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Research Article

Look Sir, I Drew You

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Abstract: The purpose of this study is to try to find out how the fifth, sixth, seventh and eighth graders perceive science teachers through the pictures they have drawn. A qualitative research method was used in the research. A total of 246 students studying in 5th, 6th, 7th and 8th grade, using the appropriate sampling method, constitute the study group of the research. The students were asked to draw pictures when asked "what comes to mind when you think about a science teacher." In the research, it was found that most of the students perceive the science teacher as "human," while a few of them perceive it as a cartoon character or a famous scientist like "Einstein." The students reflected the science teacher's gender more often as female than male. While about one-third of the students drew science teachers as in the classroom, none of the students reflected the teachers in their pictures as in non-school learning environments like a museum or a science center.

1. INTRODUCTION

Teachers are one of the most important elements of the learning-teaching process. In this process, teachers, as one of the most important elements, structure the learning-teaching process and prepare a rich learning environment for the students. In the learning-teaching process, the influence of many variables such as the teacher's professional knowledge and skills, the teaching methods and strategies chosen, the use of equipment, classroom management, the physical conditions of the class, the level of readiness of the students, and the differences of the individual are very important.

In the learning-teaching process, the teacher should choose teaching strategies and methods appropriate to the purpose of the course. It would not be possible to achieve the desired result with teaching strategies and methods that are not selected according to students' achievements. Since the learning speed, readiness and motivation will differ from student to student, activities organized in the learning-teaching process should be organized in this direction. Research emphasizes the importance of instructional strategies that motivate, question, and support the student in relation to the real life of the student (Corbett & Wilson, 2002; Thompson, 2002). In other words, it is possible to create a rich learning environment only if one takes into account the needs of students.

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One of the important tasks of the teacher is to better identify the individual differences of the students and to better determine the needs of their students. It is unlikely that a teacher will be able to create a rich learning environment that does not adequately reveal pupils' reading and readiness levels. Individual differences in learners are always an important part of teaching. Teachers need a variety of different teaching strategies to accomodate the various needs of students (Jacobsen, Eggen, Kauchak, 2006: 284). The most important task is to develop and apply teaching methods and techniques according to different learning styles of each student. This way, students can learn in a way that both appeals to them, as well as addresses the subjects they feels they need by allowing more active participation.

It is the first duty of a teacher to properly design and use tools in the right time and place. It is important that these selected tools, besides being appropriate for the lesson's subject and puropse, must low-cost and easy to obtain. In addition, the ease of use of these tools and the level of development of students should be considered when selecting appropriate tools.

The physical conditions of classroom environment are among important factors for student success. The physical characteristics of the classroom such as width, height, color, light, cleanliness, accoustics and aesthetics, along with a seating plan are all important factors for student success in the learning-teaching process (Gökçe, 2014: 73). It is emphasized that there is a connection between educational outcomes and physical conditions of schools (Clark, 2002). The acoustic structure, color, lighting, comfort, and classroom design of educational facilities should be well considered when creating an effective learning environment (Dudek, 2000, Clark, 2002). In other words, the learning environment being well-lit, well-warmed, having comfortable seating and being suitably painted, will contribute to students' success. The physical appearance of a class should be designed to complement student activities whilst taking their needs into consideration. (Burden, 1995). The rate of student success with teachers who provide a positive, intimate, student-supportive classroom atmosphere, is higher than those whose classroom environments are negative, unpleasant, or unsupportive of students. (Moore, 2001: 53). For this reason, teachers should prepare their classes very carefully at the beginning of each school year.

It is important how a student perceives the teaching-learning process structurer that is the teacher. Drawing, painting, and three-dimensional building activities are concrete indicators of a child's emotions, thoughts, concepts, reactions and skills. Each child interperates their surroundings differently (Artut, 2002). The drawings made by children reflect their inner world (Malchiodi, C. A, 1998). These are effective ways of exploring children's thoughts, their perceptions, and their inner world (White and Gunstone, 1992). Drawings made by children of different ages are an important sign of their mental development, which is one of the best ways of expressing their emotions. (Lowenfeld & Brittain, 1987). Some of the lines, symbols and signs that children come to possess with perception are very important, and they are components that reflect the world of children plainly. Painting is also a unique and simple expression of the emotional and intellectual life of children (Artut, 2002). Therefore, children are expressing their thoughts and feelings about the pictures and events they have been experiencing and been thorugh in their lives

The fact that pictures and children are a dynamic in which they complement one another and that besides pictures being proof of how people identify themselves are a rather effective method in perceiving and representing nature. Apart from uncovering children's feelings, drawings also provide insight into their cognition, thoughts, perceptions, and judgments. (Lin, 2006). Drawings are often used in research to study the insights and perspectives of individuals. They are therefore a useful way to examine the process of teacher identity development in students (Weber & Mitchell, 1996). Children's drawings are one of the best ways of self expression. Children can freely express emotions and thoughts with colours, lines, shapes, and

images that they use. (Hsiao & Chen, 2015). In this context, we can get a lot of information about teachers from the pictures children have drawn.

The cited research focuses on the perception of "scientists" of middle school students at the age of 12-13, consisting of one experimental group and one control group pictures they drew (Gültekin, Ç., Tosun, Ö., Turgut, Ş., Örenler, Ş., Şengül, K. and Top, G., 2010). In another study, environmental perceptions of elementary school students were studied through painting (Özsoy, 2012). Analysis of the pictures drawn by the students reveals that although the new science program is student-centered, there still exists a more teacher-centered learning environment in science classes (Skoumios, MariaSavvaidou-Kambouropoulou; 2012). No research has been conducted so far to reveal students' perceptions of science teachers through drawings. Therefore, with this study, it will be possible to obtain important information about students' perceptions of science teachers during the learning process, as well as the actual teachers' teaching-learning process itself.

The aim of this research is to determine the primary school students' perception of science teachers. The research attempts to reveal primary school students' perceptions through drawings, of science teachers, their facilities, tools and teaching materials, which postures and facial expressions they use and the kinds of activities they implement. In other words, with the help of the pictures, theesearcher attempts to find out how science teachers form the learning-teaching process.

2. METHOD

A qualitative research method was used in this study. In the qualitative research, the researcher works on the events without interfering with the natural state of formation. The product of the qualitative research is usually based on a rich detailed and in-depth narrative rather than a statistical testimonial that includes a multitude of statistical test results (Johnson, Christensen, 2012). The fifth, sixth, seventh, and eighth grade students have participated in this research to reveal their perception of both the practice of science education and the learning-teaching processes. They have created an in depth and thorough examination of their science teacher through their drawings.

2.1.Working Group

The study group consists of 246 students studying in the primary schools affiliated with the Ministry of National Education of Turkey. The purposive sampling methods were used in the research. In the purposive sampling methods, the researcher forms the study group from the sample that is easiest to access (Cohen, Manion, Morrison, 2000). The purposive sampling method provides time, money and labor savings (Büyüköztürk et al., 2009).

Table 1. Distributions of Surveyed Students by Grades

Students Grades	Student Frequencies f / %
Fifth grade	81 / 32.92
Sixth grade	44 / 17.88
Seventh grade	76 / 30.89
Eighth grade	45 / 18.29
TOTAL	246 / 100.0

2.2. Data Collection

The students in the study group were directed to the question "What comes to mind when you think about science teachers?" and asked to draw a picture of it. Before the drawing, students were provided with paper, pencils, colouring pencils and oil pastels which they could choose and draw with. There was no guidance about what to draw. Students were given 45 minutes to complete their paintings. In qualitative research, visual materials such as film, video and photographs can be used as data collection tools. When such materials are used together with data collection methods such as observation, interview and document analysis, the reliability of qualitative research based on collected data in such a versatile method will increase significantly (Yıldırım, Şimşek, 2000). The data was collected during the spring of 2015-2016 period.

2.3. Analysis of Data

The "Drawing Analysis Scientist Test" (DAST) method developed by Chambers (1983) distinguishes the typical scientist image from seven main characteristic features. However, Finson and Beaver (1995) developed this criterion as the "Drawer Scientist Test-Checklist (DAST-C)", which is easily applicable to anyone. In this study, a "perception of teacher" checklist consisting of 13 categories and subcategories of the scientist drawing test and the scientist control list created by Aykaç (2012) was used.

In this research, 'Perception of Teacher Coding List' which was developed thanks to expert opinions by Aykaç (2012) has been consulted. The categories in the "Perception of Teacher Coding List" are "gender," "size," "gestures and facial expressions," "physical features," "facility," "actions taken," "object used in hands," and "objects found in class." The digitized values from the categories were obtained and tabulated by using the SPSS program, percent (%) and frequency values. Findings reached in the research are presented by interpreting the data in the tables.

3. RESULTS

The frequency data of 246 images obtained as a result of the research were analyzed using the SPSS packet program and the findings are tabulated in percentage and frequency. In the analysis of the drawings, a " perception of teacher " checklist consisting of 13 categories and subcategories was created by Aykaç (2012). The checklist used was formed in a similar manner to the scientist control list and was finalized by reffering expert opinions. All students' drawings were evaluated and interpreted according to these categories listed below. The following categories created for drawings are listed:

1. The way pupils perceive their teacher (Human, a recognized person, cartoon character, object, etc.).
2. Gender perceptions of learners about the teacher (female, male, not human, uncertain, etc.)
3. Physical appearance (in suit, white gown, tie, scarf, scattered, young, etc.)
4. Metaphores drawn as teachers (sun, book, heart, moon, star, cloud, school, flower, world, angel, etc.)
5. Dimension (There is big, there is small, realistic.)
6. Gestures and facial expessions (happy face, excited, confused, angry, sad, shy, anxious, unhappy, thoughtful etc.)
7. Physical properties (with glasses, scattered hair, clean groomed, bald, bearded, mustache, physical disabilities, remarkable wounds, etc.).

8. Place / facility/ positioning (Class, front of table, side, desk, laboratory, teacher's room, garden, ceremony, event, computer, next to the flagpole, sky, etc.)

9. Form of action (When writing on the board, talking to the students, reading the paper, reading the book, lecturing, listening, experimenting, violence against the students,

10. Objects used in hands (Ruler-stick, chalk, book, bag, paper, flower, pen, ball, bar pallet etc.)

11. Objects around you (Library, students, table, board, tree, flower, heart, etc.)

12. Layout plan (Traditional layout layout, semi-layout, layout u, set layout, free layout, etc.)

13. Objects and objects found in the class (wooden, table, row, cabinet, computer, projection device, etc.)

While the student pictures were examined, the uncollected categories were coded as "undrawn" and the drawings other than the specified categories are given under "the others" heading. Frequencies and percentages were used and interpreted when the data was evaluated.

Table 2. Students' Perceptions of Teacher

Perceptions	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Human	62 / 76.54	29/65.90	64 / 84.21	39 / 86.66	194 / 78.86
A Recognized Person	3 /3.70	2 / 4.54	4 / 5.26	1 / 2.22	10 / 4.06
Cartoon Hero	9 / 11.11	13/29.54	4 /5.26	2 /4.44	28 / 11.38
Others	7/8.64	-	4/ 5.26	3 / 6.66	14 / 5.70
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

In Table 2; 78.86% of the students perceive the teacher as "human." However, about 11.38% of the students perceive the teacher as a "cartoon hero." It is also seen that 4.06% of the students perceive the teacher as a "recognized person" (eg Albert Einstein, M. Kemal Atatürk). As seen in Table 2, it can be said that the students made more realistic pictures. In this case, the fact that a great majority of teachers are portrayed as human beings can be considered as a reflection of reality in the picture. The 11% student group, which is the second highest rate in Table 2, likened teachers more to cartoon characters. This can be explained by the creativity of the students in drawing pictures.

Table 3. Perceptual Gender Perceptions of Students

Perceptual Gender	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Woman	59/ 72.83	9/20.45	37/48.68	24/ 53.33	129/52.43
Man	17/20.98	27/61.36	36/47.36	17/37.77	97/39.43
Not Human	2/2.46	4/9.09	3/3.94	-	9/3.65
Unknown	2/2.46	3/6.81	-	-	5/2.03
Others	1/1.24	1 / 2.27	-	4/8.89	6/2.43
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

As seen in Table 3, 52% of the students who participated in the survey stated their teachers as women in their paintings. Again referring to Table 3, it is seen that 39.43% of the gender perceptions of teachers are "men" in the pictures drawn by the students. It is seen that about 8% of the students who participated in the research have drawn their teachers in the sub-

materials such as "Not human", "Unknown", "Other" (materials for science lesson instead of teacher). As seen in Table 3, it can be said that the students depicted their teachers as women to a great extent. According to this, it can be deduced that female teachers tend to be more involved in this area in terms of science courses.

Table 4. Physical Appearance of the Teacher

Physical Appearance of the Teacher	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
With Suit	22/27.16	6/13.63	11/14.47	4/8.88	43/17.47
White Apron	11/13.50	11/25.00	29/38.15	17/37.77	68/27.64
With tie	18/22.22	8/18.20	13/17.10	6/13.33	45/18.29
Sweatpants	2/2.46	-	1/1.31	-	3/1.21
Messy	3/3.70	-	2/2.63	2/4.44	7/2.84
Stylish Dress	17/20.98	10/22.72	9/11.84	9/20.00	45/18.29
Young	2/2.46	7/15.90	11/14.47	7/15.55	27/10.97
Not Drawn	4/4.93	-	-	-	4/1.62
Others	2/2.46	2/4.54	-	-	4/1.62
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

As seen in Table 4, about 28% of the students who participated in the research described their teachers as wearing "white overalls" in the drawings they had drawn. Approximately 19% of the students described their teachers as wearing "a tie" and about 19% as "elegantly dressed." In Table 4, it is seen that the student group that depicts the teachers as wearing "white overalls" is the 7th grade students. Beside these, the level of describing teachers as wearing white overalls is progressing in line with the grade level. From here it is also possible to reach the conclusion that the teachers wearing white overalls when entering the classroom increases as the grade level increases.

Table 5. Students' Metaphores for Teachers

Metaphores	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Sun	2/2.46	-	-	1 / 2.22	3 / 1.21
Book	1 / 1.23	4 / 9.09	1 / 1.31	1 / 2.22	7 / 2.84
Heart	1 / 1.23	2/ 4.54	-	2 / 4.44	5 / 2.03
Moon	-	-	-	-	-
Star	-	1 / 2.72	-	-	1 / 0.40
Cloud	-	-	-	-	-
School	1 / 1. 23	1 / 2.72	-	-	2 / 0.81
Earth	-	-	2/2.63	-	2 / 0.81
Not Drawn	76/ 93.82	36/ 81.82	73/96.05	41/91.11	226/ 91.86
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

From Table 5 it can be seen that most of the students depicted teachers as "books" in their paintings. From the results obtained, it can be seen that the students see their teachers as a source of information like books. It is seen that the students who use metaphors for teachers in their paintings are mostly lower grade students. It can be said that students from the upper grades use more realistic items in their paintings.

Table 6. Teachers' Gestures and Facial Expressions According to Student Perception

Gestures and Facial Expressions	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Smiling	61/ 75.30	19 / 43.18	36 / 47.36	16 / 35.56	132 / 53.65
Confused	2 / 2.46	4 / 9.09	1 / 1.31	6 / 13.34	13 / 5.28
Excited	3 / 3.70	2/ 4.54	14 / 18.42	2 / 4.45	21 / 8.53
Sad	1 / 1.23	6 / 13.63	7 / 9.21	1 / 2.23	15 / 6.09
Angry	-	1 / 2.72	2 / 2.63	2 / 4.45	5 / 2.03
Shy	-	1 / 2.72	8 / 10.52	-	9 / 3.65
Worried	3 / 3.70	1 / 2.72	-	1 / 2.23	5 / 2.03
Unhappy	4 / 4.93	1 / 2.72	2/2.63	2 / 4.45	9 / 3.65
Considerate	7 / 8.64	7 / 15.90	-	10 / 22.23	24 / 9.75
Not Drawn	-	2 / 4.54	6 / 7.84	5 / 11.12	13 / 5.28
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

Table 6 shows that findings related to the gestures and facial expressions of teachers are seen according to the perceptions of the students. According to this, it can be said that the students perceive the teachers as mostly "happy-faced". From here it can be reached that the teachers have a positive influence on the students during the learning-teaching process.

Table 7. Dimensions of Teacher Figure by Perceptions of Students

Dimenssions	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Large	5/6.17	6/13.63	2/2.63	3/6.66	16/6.50
Small	7/8.64	9/ 20.45	1 / 1.31	1 / 2.22	18/ 7.31
Realistic	64/79.012	22%50.00	70/92.10	37/82.22	223/90.65
Not Drawn	5/6.17	8/18.18	3/3.94	4/8.89	20/8.13
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

In the pictures drawn by the students seen in Table 7, the size of the teacher figure is realistic by 90%. According to this, it can be said that in the pictures of the students close to the whole, the teachers and the other objects are conveyed on paper with their actual dimensions. Looking at the other subcategories, 7% of the students can achieve the result that they are small with the teacher figure.

Table 8. Physical Characteristics of Teachers from Perceptions of Students

Physical Charasteristics	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
With Eyeglasses	1 / 1.23	4 / 9.09	8 / 10.52	1 / 2.22	14/5.69
Messy Hair	13 / 16.04	9 / 20.45	22 / 28.94	17 / 37.77	61/24.79
Groomed	48 / 59.25	19 / 43.18	38 / 50.00	26 / 57.77	131/53.25
Bald	2 / 46	1 / 2.72	2 / 2.63	-	5 / 2.03
Bearded	-	1 / 2.72	-	-	1/ 0.40
Not Drawn	7/ 8.64	9 / 20.45	4 / 5.26	1 / 2.22	21 / 8.53
Others	10 / 12.34	1 / 2.72	2 / 2.63	-	13 / 5.28
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

In Table 8, perceptions of the students about the physical appearance of the teacher are seen. More than half of the students have shown their teachers "clean and well-maintained". Some students painted their teachers as "hair scattered". Together with these, students did not depict their teachers as having "remarkable injuries" or "physical disabilities." From here it can be said that the students perceive the physical appearance of the teachers as more positive.

Table 9. Location of Teachers by Perceptions of Students

Location of Teachers	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Classroom	37 / 45.67	14 / 31.81	12 / 15.78	9 / 20.00	72 / 29.26
In front of the Board	27 / 33.33	7 / 8.64	9 / 11.84	3 / 6.66	46 / 18.69
Table	3 / 3.70	2 / 4.54	6 / 7.89	1 / 2.22	12 / 4.78
Near the Board	9 / 11.12	4 / 9.09	14 / 18.42	11 / 24.44	38 / 15.44
In Laboratory	3 / 3.70	11 / 25.00	21 / 27.63	14 / 31.11	49 / 19.91
In a field	-	-	2 / 2.63	1 / 2.22	3 / 1.21
School Garden	-	-	1 / 1.31	3 / 6.66	4 / 1.62
Ceremony	-	-	3 / 3.94	-	3 / 1.21
Activity	-	1 / 2.27	2 / 2.63	3 / 6.66	6 / 2.43
On Computer	1 / 1.23	3 / 6.81	5 / 6.57	-	9 / 3.65
In Front of the Flagpole	-	-	1 / 1.31	-	1 / 0.40
In the Sky	1 / 1.23	2 / 4.54	-	-	3 / 1.21
Not Drawn	-	-	-	-	-
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

Taken into account the Table 9, it is seen that students depicted their teachers more "in class". Approximately 20% of the students depict their teachers in the "Laboratory", while some students depict their teachers "in front of the Board". Again, 15% of the students have shown their teachers "in the picture". From the obtained findings, it can be reached that the teachers continue the learning-teaching process in the class environment and the students also perceive the teachers in this way.

Looking at Table 10, it can be seen how the students conveyed the actions of the teachers according to the perception of the students. As seen in Table 10, about 45% of the students depicted their teachers as "writing on the board," "walking around the school" and "teaching." Despite this, the proportion of students drawing "when doing experiment", "observing", and "when performing activities with students" was found to be very low. The fact that observations and experiments constitute the basic structure of the science course are made so low according to the perception of the students plays a big role in the importance of the research.

As can be seen in Table 11, there are objects in the hands of the teachers in the students' depictions. Teachers who need to have experimental equipment in the laboratory environment and mostly in the science class have "books" in their hands with a rate of 26.82% according to the perception of the students. Approximately 25% of the pupils depicted in their teachers' materials such as "Ruler-stick" and "Pencil". Approximately 13% of the pupils depicted their teachers in their hands with "Student's Hand" and "Flower."

Table 10. Types of Teachers' Actions Perceived by Students

Types of Teachers' Actions	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Writing on the Board	23 / 28.39	8 / 18.19	11 / 14.47	6 / 13.33	48 / 19.51
Walking in Classroom	14 / 17.89	5 / 11.36	13 / 17.10	4 / 8.89	36 / 14.63
Speaking to Students	7 / 8.61	3 / 6.81	3 / 3.94	1 / 2.22	14 / 5.69
Reading Paper	1 / 1.23	-	-	-	1 / 0.40
Reading Book	-	2 / 4.54	1 / 1.31	3 / 6.67	6 / 2.43
Lecturing	16 / 19.75	9 / 20.45	16 / 21.05	9 / 20.00	50 / 20.32
Experimenting	9 / 11.11	6 / 13.63	12 / 15.78	11 / 24.45	38 / 15.44
Observing	-	3 / 6.81	2 / 2.63	1 % 2.22	6 / 2.43
Showing affection to Students	-	-	1 / 1.31	1 / 2.22	2 / 0.81
Giving Students a Flower	-	1 / 2.27	2 / 2.63	-	3 / 1.21
Playing with Students	-	1 / 2.27	1 / 1.31	2 / 4.45	4 / 1.62
Activity with Students	5 / 6.17	2 / 4.54	2 / 2.63	3 / 3.67	12 / 4.87
While Standing	6 / 7.40	3 / 6.81	9 / 11.84	4 / 8.89	22 / 8.94
Not Drawn	-	-	-	-	-
Other	-	1 / 2.27	2 / 2.63	-	3 / 1.21
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

Table 11. Objects in Teachers' Hands According to Perceptions of Students

Objects in Teacher's Hands	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Ruler	17 / 20.98	4 / 9.09	8 / 10.52	3 / 6.67	32 / 13.00
Book	21 / 25.92	15 / 34.09	19 / 25.00	11 / 24.44	66 / 26.82
Bag	6 / 7.40	2 / 4.54	6 / 7.89	-	14 / 5.69
Paper	12 / 14.81	-	5 / 6.65	3 / 6.67	20 / 8.13
Chalk	-	-	1 / 1.31	-	1 / 0.40
Flower	7 / 8.64	6 / 13.63	5 / 6.57	1 / 2.27	19 / 7.72
Pencil	2 / 2.46	7 / 15.90	11 / 14.47	10 / 22.72	30 / 12.19
Ball	-	-	-	-	-
Rod	2 / 2.46	3 / 6.81	7 / 9.21	4 / 8.89	16 / 6.50
Palette	-	-	-	-	-
Student's Hand	4 / 4.93	1 / 2.72	3 / 3.94	2 / 4.45	10 / 4.06
Not Drawn	7 / 8.64	6 / 13.63	11 / 14.47	9 / 20.00	33 / 13.41
Others	3 / 3.70	-	-	2 / 4.45	5 / 2.03
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

Table 12. Objects Surrounding the Teachers by Pupils' Perceptions

Objects Surrounding the Teachers	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Flag	8 / 9.87	12 / 27.27	6 / 7.89	3 / 6.67	29 / 11.78
School	2 / 2.46	1 / 2.27	5 / 6.57	1 / 2.22	9 / 3.65
Students	11 / 13.58	2 / 4.54	6 / 7.89	5 / 11.11	24 / 9.75
School Garden	2 / 2.46	-	-	1 / 2.22	3 / 1.21
Book Shelf	14 / 17.28	3 / 6.81	8 / 10.52	7 / 15.56	32 / 13.00
Board	17 / 20.98	11 / 25.00	19 % 25.00	10 / 22.23	57 / 23.17
Table	9 / 11.11	2 / 4.54	11 / 14.47	7 / 15.56	29 / 11.78
Atatürk's Corner	5 / 6.17	5 / 11.36	7 / 9.21	6 / 13.34	23 / 9.34
Flowers	1 / 1.23	2 / 4.54	-	-	3 / 1.21
Star	2 / 2.46	-	1 / 1.31	-	3 / 1.21
Test Tubes	7 / 8.64	6 / 13.63	12 / 15.78	4 / 8.89	29 / 11.78
Others	3 / 3.70	-	1 / 1.31	-	4 / 1.62
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

From Table 12, when looked at the perceptions of the students about the objects that are around the teachers, it is seen that 23.17% of the students depict "Board" around their teachers. This is followed by "Book Shelf" with 13.00% and "Flag" with 11.78%. The "test tubes", which are the first materials that should come to mind about the science course, are among the objects drawn around the teachers with a ratio of 11.78%. From this data, it can be suggested that teachers hold lessons in the classroom environment rather than in the laboratory environment in the process of teaching and learning science lessons.

Table 13. *Seating Patterns According to Students' Pictures*

Setting Patterns	Fifth Grade f / %	Sixth Grade f / %	Seventh Grade f / %	Eighth Grade f / %	Total f / %
Traditional Rows	26 / 32.09	17 / 38.63	22 / 28.94	19 / 42.22	84 / 34.14
Semi Circle	9 / 11.11	5 / 11.36	7 / 9.21	2 / 4.44	23 / 9.34
U Scheme	32 / 39.50	9 / 20.45	14 / 18.42	7 / 15.56	62 / 25.20
Cluster Configuration	3 / 3.70	1 / 2.72	4 / 5.26	1 / 2.22	9 / 3.65
Free	8 / 9.87	7 / 15.90	17 / 22.36	6 / 13.34	38 / 15.44
Ceremony	2 / 2.46	1 / 2.72	2 / 2.63	5 / 11.12	10 / 4.06
Not Drawn	1 / 1.23	3 / 6.81	6 / 7.89	3 / 6.67	13 / 5.28
Others	-	1 / 2.72	4 / 5.26	2 /4.44	7 / 2.84
Total	81/32.92	44/17.89	76/30.89	45/18.29	246/100.0

The findings given in Table 13 reveal that the perceptions of the layout of the students are drawn by the students. According to this, 34% of the students who participated in the survey depicted their seating styles as "traditional rows" order. 25% of the students depicted their seating layout as "U-shape", but this ratio is quite low. Again, as many as 15% of the students have illustrated their seating layout as "free". The fact that the ratio of the free seating order is so high can bring criticism to mind either positively or negatively. Here, the communication between the teacher and the students is an important point where they prefer free seating because of the intention to increase inter-class interaction or lack of competence in class management.

Table 14. Objects in Classroom Based on Perceptions of Students

Objects in Classroom	Available f / %	Not Available f / %
Board	194 / 78.86	52 / 21.13
Table	202 / 82.11	44 / 17.88
Desks	185 / 75.20	61 / 24.79
Ataturk Portrais and National Anthem	163 / 66.26	83 / 33.73
Panels	177 / 71.95	69 / 28.04
Projector	38 / 15.44	208 / 85.55
Overhead	7 / 2.84	239 / 97.15
Computer	32 / 13.00	214 / 86.99
Test Materials	24 / 9.75	222 / 90.24
Models	13 / 5.28	233 / 94.71
Flag	169 / 68.69	77 / 31.30

Table 14 shows that there are objects in the class according to the perceptions of the students. A large majority of students depict the classrooms with objects such as "board", "table", "desks", "pin boards," reflecting the traditional classroom environment. A large majority of the same students did not show the pictures of "Computer", "Projection", "Overhead" and "Experimental Materials" in their drawings. Their pictures, which constitute a more technological classroom environment, support more permanent learning and teaching environment. It can be said that the teachers who teach the science course are not using the class environment effectively and cannot integrate the technology into the classroom environment.

4. DISCUSSION and CONCLUSION

As a result of the research carried out, it has been ascertained that the students perceive teachers as "human beings" to a great extent, and they portray them as such. However, some students perceive their teachers as "cartoons" and others as "well-known people." A group of students used metaphors while drawing their teachers, likening their teachers to the sun or the stars. From here it can be said that a large majority of the students are realistic in perceiving their teachers.

When the metaphors used by the students are examined in detail, it is seen that the metaphors used have an important place in human life. The fact that students transfer their teachers as important assets in this way shows that they have positive views of the teachers. However, it can be concluded that they perceive their teachers as a source of information.

When the students perceptions of the teachers' gender are examined, it is understood that the figures which are depicted with a small proportion are mostly female teacher figures. From this point of view, it is possible to reach the conclusion that the students have more courses in science lessons with female teachers and at the same time, female teachers prefer to teach more in sciences than male teachers. In view of the data obtained and examined in the survey, it is seen that the students mostly depicted their teachers as wearing "white overalls" when they perceived the teachers' physical appearance. Some students portrayed their teachers in "suits" and "ties" and as "stylishly dressed." Accordingly, it can be said that the students did not show the teachers more as white doves, so that the teachers were able to reflect more in the laboratory environment, or at least to reflect the science teachers' view of their students. In the study of Aykaç (2012), it has been seen that the students in the same subcategory draw their teachers more in "suits" and as "elegantly dressed." In both surveys, the physical appearance of the teachers can be interpreted in such a way that the teachers have a positive effect on the students.

According to the perceptions of the pupils, when looking at the dimensions of the teacher figure, it is seen that the students are mostly "realistic" when drawing their teachers. When the age group of the students participating in the research is taken into account (10-15), the teachers are closer to realistic dimensions in the drawings of the students. In Aykaç's work, it is seen that the students draw pictures with more realistic dimensions.

In addition to these, some students in the Aykaç study have been able to see that while the teacher has been drawn larger and smaller than realistically, the students are more inclined to draw their teachers as smaller rather than larger.


Picture 1. *Drawing of 108 Coders from 7th Grade*

As you can see in Picture 1, students are more likely to make small presentations than to draw the teacher large. As a result, it can be deduced that teachers are inadequate in the classroom or laboratory environment, failing to address all students, manage the classroom, and impliment the learning-teaching process. When the findings of the teachers' gestures and facial expressions were examined, it was seen that the students portrayed their teachers as happy faced. From here it is possible to reach the conclusion that teachers have a positive effect on students.

When the students' peceptions of the teacher's physical characteristics were examined, it was found that the students described the teachers as "clean and well-maintained." From this, it can be said that teachers have positively affected the students in terms of physical appearance. But, some students portrayed their teachers with "scattered hair" and it is inevitable that some teachers are a negative example in terms of physical appearance. According to the research, one of the most important findings is that the places where the teachers are located are more in class and in front of the board.

Looking at Picture 2, one can see that the science teacher is depicted in a traditional way, that is, in front of a book, in a classroom arranged by traditional order, while it should have been in a way that a science teacher should be perceived more in a laboratory environment or in places such as gardens, museums, or science-art centers.
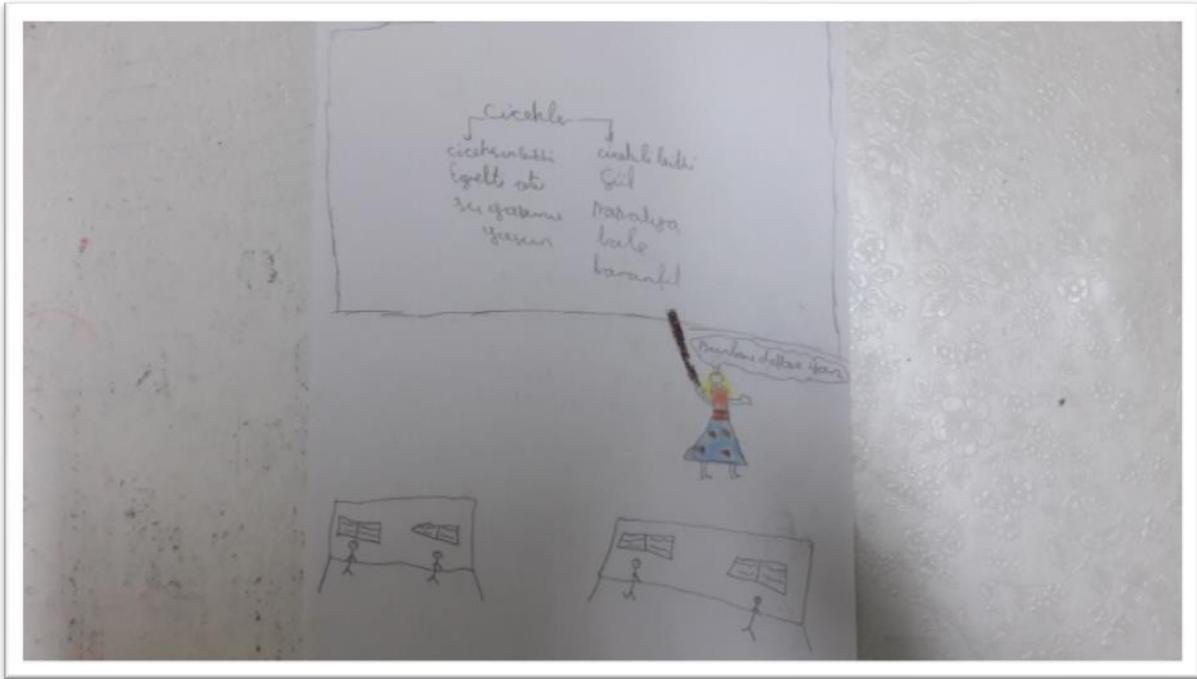
Picture 2. *Drawing of the Learners Coded as 64 in 5th Grade*

In science education, the teacher should know how to create learning opportunities with organized activities both inside and outside the classroom, and to extend the learning-teaching process so that every student has opportunities created for them (Ayvacı & Ünal, 2017). The fact that science teachers are depicted in the traditional classroom environment even though they should have been portrayed more likely in a laboratory or outdoors shows that they cannot expand their role in the learning-teaching process and cannot use the lab environment effectively in science teaching. The representation of teachers in the highest grade as "in front of the board" is also an indication that teachers cannot manage the learning-teaching process, or take into account the students' individual differences, and try different teaching methods.

Picture 3. *Drawing of 88 Coded student from 6th grade*

When teachers' actions are considered, the teachers are depicted more as standing during lessons as shown in Picture 3. If this situation is to be evaluated in terms of science, it can be said that science teachers do not perform experiment activities and activities that support students' learning by doing the most important thing in science and strengthening relations among students and taking into consideration the classroom or laboratory environment they are in. The objects in the teachers' hands also provide us with important clues as to how they direct the learning-teaching process. According to the research, mostly books were displayed in the teachers' hands. From here, it is possible to say that teachers mostly benefited from the books as resources in the class environment. Today, with the development of technology, the learning-teaching process and the education-learning environments with it also change. It is expected that teachers will benefit from the most technological advancements in the learning-teaching process and to make the technological tools and equipment a continuous part of the classroom environment in an effective way. According to the research findings, teachers do not include these tools in the learning-teaching process, and still perform teaching activities by traditional methods.
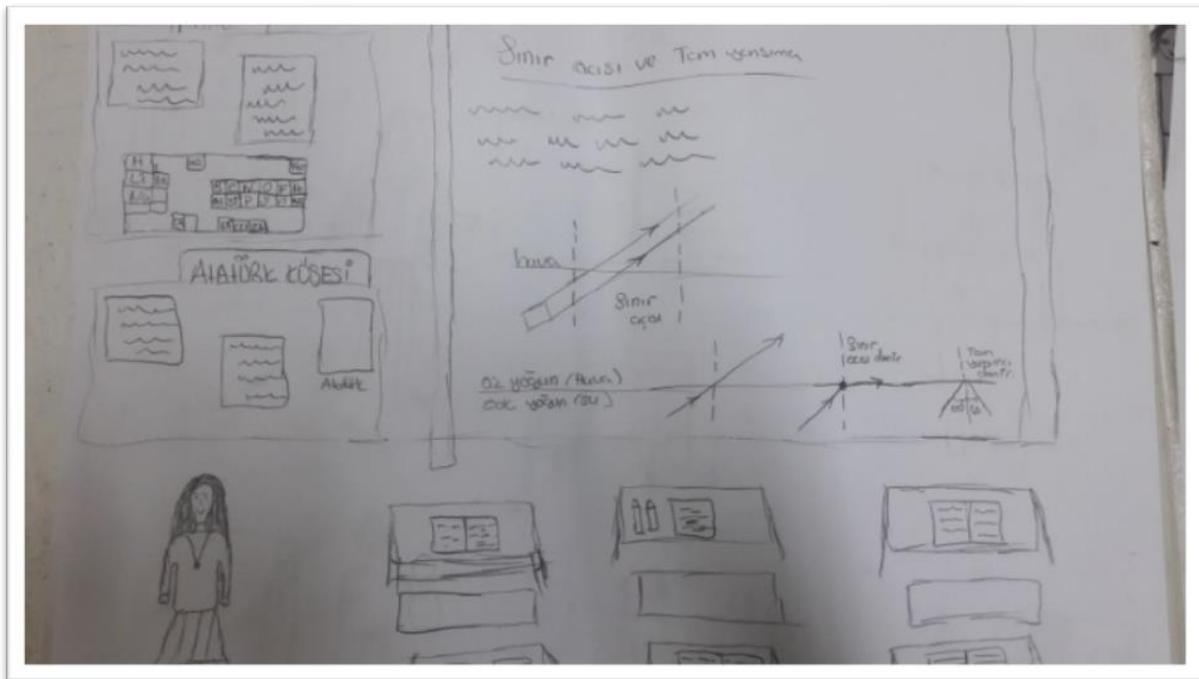
In the learning-teaching process, tools are generally used to support teaching. Well designed and useful materials enrich the teaching environment and increase the quality of teaching together with it.

Picture 4. *Illustration of 224 Coded Learners from 8th grade*

Tools used in the process provide a multi-learning environment and contribute to meeting the individual needs of the students. Tools are used to attract attention, facilitate remembrance, embody abstract learning, enable time saving, re-use, and increase understanding by simplifying content (Yalin, 2012; 82-90). When the objects in the classroom environment shown in Picture 4 are examined carefully, it is seen that most of the students draw materials that can be found in almost every classroom while it should have depicted enriched teaching environments and shown materials to meet individual needs. From this, it is concluded that materials which enrich the course content and help simplify the process are not used enough. It is necessary to use these materials more effectively in the classroom and laboratory environment during the learning-teaching process.

Also, the research reveals that the enrichment of teaching and individual differences is affected by the seating layout of the students in the learning-teaching environment. Regulation of the classroom environment increases the quality of teaching and helps students to learn easily (Yalın, 2012; 103). If the findings of the classroom are interpreted according to the perceptions of the students participating in the research, it can be said that the classic seating is mostly used in the classroom. Communication in the classroom is the lowest level in the traditional seating plan. However, it is not possible to use discussion techniques effectively in this order (Yalın, 2012; 103). Not only for the science class, but also for the classroom or laboratory environment, the most recommended is the U-shaped seating arrangement. Classroom interaction increases in the U-class seating arrangement, which enables students to have better quality interactions with each other. A teacher's preference for traditional seating order may indicate the inadequacy of teachers' knowledge of classroom management and classroom organization, or that their classes are too crowded to implement it. The arrangement of the teaching environment should not be limited to the traditional seating arrangement only.

Picture 5. Illustration of 184 Coded Learners from 8th grade

The use of equipment in the teaching environment and in the learning-teaching process is also very important. In the course of the research, the objects in the classroom have also been studied. Students also depict objects such as Ataturk Portraits, National Anthem, Turkish Flag, which are traditionally found in Turkish classrooms, as well as objects such as projectors, computers and overhead projectors as shown in Picture 5. Unfortunately, the number of students painting these tools remains very low. From this, it can be acertained that there is need for essential tools in the learning-teaching environment, but they are not used effectively.

This analysis of pupils' perceptions of their images indicates that the physical appearance of teachers in general has a positive effect on students overall and that technological tools and that equipment is not used well in the classroom environment. But, technology can adapt to teaching environments very quickly. However, in science class, it has been found that the learning-teaching process is still mostly done in the classroom environment, and that students can participate very little in classroom communication by sitting in the traditional seating order. From this point of view, it has been revealed that in the science classes, teachers are still lacking

in the learning-teaching process and have problems in the effective use of classroom management, teaching techniques and materials.

In science classes, teachers need to integrate information technologies well into the learning-teaching process in order to produce more qualified learning-teaching processes. So as to provide more qualified and lasting learning, teachers can better analyze the emerging technology and integrate it well into the learning-teaching process. In addition, the seating layout of the classroom is also very important in planning the learning-teaching process. Teachers should opt for a U-shaped seating arrangement in the classroom to enhances and facilitate teacher-student, student-student communications.

In today's world where the technological developments and knowledge change rapidly, the seating order in the classroom, the processing of science lessons in the traditional classroom environments becomes meaningless. Instead, teachers should choose to conduct science lessons in places that will create richer learning opportunities, such as laboratories, museums, science-art centers, school and outdoors rather than conducting science classes in a traditional classroom settings. It will be more useful to evaluate the results of this study not only within the content of this research work, but also within the scope of all the courses carried out throughout the country in order for the individuals trained to adapt to the developing world.

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