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*Drawing for the Protection of the  
Environment: The Case of School  
Children in Alexandroupolis*

**E**NVIRONMENTAL EDUCATION IS IMPORTANT BECAUSE MANY OF the environmental problems we need to deal with such as limited natural resources, energy conservation, ecosystem management, air and water quality or global warming require informed decisions about possible solutions. The environmental education provided at early childhood is considered particularly important because when children will grow up they will be responsible for making decisions about environmental issues and problems. The objective is to create a society of primarily children taught to respect the environment and thereafter adults conscious of their environment (Yilmaz and Korkut 2010). The scientists, voters and leaders of the future will need to be able to understand and act on environmental matters (Carrier 2007). Therefore, the first years of learning are a fundamentally important period for moulding people's behaviour towards the environment (Bryant and Hungerford 1977, Stapp 1978, Tilbury 1994). These years are considered to be of vital importance and their results or impact can be irreversible in many cases. When children are taught to respect the environment, this lesson will follow them later in life, while children that develop a negative attitude, will be deeply affected by it as they grow older (Tilbury 1994).

The younger the child, the bigger the emphasis in providing direct guidance or in instilling values. The instilling of values is based on direct or indirect information regarding whether an act is right or wrong (Knapp 1983). In achieving this goal various tools may be used: posters, slogans,

texts, etc provided that they contain a direct message (Kirshenbaum 1995). The sensitivity and innocence which characterizes children is a guarantor for direct messages without expediency. Also, the assigning of responsibility to children through this first contact with crucial environmental problems (Stefos et al. 2010) and making them know that they can be successful in their efforts leads to the development of values which, in turn, may lead to the improvement of their behavior (Damon 1988).

One of the most appropriate tools in collecting information about children is drawing (King 1995). Children drawings can provide information about their feelings, attitudes and beliefs (Crook 1985) and reflect their thoughts (Thomas and Silk 1990, Barraza 1999, McConnell 1993, Chang 2005, Cherney et al. 2006).

In this paper we try to make children create ideas through drawings and their messages in posters aiming at the sensitization of public opinion regarding issues related to the protection of the environment.

### *Research methodology*

The research was carried out in 2007, in the schools of the municipality of Alexandroupolis. The population under investigation was children aged 11-13, and in particular the children of the 5<sup>th</sup> and 6<sup>th</sup> grade of the elementary school and the children attending their first year in high school (gymnasium). The pupils who participated in this research were 528 and registered in 6 different schools of the town (3 elementary schools and 3 gymnasiums). 50.4% of the pupils were boys and 49.6% girls. Also, 56.06% of the population under investigation were elementary school pupils (22.5% in the 5<sup>th</sup> grade and 33.5% in the 6<sup>th</sup> grade) while 43.94% were gymnasium pupils. In total, in the town of Alexandroupolis there are 4 high schools and 10 elementary schools. Unfortunately, in many of these schools the school administration refused to allow the pupils to participate in the research. Although this refusal does not constitute refusal of the pupils themselves, nevertheless, it should be mentioned that the results of our research refer to the children who were asked.

Students were given a one-page questionnaire asking how they spend their free time and to name mascots which could be used for the protection of forest, sea, wild animals, wetlands, cleanliness of town and recycling. Pupils were also asked to draw one of the mascots they chose. So,

beyond the type of mascot the drawing refers to, indirectly, the pupils, through the choice of the subject of drawing, show what they regard important to be protected. We chose to ask the children to draw because we thought that at that age they would express themselves better through drawing rather than some other activity.

In order to test if the variables “subject the drawing refers to” and “type of mascot the drawing refers to” are independent between them, the test of independence was used. The criterion used was  $X^2$  (Mendenhall 1979, Kiohos 1993, Steel et al. 1997, Makrakis 1997, Pagano and Gauvreu 2000, Retiniotis 2004). In the test of independence of features the null hypothesis which is tested is “ $H_0$ : there is no difference between the variables”.

In order for the test of independence to be credible the expected frequencies should be smaller than 1, while those which are smaller than 5 should not exceed 20% of the total of the frequencies (Koliva-Machaira and Mpora-Senta 1995, Gnardellis 2003, Siomkos and Vasilikopoulou 2005). The statistical measure  $X^2$  is based on comparing the expected frequencies to the observed frequencies and is done through the Crosstabs procedure of the statistical program SPSS (Apostolakis and Kastania 1994, Howit and Gramer 2003, Frangos 2004).

However, neither the measurement of intensity nor the specification of the nature of the (probable) relation of the variables can result from the statistical  $X^2$  (Tsantas et al. 1999). In categorical imperatives only the intensity is meaningful and the measures which rely on the statistical  $X^2$  are the phi coefficient, Gramer’s V coefficient and the contingency coefficient (Tsantas et al. 1999, Retiniotis 2004). The phi coefficient examines the direction between the variables (Siomkos and Vasilikopoulou 2005). Also, this relation can indirectly be shown via a figure (Figure 3).

### *Results*

The results regarding the activities of pupils in their free time can be seen in table 1 and figure 1. It therefore becomes obvious that the children asked, utilize their free time playing with their friends. A very small number of children declare that they do not play at all with other children. Children need to communicate with other children, something which rates high in their preferences.

Free time activities	Very much		Much		Enough		A little		Not at all	
	n	%	n	%	n	%	n	%	n	%
Television	72	13.6	112	21.2	226	42.8	113	21.4	5	0.9
Magazines	51	9.7	83	15.7	106	20.1	184	34.8	104	19.7
Music	222	42.0	122	23.1	101	19.1	67	12.7	16	3.0
Electronic games	105	19.9	102	19.3	97	18.4	144	27.3	80	15.2
Films	104	19.7	125	23.7	138	26.1	139	26.3	22	4.2
Comics	62	11.7	77	14.6	68	12.9	151	28.6	170	32.2
Drawing	116	22.0	105	19.9	93	17.6	146	27.7	68	12.9
Playing with friends	285	54.0	122	23.1	76	14.4	36	6.8	9	1.7

Table 1. Activities of pupils during their free time.

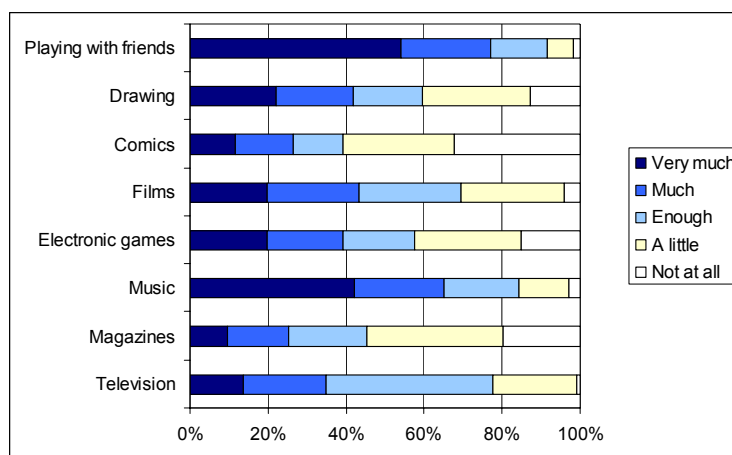


Figure 1. Activities of pupils during their free time.

As a free time activity music comes next. Today’s children spend several hours a day listening to music, in the car, at home, in the street, in the classroom, during reading etc. Music is for them a means of expression. Also, for many children, music goes hand in hand with the way they dress, their behavior, but also the friends they choose. In addition, in the past, young peoples’ revolutions against the status quo were identified with a new music (Bennett 2000).

Also, a popular free time activity for children is drawing things. This is very positive because drawing is a form of art which gives the child freedom to express feelings without the self-criticism which often accompanies oral speech. Generally, art helps in the development of autonomy, independence of thought and action. Many psychologists believe that drawing is one of the most credible means for defining a child's stage of development and for this reason they use it widely in their work (Kay 2000).

Very close to music, as a free time activity, are films (dvd, video) and electronic games. Films attract children because they combine both picture and sound. Films keep children occupied and give parents time to do other things. Electronic games may offer the child an interactive role but parents need to engage their children in other activities such as reading them stories or talking to them.

Television receives from the pupils the bigger percentage of the choice "enough". A small percentage declares that they do not watch television. Television is often used as an award to the pupil who completes his / her homework for the day.

Regarding magazines or comics more than half of the pupils declare that they read them a little or not at all. We see that the percentages, regarding magazines and comics, are much smaller when compared to those of television. This is because television rates for many years high in the preferences of the children but, unfortunately, is less useful regarding learning benefits. Children prefer the electronic means more than the traditional ones because the former, television in particular, are more related to a culture of entertainment than a culture of learning (Koumentos 2006).

Despite all this, as we shall see later, children are influenced more by comics and, in particular the heroes of comics but also the heroes of animation films which are shown on television. This is because comics constitute a system of communication which is based on a dialectical game between a) a series of pictures-drawing which reproduce successive situations of an act and b) the concise text which comments on the act or reproduces what those involved say. Generally, comics as a communication tool enable the child to supplement through the use of his imagination, whatever information is absent from the drawing (Berger 2004).

The above results refer to the total of the pupils. We would, therefore, like to investigate if the boys differentiate themselves from girls regarding utilization of free time and so we applied reliability analysis in all of the above variables which contained the variable gender. It is important to note that before the application of reliability analysis we grouped the variables

“very much” and “much”, as well as “enough” and not “at all”, in order to have a 2X2 table.

Through reliability analysis is tested the null hypothesis:  $H_0$  = there is no difference between the variables.

In order to save time we cite only the results regarding the pair of variables for which the null hypothesis is rejected. Indeed, for all the pairs of variables we have zero cells (0.0%) with expected frequency smaller than 5. Therefore, the necessary requirement in order to use Pearson's  $X^2$  is satisfied.

For the first pair of variables the value of Parson's  $X^2$  is 11.179 with 1 degree of freedom and the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This shows that there is a strong correlation between the variables “gender” and “free time-television”.

Regarding the relationship of the factors, we would have reached the same conclusion through Yates's continuity correction (in 2X2 tables). The value  $X^2$  with continuity correction is 10.576 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . We are also led to the same conclusion by the value  $X^2$  of the likelihood ratio which is 11.240 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This test is sometimes used as an alternative of Pearson's  $X^2$ , although for large samples it is approximately the same (Tsantas et al. 1999).

Also, referring to the direction of the results we see that the boys in their free time watch television “very much” to “much” while the girls say that that they watch television “enough” to “not at all”.

To the above conclusion we are also led by the phi coefficient which equals 0.146 (positive) while the correlation between the variables is statistically significant ( $\alpha < 0.005$ ). Gramer's V coefficient is 0.146 while the correlation is statistically significant ( $\alpha < 0.005$ ). If one of the two dimensions of the table is 2, the V coefficient is identical to the phi coefficient (Retiniotis 2004). The contingency coefficient is 0.144 and the correlation between the variables is statistically significant ( $\alpha < 0.005$ ).

For the second pair of variables the value of Pearson's  $X^2$  is 85.014 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This shows that there is strong correlation between the variables “gender” and “free time-electronic games”. To the same conclusion we are also led by the value  $X^2$  with continuity correction 83.378 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . To the same conclusion we are also led by the

value  $X^2$  of the likelihood ratio which is 88.113 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ .

In addition, referring to the direction of the results we see that the boys, in their free time, play electronic games “very much” to “much”, in contrast to the girls which say that they play electronic games “enough” to “not at all”. To the above conclusion we are also led by the phi coefficient which equals 0.401 (positive) while the correlation between the variables is statistically significant ( $\alpha < 0.005$ ). Gramer’s V coefficient gets the same value while the contingency coefficient is 0.372 while the correlation between the variables is statistically significant ( $\alpha < 0.005$ ).

For the third pair of variables the value of Pearson’s  $X^2$  is 12.619 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This shows that there is strong correlation between the variables “gender” and “free time- reading comics”. We are also led to the same conclusion by the value  $X^2$  with continuity correction 11.927 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . In addition, we are led to the same conclusion by the value  $X^2$  of the likelihood ratio which is 12.741 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ .

Also, referring to the direction of the results we see that in their free time the boys read comics “very much” to “much”, in contrast to the girls who say that they read comics “enough” to “not at all”. We are also led to the above conclusion by the phi coefficient which equals 0.155 (positive) while the correlation between the variables is statistically significant ( $\alpha < 0.005$ ). Gramer’s V coefficient also gets the same value while the contingency coefficient is 0.153 and the correlation between the variables is statistically significant ( $\alpha < 0.005$ ).

Finally, for the fourth pair of variables the value of Pearson’s  $X^2$  is 19.985 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This shows that there is strong correlation between the variables “gender” and “free time-drawing”. We are also led to the same conclusion by the value  $X^2$  with continuity correction which is 19.204 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . In addition, we are led to the same conclusion by the value  $X^2$  of the likelihood ratio which is 20.121 with 1 degree of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ .

Also, referring to the direction of the results we see that the boys, in their free time, draw “enough” to “not at all”, in contrast to the girls who say that they draw “very much” to “much”. We are also led to the above conclusion by the phi coefficient which equals -0.195 (negative) while the correlation between the variables is statistically significant ( $\alpha < 0.005$ ). Gramer’s V coefficient gets the same value, while the contingency coefficient is 0.191 and the correlation between the variables is statistically significant ( $\alpha < 0.005$ ).

Then the children were asked to answer an open question with regard to what they consider a likable figure-mascot which could be used in an effort to sensitize public opinion on matters related to the protection of the environment.

Generally, as a likable figure-caricature for the protection of the environment, in a percentage of 44.9% the children chose plants and trees, animals in a percentage of 28.6%, objects and messages in a percentage of 6.3%, cartoons and film heroes in a percentage of 6.3%, regions and landscapes in a percentage of 5.7% and persons in a percentage of 2.3%. 6.1% of the pupils did not answer the question. In particular, as mascot for the protection of nature the children chose various flowers and trees. As far as animals were concerned the most characteristic among those chosen were the dog, the bear, the panda and various birds, while with regard to cartoons the children chose Winnie the bear.

Regarding the protection of the seas from pollution, most of those asked (70.1%) chose a sea creature. The one most preferred by the children was the dolphin, maybe because this is the most known and friendly to people sea creature. They also chose the whale, the shark, the seal, the sea gull, the caretta-caretta etc. 8.9% of the children chose objects and messages such as: “Do not throw garbage into the sea” or “Many years ago the sea was clean while now is dirty. We should make it as it was”. 7% of the children chose cartoons or film heroes such as Nemo the shark fighter or Ariel the mermaid. 5.1% of the children chose regions or landscapes, 1.5% persons and 0.4% plants. 7% of the pupils did not answer the question.

Regarding the protection of forests 33.9% of the pupils chose animals and 29.5% plants and trees. The animals chosen were mainly animals of the forest such as bear, lion, squirrel, deer, and wolf and as far as trees were concerned fir and pine. Next come objects and messages such as the sign of flame covered with an X or “Don’t burn the forests, do not set fires” (10,8%), cartoons or heroes (8,5%) with most common figures being Robinhood, Siba, Mogli and Tarzan. We see that the children use cartoons which are directly related to the forest. Regions or landscapes receive a percentage



of 7.8% with the most characteristic being a forest on fire. Persons such as a forest guard or a fireman were chosen in a percentage of 2.5% while 7% of the pupils did not answer the question.

Regarding the protection of wild animals the majority of the pupils (72%) chose an animal. The most characteristic were the lion, the bear, the tiger, and the wolf. It seems that the pupils combine wild animals with land ecosystems. A small percentage of pupils (8.9%) chose a cartoon or a hero such as Tarzan, Moglis or Siba, while 5.9% of the pupils chose an object in combination with a message, e.g. a weapon with a message underneath it "Don't kill the animals". 3.6% of the pupils chose a person, mainly a hunter, 1.1% regions or landscapes and 0.4% plants and trees. 8.1% of the pupils did not answer the question.

Regarding the protection of wetlands most of the children (59.1%) again chose an animal. The animals which they chose were mainly birds such as flamingo, ducks, swans etc., but also other animals which live in wetlands, showing that children are informed about the wealth of the biodiversity of animals which live in wetlands. This ability of the children to find figures also becomes obvious by the adjectives some of them use such as "happy mosquito", "smiling fish" etc. 9.5% of the pupils chose regions and landscapes, in particular the Evros Delta, one of the most known wetlands in the region. Also, 7% chose a cartoon or film heroes, 5.5% chose objects and messages, such as "Don't pollute the lakes and the rivers", 4.9% chose plants and trees and 1.3% chose persons. 12.5% of the pupils did not answer the question.

Regarding the improvement and the cleanliness of the town 58.1% of the pupils chose an object or message, 11% a person, 8.1% a cartoon or film heroes, 6.1% an animal, 5.1% a region or landscape, 1.9% a plant or tree, while 9.7% of the children did not answer the question. Among the objects they chose the most characteristic was the bucket, the broom, the rubbish-cart, while as far as persons were concerned they chose the street-cleaner.

Regarding recycling 72% of the pupils chose an object or message, 5.7% a cartoon or film heroes, 4% an animal, 3.6% a person, 1.5% a plant or tree, 0.6% a region or landscape, while 12.7% of the pupils did not answer the question. Regarding objects the most characteristic was the bucket and materials for recycling (batteries, refreshment tins, bottles etc). We see, therefore, that most of the children relate recycling to the cleanliness of the town.

The next thing which was asked of the children was to draw one of their choices in the previous questions (Figure 2). This is very positive because it shows that children have the ability to express freely their feelings through

drawing. The children use in their drawings visual material from their everyday life and then reveal this material through pictures they have imprinted in their memory (Kay 2000). Thus, indirectly, via the choice of the topic they draw about, the children show what they regard important to be protected.

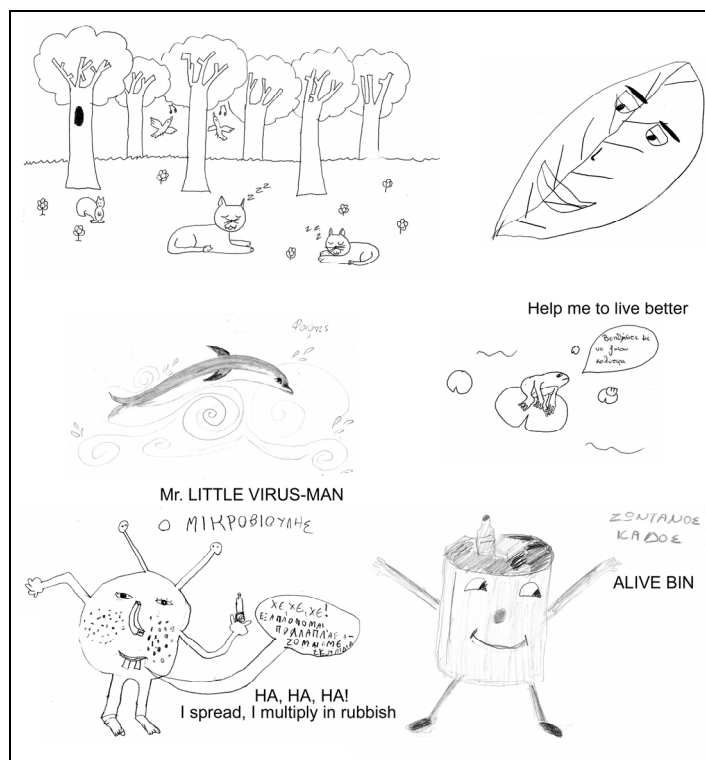


Figure 2. Representative drawings of children.

The biggest percentage of children (25.6%) drew something which was generally related to the protection of nature while 16.5% chose to draw something about the protection of forests. 13.1% chose the protection of the seas from pollution, while 12.3% chose the protection of wild animals. Recycling as a topic for drawing receives a percentage of 10.2%, the improvement of town regarding cleanliness receives 9.8% while the protection of wetlands receives 5.7%. 6.8% of the pupils did not draw anything or the drawing was vague and thus impossible to classify.

Regarding the type of mascot used in the drawings, 35.4% were animals,

22.8% plants and trees, 19.9% objects with messages, 7.8% regions and landscapes, 4.4% cartoons and film heroes and 4.5% persons. For 6.8% of the students what was mentioned above applies.

After grouping the above two variables, in the second variable, we applied the test of independence. Through the test of independence the null hypothesis:  $H_0$  = there is no difference between the variables. The necessary requirement in order to test Pearson's  $X^2$  is satisfied since there are zero cells (0.0%) with expected frequency smaller than 5 and with the minimum expected frequency being 9.27.

The value of Pearson's  $X^2$  is 387.735 with 12 degrees of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ . This shows that there is strong correlation between the subject of the drawing and the type of mascot the drawing refers to.

We are led to the same conclusion by the value  $X^2$  of the likelihood ratio which is 382.971 with 12 degrees of freedom while the correlation is statistically significant with level of significance  $\alpha < 0.005$ .

Through the aid of figure 3 we see that when the subject of drawing refers to the protection of nature and the protection of forests the children choose as mascot plants, trees, landscape or locations. When the topic of drawing is the protection of the sea from pollution, the protection of wild animals and wetlands the children choose as mascot some animal the type of which depends on the environment which the drawing refers to. Finally, when the topic is the improvement of the cleanliness of the town and recycling the pupils choose as mascot objects (rubbish bins and recycling bins), cartoons and other film heroes as well as persons.

The children, in some of their drawings, although they were not asked, added words to the pictures they drew. In other words they gave life to their pictures creating their own simple scenarios. A girl in the 5<sup>th</sup> grade drew a bin with a face and a voice saying "Recycle". Indeed, the first picture (Figure 2) describes the tranquility of the forest without the drawing needing to be accompanied by words. Indeed, through the pictures we see the reaction of the pupils to the stimulus we gave them and consequently the production of new ideas and messages.

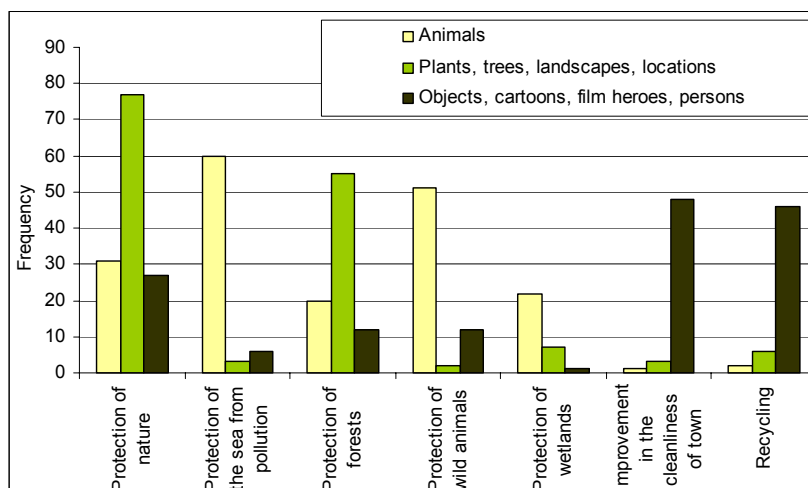


Figure 3. Correlation between the topic of the drawing and the type of mascot the drawing refers to

The ugly pictures contained the fears of the children. Very characteristic in this case is the drawing of a boy who drew a forest crying and shouting “Do not set a fire, we will disappear”. In addition to the picture they were asked to draw, the children were asked to give a name to the hero of the picture as well as write a message (slogan) so that they strengthen the message they want to pass to people. In figure 2 we see some representative names and messages of the children. The children plead, ask, and demand our assistance in order to protect the environment or better “Our little Earth, our little planet”.

The messages were often full of humor and spontaneity (Table 2). The following verse is characteristic “Fishermen, save me, save me from your nets because I didn’t cause any harm to you or your ladies”. In contrast, in some of the messages we see the fear and anxiety of the children for the world they grow up in. The message in which a dead fish says “Do not become like me” is characteristic of their fear and anxiety. In some other messages the children feel that they themselves are responsible for the state of the planet and, therefore, it is them who should be punished: “I should never visit nature again. This is best for her”.

## DRAWING FOR THE PROTECTION OF THE ENVIRONMENT

<b>Pet name</b>	<b>Message</b>
Our earth, our little planet	Help save our planet. Protect nature and don't let it be destroyed.
Gogos (name of rabbit)	Let's unite for a better earth. Let's unite for a better life.
Wee trees	Let the earth breath.
Mr. Wee Protector	Protect the Earth, protect yourselves. For a planet without garbage.
Flower for the protection of nature	By helping nature we help ourselves.
Mr. Wee tree-man	Green and not black trees. Alive and not burned trees.
The three beautiful wee trees	Let us not set fires in forests.
Foudotoulis (name of a beautiful tree)	Save nature!
The sad tree	Forests are life, don't destroy them.
The protector of the sea (dolphin)	Don't litter the sea.
Little fish-man	Protect the sea from pollution. Support the work of the little fish-man.
Dead fish (whale)	DO NOT BECOME LIKE ME
The little bear of the forests	Forests do not belong to men, they belong to animals.
Pelco (name a wild animal)	By saving nature, you save yourselves.
Falcon	The birds fly high, don't take their wings. If you want to live happily you should look at the birds when you look at the sky.
The cycle of garbage	Don't shoot at the environment.
Little recyclers	Separate the garbage and then throw it away so it goes to the proper bin.
The tired street cleaner	Don't pollute the environment.
Mr. Little waste bin-man	Throw the garbage into the bins and not in the streets.
Quaxi (name of a talkative frog)	Save the home of many animals. Help us protect the wetlands. Become a volunteer.

Table 2. Representative names and messages suggested by the children.

### *Conclusions – Recommendations*

The children, who participated in the research, utilize their free time playing with their friends. Next come free time activities and, in particular, music, drawing, films (dvd, video) and electronic games. The least popular activity is watching television and the reading of magazines and comics.

Through the test of independence it becomes obvious that there is strong correlation between gender and free time activities such as television, electronic games, comics and drawing. In particular, it is proved that boys watch television, play electronic games and read comics “very much” to “much” while girls do the above “enough” to “not at all”. Also, girls draw “very much” to “much” while boys “enough” to “not at all”.

If we want to pass a message to children (boys or girls) it would be easier and more effective if that message was sang by a singer popular to children. It is not a coincidence that the advertisements which aim at young audiences use similar means.

In the open question as to which figure-mascot the children regard likable and which could be used for the sensitizing of public opinion for the protection of the environment, the children generally chose plants and trees (44.9%) and then animals (28.6%). Regarding the protection of the sea from pollution most children (70.1%) chose a sea creature. Regarding the protection of forests the children chose animals (33.9%) and plants and trees (29.5%). As far as the protection of animals is concerned most pupils (72%) chose an animal. Also, regarding the protection of wetlands most children (59.1%) chose an animal while for the improvement, cleanliness and recycling in the town most children chose objects or messages (58.1% and 72% respectively).

Depending on the environment to which they refer, it is interesting to note that the pupils use plants and animals, showing that they understand and are knowledgeable about plants and animals according to their habitats.

The significance of the above types of environment is derived indirectly by the pupils and depends on the subject they choose to draw about. Thus, after the protection of nature generally, come the protection of sea from pollution and the protection of wild animals. Recycling, the cleanliness of the town and the protection of wetlands also constitute drawing subjects for the children but in smaller percentages. It is interesting to note that although there are many wetlands in the region the pupils live (Thrace) these come last in their preferences showing the low regard pupils have for them.

The types of mascot used in the drawings were mainly animals, plants

and trees and objects accompanied with messages while regions and landscapes, cartoons, film heroes and persons received smaller percentages. These choices clearly show the love of children for animals.

Through the test of independence it becomes obvious that there is strong correlation between the topic of the drawing and the type of mascot the drawing refers to. In particular, we see that the different mascots which are chosen depend on the subjects of the drawings. Regarding the protection of nature and forests the children chose a plant, tree or location, regarding the protection of sea, wild animals and wetlands the children chose an animal. Regarding the cleanliness of the town and recycling the children chose objects such as waste bins, cartoons, film heroes as well as persons.

To many children, the drawings do not constitute a static picture but describe an event through a scenario. The leading actor is the cartoon in the picture which through its actions, as described by the picture or the written word, gives us a message. There were drawings which contained something beautiful but there were also drawings which described something as ugly and repulsive. These ugly pictures may contain the anxieties and fears of the children, which, unfortunately, we have instilled in them.

The children were also asked to give a pet name to the hero of their drawing and write a message (slogan) in order to strengthen their messages for the protection of the environment. As far as the name is concerned, they usually used a diminutive, and, thus, show that the hero is very young, that is a child. Also, regarding their messages, not all of which can be characterized as successful, we see the spontaneity of the children and many times laugh with their humour. In some messages we see that the children are scared and in a few cases they also feel responsible for what is happening in nature.

The creation of similar questionnaires by pupils, the collection of the views of their fellow-pupils, the analysis and the discussion of the results, can constitute a tool for their environmental education. Indeed, the results can be used by pupils for the creation of printed material, articles in school magazines and even theatrical sketches to be presented as a school activity, and, in this way, passing their thoughts to other pupils but mainly their parents and relatives. Similar studies indicate that the participation of students in theoretical or practical activities such as presenting their own lectures or organise educational trips in Protected Areas, National Parks or Wetlands are useful methods in order to enhance their environmental education (Axini and Bercu 2010). Such educative projects should be planned by scientists and used in the educational process if we desire to have environmentally conscious citizens in the future.

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### *Περίληψη*

Η παρούσα εργασία πραγματοποιήθηκε στην πόλη της Αλεξανδρούπολης και σ' αυτήν έλαβαν μέρος 528 μαθητές του Δημοτικού και του Γυμνασίου. Αρχικά οι μαθητές ρωτήθηκαν πώς διαθέτουν τον ελεύθερο χρόνο τους (τηλεόραση, ηλεκτρονικά παιχνίδια, κόμικς, παιχνίδι με τους φίλους, μουσική, ζωγραφική και περιοδικά). Σύμφωνα μ' αυτήν οι μαθητές προτιμούν κυρίως να παίζουν με τους φίλους τους και να ακούν μουσική. Τα αγόρια δείχνουν μεγαλύτερη προτίμηση στο να παίζουν ηλεκτρονικά παιχνίδια, να βλέπουν τηλεόραση και να διαβάζουν κόμικς σε σχέση με τα κορίτσια, ενώ τα κορίτσια σε σχέση με τα αγόρια προτιμούν να ζωγραφίζουν. Στη συνέχεια ζητήθηκε από τα παιδιά να επιλέξουν μια φιγούρα-μασκότ που μπορεί να χρησιμοποιηθεί αντίστοιχα στην προσπάθεια ευαισθητοποίησης του κοινού για την προστασία της φύσης, των θαλασσών, των δασών, των άγριων ζώων, των υδροβιοτόπων, για την καθαριότητα της πόλης και την ανακύκλωση. Μάλιστα τους ζητήθηκε να ζωγραφίσουν, να δώσουν ένα χαϊδευτικό όνομα και ένα σλόγκαν για μια από τις επιλογές τους, φανερώνοντας έμμεσα και ποιο περιβάλλον θεωρούν σημαντικότερο. Ως ζωγραφιές επιλέχθηκαν κυρίως φυτά και δένδρα, ζώα, αντικείμενα και μηνύματα, καρτούν και ήρωες ταινιών, περιοχές και τοπία. Μάλιστα ανάλογα με το πρόβλημα που η ζωγραφιά απεικόνιζε επιλέγονται και διαφορετικές μασκότ. Μερικές ζωγραφιές περιγράφουν ένα γεγονός μέσα από ένα υποτυπώδες σενάριο στο οποίο ο ήρωας εκφράζει ένα μήνυμα (σλόγκαν) που διαθέτει αυθορμητισμό και χιούμορ.

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