIR.

At a first glance to Table 3, it can easily be observed that, 6^{th} grade students of both rural and urban areas in Ankara (Turkey) agree that;

- environmental pollution is not a temporary problem
- society should encourage the natural conservation,
- in dealing any kind of a problem, we need to consider how it will effect the environment,

and

- individual responsibilities are very important in protecting the environment.

The answers of both rural and urban area students for the item no.24 are the most encouraging one that; 59.2% of the urban and 52.2% of the rural area students "strongly agree" that individual responsibilities are very important in protecting the environment. A similar situation is valid for the item no.3 that the students from both rural and urban areas are disagree that environmental pollution is a temporary problem. The responses for the item no.38, on the other hand, is another point that all the students are agree on. More than 70% and 52% of the urban and rural area students, respectively agree that dealing with any kind of problem should include the consideration of its effect on environment. Whereas, there is a disagreement for the item no.20, which search for the opinions for the superiority between industrialization and environmental destruction. Fifty three percent of the urban area students make their choice for environment, 34.3% of the rural area students make the same choice, while 20.9% of them answered the item as "undecided" and 23.9 % as "I don't know".

Another dilemma exists for the item no.42, which is related with the solution of the environmental problems and the environmental awareness. Although they do not seem to be disagree with this statement, the high percentages of "undecided" and "I don't know" answers show that the majority of them, especially of the urban area students, have no idea about the concept.

"I don't know" answers given by the urban area students do not exceed 10% for all the cases except the item no.42. But the case for the rural area students is different. The percentages for "I don't know" answers are above 10% for all the cases except item no's 3 and 24.

4.4. Rural and Urban Difference in the four dimensions of the Environmental Attitude Scale

A one-way multivariate analysis of variance (MANOVA) was conducted to determine the effect of the region (rural and urban) on four dimensions of environment attitude scale. A significant difference was found between rural and urban areas on the dependent measures, Wilks' L= 0.861, $F(4,133)=5.39$, $p<0.001$. The multivariate h^2 =0.14 indicated 14% of multivariate variance of dependent variables is associated with the independent variable. Table 4 contains the means and standard deviations of the four dimensions of the questionnaire for rural and urban area schools.

The univariate ANOVAs for general awareness for environmental problems, awareness of individual responsibility, and awareness on the national environmental problems were significant $F(1.136)=18.97$, $p<0.001$, $F(1.136)=7.60$, $p=0.007$ and $F(1.136)=13.84$, $p<0.001$, respectively, while the univariate ANOVA for general attitude about solutions was not significant $F(1.136)=5.88$, $p=0.017$. Each ANOVA was tested at the 0.01 significance level. These results indicated that there was significant mean difference between stu-

Table 4. Means and standard deviations of the four dimensions of the questionnaire

	Rural		Urban	
	M	*SD*	*M*	*SD*
AEP: awareness on environmental problems				
(item no's: *1,3,5, 6, 9, 27, 28, 33, 35, 36, 37, 39)*	35.16	8.22	41.70	9.33
GAS: general attitude about solutions				
(item no's: *2,7, 8, 11, 12, 13,16, 17, 18, 21, 22, 34, 38, 40, 43)*	43.45	9.33	47.42	9.90
AIR : awareness of individual responsibility				
(item no's: *10,13, 14, 15, 19,24,25,30, 31, 32, 41,44, 45)*	38.18	9.58	42.79	10.04
ANEP: awareness on the national environmental problems				
(item no's: *4 ,20, 23, 26, 29, 42)*	19.25	4.93	22.48	5.24

dents attending schools in a rural area and students attending schools in an urban area with respect to three dimensions of the scale namely, awareness for environmental problems, awareness of individual responsibility, and awareness on the national environmental problems. When the mean scores on each dimensions were examined, it was found that students in the urban area had greater awareness for environmental problems, individual responsibility, and national environmental problems. However, no statistically significant mean difference was found between students in a rural and an urban area with respect to general attitude about solutions. Although, the mean difference was not statistically significant, mean score was greater for students in the urban area which shows that students in the urban area were more optimistic about the solutions of the problems (*M*rural = 43.45, *M*urban=47.42).

5. DISCUSSION

Although students are strongly agree about the importance of the individual responsibilities in protecting environmental pollution (Item no: 24), they seem not to been confident about them. This is evident from the answers to the items numbered 15 and 19. It is obvious from those answers that, although they might have a feeling that fast food consumption and topsoil losses are the undesirable issues in our lives, they are not aware of the relation of these issues with the environmental pollution concept. Such vagueness is also valid for item no. 42, which tests the students' opinions on the relation between environmental problems and awareness. Most of the students from both rural and urban schools seem to have undecided or don't know anything about the relation between being aware of the problems and solutions, although, according to their answers to item no's 3, 24, 38, 40, they seem to be aware of the significance of the environmental pollution problems. The only possible explanation for this situation is that, the students are aware of that there are problems related with the environment, but they are not in the position to assess that the sources of the problems are scattered in such a wide range that the solutions may only come by being aware of these relations and acting accordingly.

While looking at the items related with Turkey, on the other hand, although most of the students are strongly agree that we have lots of plants and animals at the stage of extinction, those living in urban area are strongly agree that environment should not be discarded for the sake of industrialization, whereas those living in the rural mostly have no idea or undecided on this item. This is one of the fascinating results of the study. Because, although the urban area students are more likely to be the ones more aware of the end products of industrialization, as far as life styles and consumption patterns are concerned, they are the ones rejecting the industrialization over environmental concerns. This can be evaluated in two ways as; either

they are not in a position to assess the relationship or they are really aware and sensitive to the environmental issues. The percentage of the positive answers of the urban area students ("agree"; 14.5% and "strongly agree"; 33.3%) for item no.8 may be explanatory for the above assessment. The choice of environmental protection over economic growth shows that they are aware of the environmental problems and they are also aware of what this implies.

As Tikka et al. (2000) states, as a result of their study with the total of 464 students in Finland, that size and location of one's hometown might shape attitudes towards the environment. The most positive attitudes were found in their study as among students coming from the metropolitan area, where population levels are densest. It is possible, according to the authors that, people living in crowded, urbanized environments are most likely to become aware of existing problems and, consequently, adopt sympathetic attitudes toward nature and protection of the environment.

In a recent work, Luoghland et al., 2003 concerned the dominance of the 'object' conception and the rarity of the 'relation' conception among young people. The study was focused on identifying factors that influence conceptions of the environment and included several demographic factors such as, location of the school (rural, urban), sex and population. According to the results of this study, the majority of young people in Australia, see the environment as 'something out there'- a place, separated from themselves. Only minority see the environment from a relation point of view – something which supports and enhances their living, and which in turn requires their care and support. Although the methods and items of the questionnaires of the two studies are different, the dimensions used in our study (AEP, AIR, GAS, ANEP) are comparable, therefore, it is convenient to state that, the students' environmental attitude of the current study is in a way that they see the environment from a relational point of view. But the point for our case is that, they are in the need to be educated on how to act in parallel with this attitude. This finding could have an important implication for environmental education.

According to the results of the study realized by Campbel, et al., (1999), environmental knowledge and environmental attitudes are correlated. This finding suggests that increased knowledge may help to improve environmental attitude. Granted, outside influences such as life experiences, socioeconomic status and culture probably influence environmental attitudes as well. However, it is encouraging for educators to learn that attitude can be influenced, at least in part, by what is taught in the classroom.

The extended work, suggested by these evaluations, should therefore focus on the environmental education curriculum studies in Turkey. Although there are several studies on this issue, since the attitudes differ according to social, economic, cultural and environmental circumstances, studies on the cases specific to countries are strongly recommended.

Curricular materials encouraging, novel, inquiry-based, active learning in environment education should be prepared by scientists and K-12 teachers. Such materials are determined to be useful in motivating both teachers and students to learn about environmental issues (Groves & Pugh, 1999). The study carried out by Manzanal, Barreiro, & Jiménez (1999), for example, showed that fieldwork helped students acquire a deeper and more solid understanding of ecological concepts and led to the development of more positive attitudes toward the defense of the ecosystem. The students involved in the fieldwork analyzed the problems with a wider variety of arguments. So, such kind of activities should be incorporated into curriculum for better understanding of environmental concepts, environmental problems and development of favorable attitudes toward environmental protection. This appears to be essential because the resolution of our ecological issues requires not only technological changes but also changes in the attitudes and behavior

of people (Stapp & Polunin, 1991). However, the study on the 6th grade students (Eagles & Demare, 1999) resulted that a week program at a residential camp in Canada, in which innovative dramatic and experimental learning approaches are used to teach environmental attitudes and facts, did not produce any measurable differences in ecologistic and moralistic attitudes toward the environment. It is concluded therefore that, it would be reasonable for 6th grade programming to concentrate on building factual and cognitive structures upon the extend environmentally positive attitudes of the children.

CONCLUSIONS

As a result of all, the general attitude of 6th grade students was endorsement for the individual responsibilities in protecting the environmental pollution. Students of the urban area schools seemed to be much more aware of the economical and academical aspects of the problem, referring to the answers to the items no's 8, 20 and 37, whereas rural area students were not sure on these issues. The general attitude of the urban area students was strongly against the economical growth and industrialization, whereas rural area students were mostly unsure. Although almost all the students were agree on the importance of self responsibilities, there is no general attitude observed for changing the life styles. The reason is probably that they do not have any idea about how to accomplish the responsibilities and the relation with making changes in the styles of living.

This ends up with the conclusion that, the students in the urban are aware of the environmental problems in more academic way, whereas those in rural are aware of the problems in more unsophisticated way. On the other hand, no statistically significant mean difference found between students in rural and urban area with respect to general attitude toward the solutions reveal that most of the students in both area think that "we can and should do something for solutions of the environmental problems". However, since higher mean score indicates more positive attitude, students in urban area seem to be more optimistic *M*rural=43.45, *M*urban=47.42.

When making a relation with the level of education and employment status of the parents in the rural and urban area students', it is easy to see the relation between social status and environmental awareness.

Last of all, according to modern ideas, one's personality, or self, is formed in a continuous interaction with other people, the environment, and culture. The effects of individual factors on personality, attitudes, and behaviour cannot be separated from one another. Even though we were able to prove attitudes toward environment, levels of activity, and degrees of knowledge to be connected to educational background, we admit that numerous factors, uncontrolled by us, certainly have a further effect on these variables (Tikka et.al., 2000).

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