YILDIZ JOURNAL OF ART AND DESIGN
Volume: 2, Issue: 2, 2015, pp 01-17

STUDENTS' IDEAS ABOUT 50 YEARS LATERS WORLD

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Abstract

Visuals such as drawings are used in research and classroom practice to understand students' ideas or knowledge about any topic. In this study, students' ideas about 50 years later world in the method of drawing are examined. The aim of this study is to understand students' environmental awereness and ideas about future environment. The data was gathered from 165 students (85 female and 80 male) from Turkey and collected in the school year 2014-2015. The students' averaged ages are between 6-11. The data was collected in two steps. Firstly, the students were asked to draw how will be the world (environment) 50 years laters. The students could draw any environment picture they thought for the future. Secondly, the students were asked to write a paragraph (minimum 30 words) about their pictures. As a result of this research, it is revealed that children are aware of the problems of their environment. Afforestation, garbage parsing, public transport, installing filters in factory chimneys, to remind the rules, placing warning sings writing to increase the green idea are the subjects which children emphasized about. But in our study we found also that they were desperate and pessimistic about the future. We recommend that the teachers be taught how to encourage the students for being optimistic about the future. For changing children's perception of the environment, it can be created integrated activities that require the active participation of children and teachers.Teachers could recommend environmental-based projects that develop of environmental awareness of children at national and global level.

Keywords: *environment education, drawing method, studensts' ideas*

Özet

Çizim gibi görseller öğrencilerin herhangi bir konu başlığı için görüş veya bilgilerini öğrenmek adına sınıf ortamında ve bilimsel araştırmalarda kullanılmaktadır. Bu çalışmada öğrencilerin 50 yıl sonraki dünya ile ilgili fikirleri öğrenci çizimleri incelenerek belirlenmeye çalışılmıştır. Çalışmanın amacı, öğrencilerin çevresel farkındalıklarını anlamak ve gelecek dünya ile ilgili görüşlerini belirlemektir. Çalışmaya Türkiye'den 185 öğrenci (85 kız, 80 erkek) katılmıştır ve veriler 2014-2015 eğitim öğretim yılında toplanmıştır. Çalışmaya katılan öğrenciler 6-11 yaş grubu arasındadır. Çalışmadaki veriler iki basamak altında toplanmıştır. İlk olarak öğrencilerden 50 yıl sonraki çevre ile ilgili bir resim çizmeleri istenmiştir. Öğrencilere çevre ile ilgili istedikleri herhangi bir konuyu çizebilecekleri söylenmiştir. İkinci olarak çizdikleri resimle ilgili bir paragraf (en az 30 kelimelik) yazmaları istenmiştir. Çalışma sonucunda öğrencilerin çevresel sorunlarla ilgili farkındalıkları saptanmıştır. Ağaçlandırma, çöp ayrıştırma, toplu taşıma, fabrika bacalarına filitre takma, uyarı tabelaları koyma öğrencilerin geleceği korumak için en çok vurguladıkları çizimler arasında yer almıştır. Fakat öğrencilerin gelecekle ilgili kaygılı ve olumsuz düşünceler içinde oldukları tespit edilmiştir. Çalışma sonucunda öğrencilerin gelecekle ilgili olumsuz kaygılarının öğretmenler tarafından nasıl giderileceği konusunda önerilerde bulunulmuştur. Öğrenci ve öğretmenin birlikte aktif olarak yer aldığı etkinlikler geliştirmenin öğrencilerin gelecekteki çevre ile ilgili olumsuz düşüncelerini değiştirebileceği önerilmektedir. Ayrıca öğretmenler öğrencilerin ulusal ve uluslararası düzeyde çevresel farkındalıklarını arttıracak projeler önerebilirler.

***Anahtar Kelimeler**: Çevre eğitimi, çizim metodu, öğrenci görüşleri*

INTRODUCTION

The environment has a huge important concern in living being. Living in a clear, healthy environment is the shared willingness point of all people. In recent years, especially the corruption of natural structure and as a result of this living organisms adversely affected is defined as enviromental pollution.

Habit of children, stances and attitudes develops in the first years of their lives. For this reason, environment-related concepts develops in early childhood. Growth of children and the open-air experience with the increase of, attitudes toward the environment begins to evolve. To promote environmental awareness in the early childhood phase is based on two main ingredients. These natural and healthy developments of the child can't develop feelings of respect and protection towards the environment in the early childhood phase to perfom in later years quite low if that is a possibility (Kesicioğlu, Alisinanoğlu, 2009). Children who grow up with environmental awarenes will be sensitive, caring, knowledgeable and consistent; obtain both the universal environmental awareness and social valve.

Environmental education has gained considerable importance in applications in our own time and individuals around the types of behaviour that will enable them to obtain the protective values is an important task (Özdemir, 2010).

New science and technology curriculum given more space to the issues of environmental awareness in these issues of the nature of parallelism can be said to show increased national and international environmental policies (Demirbaş, Pektaş, 2009).

The wealth of art has a special place in chidren's mental images. The picture of a child could express students' ideas much stronger than words. From this perspective, children pictures can be considered as an important source of imformation with regard to how you perceive the world (Akbulut, Saban, 2012).

Visuals such as drawings are used in research and classroom practice to understand students' ideas or knowledge about any topic. Student's drawings are quick, easy and enjoyable way to understand their ideas because of many children dislike answering questions (Bahar, Özel, Prokop, Uşak, 2008). Rennie and Jarvis (1995) satated that drawings are also a useful alternative form of expression for children who have difficulty expressing their thoughts verbally (as cited in Bahar, Özel, Prokop, Uşak, 2008). Besides these advantages drawing method has some limitations such as drawing ability of the students.

Various researches used students' drawings to examine their ideas about different concepts. Bahar, Özel, Prokop and Uşak (2008) used drawing method to

examine science student teachers' ideas about heart structure. They found that most of the science student teachers have several misconceptions as well as inadequate knowladge in terms of the heart's internal structure.

In a previous study (McNair, Stein, 2001), fifth, eighth and eleventh grade students were asked to draw a plant and include plant parts, functions and information about what plants need to grow in their drawing. Reiss and Tunnicliffe (2001), Reiss et. al. (2002), and Prokop and Fancovicová (2006) used children's drawings to provide a reliable indicator of what children know about the human body (as cited in Köse, 2008, p. 283). There are also some other studies about learning from images and how pupils express their knowledge by drawing (e.g. Umdu Topsakal, Oversby, 2011; Nugraini, Choo & Hin, 2009; Zoldosova, Prokop, 2007).

In their study, Umdu Topsakal and Oversby (2011) investigated the understandings of student teachers (training for the primary phase and Master's degree students from a primary science and technology education department) about flowers and plant cells using the method of drawing in combination with interviews. The data were gathered from 116 student teachers and 10 Master's degree students training for the primary phase from Turkey. They found that they were simply copying internet or book diagrams instead of drawing their own diagrams.

In this study, students' ideas about 50 years later world using the method of drawing are examined.

METHODS

Sampling

The data was gathered from 165 students (85 female and 80 male) from Turkey. The students' averaged ages are between 6-11. The students were randomly selected. The data was collected in the school year 2014-2015.

Instrumentation

The data was collected in two steps. Firstly, the students were asked to draw 50 years later World. The students could draw any environment picture they thought. Then the pictures collected from the children who participated in the study were analyzed by content analysis method. That is done on the basis of the content analysis process, bringing together smilar data within the framework of specific concepts and themes to organize. For this purpose, the first image has been subjected to a proliminary examination a total 165 the topic and supports that there is clear picture. In order to ensure the reliability of the coding pictures after two separate and relevant literature have been examined by researches from a semantic

perspective, based on pre-prepared list each of the operands and the code is inspired by the name of the topic has been given in the pictures. Codes emerging during the analysis by including it in the list of images and then completed by a second coding and codes, pictures were compared. In comparison, the numbers of consensus and disagreement were determined. The formula of Miles and Huberman (1994, 64) about reliability is used during the study. [Reliability = Consensus / (Consensus + disagreement x 100)]. Specific to this research in the reliability study performed 95% provided a compromise. In the final phase, codes were gathered and then the codes have been established according to the relationship between the themes. While examining the pictures, the images have been approached with a realistic approach to the subject. Other environmental issues of concern of the effects that had on children's aesthetic perception are based on the reflections of.

Secondly, the students were asked to write a paragraph (minimum 30 words) about their pictures. We used these to understand the students' ideas deeply.

RESULTS

All the students drew their thoughts of 50 years later world. Examining the distribution of students according to gender 51.5% girl and 48.5% male is seen from the table 1.

Table 1. Distribution of Students According to Gender

	Frequency	Percent
Girl	85	51,5
Male	80	48,5
Sum	165	100,0

Examining the distribution of students according to ages as seen in table 2, 43.6% is between 6-8, 30% is between 9-10 and 27% is 11.

Table 2. Distribution of Students According to Ages

	Frequency	Percent
6-8	72	43,6
9-10	49	30,0
11	44	27,0
Sum	165	100,0

Table 3. Students' Analysis of Drawings

	Tree	Rainbow	Sun	Park	Clean Weather	People	Technological Development	Cut Tree	Dirty Weather	Urbanization	Factory	Garbage	Dead Fish
Picture 1	1	1	1		1	1							

Picture 2	2		2			2							
Picture 3	3		3		2	3	1						
Picture 4			4			4		1	1	1			
Picture 5	4				3	5	2	2					
Picture 6			5			6	3		2	2	1		
Picture 7	5				4	7	4	3				1	
Picture 8			6			8	5		3	3			
Picture 9						9				4	2		
Picture 10	6		7		5		6						
Picture 11	7					10		4	4	5		2	
Picture 12	8		8				7					3	
Picture 13					6		8	5	5				
Picture 14						11	9	6	6		3	4	
Picture 15	9		9	1	7								
Picture 16						12	10						
Picture 17	10		10		8		17						
Picture 18						13		7					
Picture 19		2	11	2	9		18						
Picture 20			12			14		8	7	6	4		
Picture 21	11				10		19						
Picture 22			13	3	11	15	20						
Picture 23						16	21	9	8	7	5		
Picture 24	12		14		12	17	22					5	
Picture 25					13	18	23	10	9	8	6		
Picture 26			15				24	11		9			1
Picture 27	13		16		14	19	25					6	
Picture 28			17		15	20	26						
Picture 29	14				16	21							
Picture 30			18		17	22	27						
Picture 31	15				18	23	28	12	10	10			
Picture 32			19		19	24							
Picture 33	16						29	13	11		7	7	

Picture 34			20	4	20	25								
Picture 35	17				21		30							
Picture 36			21	5	22	26	31							
Picture 37	18			6	23		32							

Table 4. Students' Analysis of Drawings

	Tree	Rainbow	Sun	Park	Clean Weather	People	Technological Development	Cut Tree	Dirty Weather	Urbanization	Factory	Garbage	Dead Fish
Picture 38	1		1			1	1						
Picture 39						2	2	1	1	1		1	
Picture 40	2				1		3						
Picture 41	3		2	1	2	3						2	
Picture 42							4						
Picture 43	4	1	3	2	3	4	5						
Picture 44	5				4		6					3	
Picture 45			4			5	7	2	2		1		
Picture 46	6		5		5	6				2		4	
Picture 47	7		6		6	7	8						
Picture 48							9	3		3		5	
Picture 49	8				7		10		3	4	2	6	
Picture 50	9				8		11						
Picture 51	10		7		9	8	12						
Picture 52	11		8	3	10	9	13						
Picture 53	12					10		4	4	5	3	7	
Picture 54	13				11	11	14						
Picture 55			9				15		5	6			
Picture 56	14		10		12	12	16	5				8	
Picture 57						13	17	6				9	
Picture 58	15		11		13		18					10	
Picture 59						14	19	7	6	7	4		
Picture 60						15		8				11	
Picture 61	16		12		14	16	20						

Picture 62	17	13	15		21							
Picture 63	18			17	22	9				12		
Picture 64	19			18			7	8		13		
Picture 65					23	10				14		
Picture 66	20	14	16		24							
Picture 67	21			19	25							
Picture 68				20	26		8	9	5			
Picture 69	22	15	17	21								
Picture 70	23	16	18		27							
Picture 71				22	28	11	9	10				
Picture 72	24		19	23								
Picture 73				24	29		10	11	6			
Picture 74	25	17	20		30							
Picture 75	26	18	21		31							
Picture 76	27			25	32		11	12				
Picture 77	28	19	22		33							
Picture 78				26		12		13		15		
Picture 79	29	20	23	27	34							
Picture 80					35	13						
Picture 81				28	36		12	14	7			

Table 5. Students' Analysis of Drawings

	Tree	Rainbow	Sun	Park	Clean Weather	People	Technological Development	Cut Tree	Dirty Weather	Urbanization	Factory	Garbage	Dead Fish
Picture 82									1	1		1	1
Picture 83	1		1		1	1	1	1					
Picture 84	2				2	2	2						
Picture 85	3		2	1	3	3	3						
Picture 86	4		3		4		4						
Picture 87	5					4	5						
Picture 88									2	2	1	2	

Picture 89	6	1	4		5	5	6	2				
Picture 90	7		5		6		7					
Picture 91							8	3		3		3
Picture 92	8		6		7	6	9					
Picture 93							10	4				4
Picture 94	9				8	7	11					
Picture 95	10		7		9		12					
Picture 96	11		8		10	8	13					
Picture 97							14	5	3	4	2	
Picture 98	12					9	15			5		5
Picture 99						10	16	6	4	6		6
Picture 100	13				11		17		5		3	
Picture 101	14		9	2	12							
Picture 102						11	18					7
Picture 103	15		10	3	13	12	19				4	
Picture 104	16						20	7	6			8
Picture 105						13	21			7	5	
Picture 107						14	22	8				
Picture 108	17		11		14	15						
Picture 109						16	23		7	8	6	9
Picture 110							24	9	8			10
Picture 111	18				15	17	25					
Picture 112	19		12		16		26					
Picture 113	20					18	27			9		11
Picture 114						19	28			10		
Picture 115	21		13		17		29					
Picture 116	22				18	20		10		11		
Picture 117	23					21	30		9	12	7	
Picture 118	24		14		19	22	31					
Picture 119							32		10			
Picture 120	25		15		20	23	33					
Picture 121							34		11	13	8	12

Picture 122						24	35		12					
Picture 123	26		16		21			11		14				
Picture 124						25	36				9			
Picture 125						26	37	12		15				

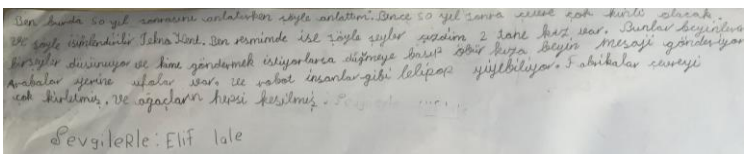
Table 6. Students' Analysis of Drawings

	Tree	Rainbow	Sun	Park	Clean Weather	People	Technological Development	Cut Tree	Dirty Weather	Urbanization	Factory	Garbage	Dead Fish
Picture 126	1		1		1	1	1						
Picture 127			2			2		1	1		1	1	1
Picture 128	2				2		2						
Picture 129						3	3	2					
Picture 130	3			1	3		4			1			
Picture 131	4				4	4	5						
Picture 132	5		3		6	5	6		2	2		2	
Picture 133	6		4		6		7						
Picture 134							8						
Picture 135	7					6	9	3		3		3	
Picture 136	8				7	7							
Picture 137	9		5		8		10	4				4	
Picture 138						8	11						
Picture 139							12	5					
Picture 140	10	1	6		9	9	13						
Picture 141	11					10	14		3	4	2		
Picture 142	12	2	7		10		15			5		5	
Picture 143						11	16		4	6		6	
Picture 144	13	3	8		11	12	17						
Picture 145								6	5		3		
Picture 146	14					13	18					7	
Picture 147	15					14	19		6		4		
Picture 148	16		9		12		20						
Picture 149							21	7		7	5		

Picture 150	17		10	2	13		22	8				
Picture 151						15			7			8
Picture 152	18		11		14	16	23			8		
Picture 153	19		12		15		24	9	8			10
Picture 154						17	25				6	
Picture 155						18	26					9
Picture 156	20		13		16	19	27			9		11
Picture 157	21				17		28			10		
Picture 158			14			20	29			11		
Picture 159						21		10				
Picture 160	22						30		9		7	
Picture 161	23		15		18	22	31					
Picture 162						23	32		10			
Picture 163			16							12		
Picture 164	24				19	24						
Picture 165	25		17		20	25						

Figure 1. Picture 45

Figure 1.1. Students review about picture 45



YILDIZ JOURNAL OF ART AND DESIGN
Volume: 2, Issue: 2, 2015, pp 01-17

Figure 2. Picture 88

Figure 3. Picture 55

Figure 4. Picture 82

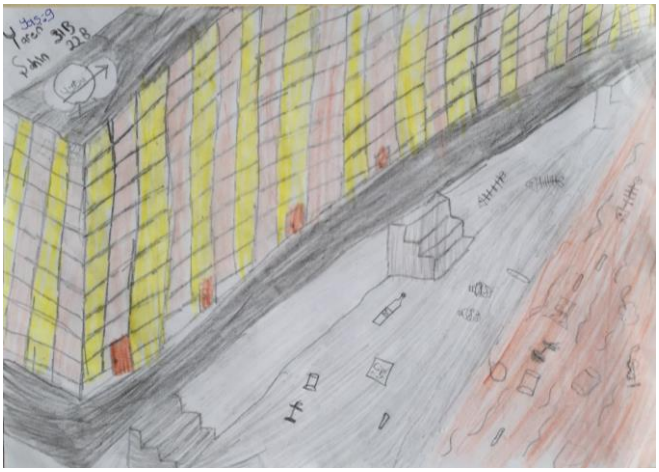


Figure 5. Picture 8

Figure 5.1. Students review about picture 8

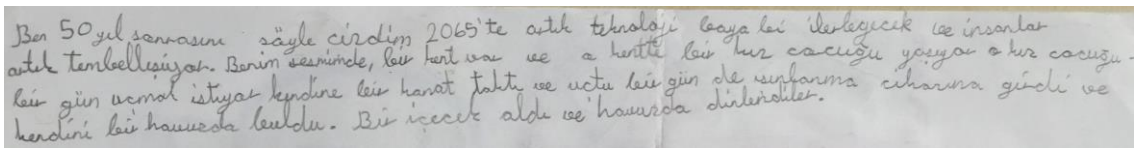


Figure 6. Picture 127

Figure 6.1. Students review about picture 127

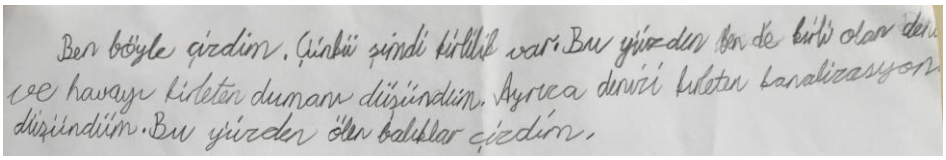


Figure 7. Picture 39

The pictures of children examined that environmental issues are often perceived with cause and its' effect. In the drawings generally triangular tree, spiral mountain, conical home, garb age man and memorized figures using the M like a bird are seen. It is seen that children also choose appropriate colors for the property of environmental problems. The paintings are mostly gray, brown and black colors. Guys who prefer these colors used some figures like human, plants, animals etc. and they visualized in the form of speech bubbles in that conversations. In the picture they drew the speech balloons, in addition to what they did in a written statement on the back of the paper image; high levels of anxiety, a vital threat, longing, fear, reaction, and anger, frustration which has included emotional messages such as children are brought recommendations to prevent individual and social environmental problems. Afforestation, garbage parsing, public transport, installing filters in factory chimneys, to remind the rules, placing warning sings writing to increase the green idea are the subjects which children emphasized about. It was observed that students drew more than one environmental problem instead of a single problem. This situation can be interpreted as the property of visual realism; they reflect the age groups of children. According to the results of this research, most of the children drew urbanization (41 pic.), trimmed trees (48 pic.), air pollution (45 pic.), environmental pollution (45 pic.), factories (30 pic.) and identified them as environmental problems. Considering the developmental characteristics of children in the age group 9-11, air pollution, water pollution, such as pollution effects on behavior at pictures of themselves and other organisms to be reflected directly as a result will feel more natural for situations where they can be met. The speech bubbles and the written statements in the back of the pictures showed that children can establish a cause and effect relationship and they carry high levels of anxiety about the future.

DISCUSSION AND RECOMMENDATIONS

In this study, students' ideas about 50 years laters world in the method of drawing are examined.

As a result of this research, it is revealed that children are aware of the problems of their environment. Children perceive the issues that are stated in a clear and concise manner. Children were able to establish a cause and effect relationship. They can empathize with other beings in nature have shown that children with emotional messages. However ozone layer, noise pollution, soil pollution, global warming, light pollution and related issues of other environmental issues are less painted and this shows us that there is a low awareness about these issues.

Sadık, Çakan, Artut (2011) performed a study which consists of 206 students. Regarding environmental issues through their class pictures of the students was investigated. According to the results of the research, deforestation in the lower socioeconomic environment, air pollution and the decrease of species there have been more environmental problems as perceived by the chidren who live in upper socioeconomic environment. Also depletion of the ozone layer, global warming, noise pollution, soil pollution are the subjects which children's awareness of environmental problems has been identified as lowest.

According to the results of our study, students ideas about how the future world is dirty, bad, naturalness but technologically advanced.

For changing children's perception of the environment, it can be created integrated activities that require the active participation of children and teachers.Teachers could recommend environmental-based projects that develop of environmental awareness of children at national and global level.

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