

# İLKOKUL HAYAT BİLGİSİ DERSLERİNDE ORTAYA KONULAN ÖĞRENCİ ÜRÜNLERİNİN İNCELENMESİ\*

## ARAŞTIRMA MAKALESİ

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\* Bu makale 16. Uluslararası Sınıf Eğitimi Sempozyumu'nda sunulan sözlü bildirinin genişletilmiş halidir.

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**Öz:** Bu çalışmada ilkokul 3. sınıf hayat bilgisi derslerinde öğrencilerin sınıf ortamında oluşturdukları ürünlerin özelliklerinin çeşitli açılardan incelenmesi ve bu konuya yönelik öğrenci görüşlerinin alınması temel amacı oluşturmaktadır. Bu amaçla nitel araştırma özelliği taşıyan bu çalışmada, Türkiye'nin İstanbul ilindeki bir devlet okulundan seçilen bir 3. sınıf öğretmenininde işlediği hayat bilgisi derslerinden dört ders saati gözlemlenmiştir. Bu derslerde toplam 32 öğrencinin ortaya koyduğu ürünlerin farklı açılardan incelenmesi yapılmıştır. Derslerin işlenmesinden sonra öğrencilerin sınıf ortamında ortaya koydukları ürünler doküman analizi yöntemiyle incelenmiştir. Elde edilen tüm veriler içerik analizi yöntemiyle analiz edilmiştir. Gözlemlerden ve doküman analizinden elde edilen bulgulara göre, Trafik Kuralları konusunda öğrencilerin ortaya koydukları ürünlerden en fazla olanın slogan çalışması olduğu, Liderlik Özellikleri konusunda karşılaştırma tablosu yapma, Hayır Diyebiliyorum konusunda şiir yazma ve akrostiş çalışması yapma ve İyilik Yapalım konusunda ise mektup yazma olduğu tespit edilmiştir. Doküman inceleme sonucunda öğrenci ürünlerinin istendik özellikleri taşıdığı belirlenmiştir. Gözlem sonuçlarına göre elde edilen verilerin ürünlere ve öğrenci davranışlarına yönelik olduğu tespit edilmiştir. Ürünleri istenen sürede tamamlayan öğrenci sayısının, ürünleri tamamlayamayıp yarım bırakan öğrencilere göre daha çok olduğu belirlenmiştir. Yapılan görüşmeler sonucu öğrencilerin hayat bilgisi derslerinde birbirinden farklı ürünler ortaya koymaktan mutlu oldukları, kendilerini iyi hissettikleri ve derse katılım konusunda istekli oldukları belirlenmiştir.

**Anahtar kelimeler:** Hayat bilgisi dersi, öğrenci ürünleri, sınıf eğitimi.

## **AN EXAMINATION OF PRODUCTS PROVIDED BY STUDENTS IN PRIMARY SCHOOL LIFE SCIENCES COURSES**

### **Abstract:**

This study mainly aimed to examine the qualities of products provided by the primary school third-grade students in Life Sciences courses from several aspects and receive student opinions on the matter. In this qualitative research study, four class hours of the life sciences courses instructed by a third-grade classroom teacher who had been selected at a state school in Istanbul, Turkey were examined. The products provided by 32 students in those courses were examined from several aspects. All data were analyzed with the content analysis method. According to the findings achieved in the observations and the document review, the most provided products were slogans in the subject Traffic Rules, comparison table in the subject Leadership Characteristics, poems and acrostics in the subject I Can Say No, and letters in the subject Let Us Do Kindness. It was determined in the document review that the student products had the required qualities. The data obtained in the observation were about the products and student behaviors. The number of students who completed the products within the required time was higher than those who left the products unfinished. It was determined in the interviews that the students were happy with providing diverse products in the Life Sciences courses, they felt well and were willing to participate in the course.

**Keywords:** Life Sciences course, student products, classroom teaching.

### **Introduction**

Technological developments and the fact that students are very close to technology in various walks of life make it difficult for teachers to reach students and attract their attention in an effective way. The Primary School 2018 Life Sciences Curriculum in Turkey mentions about student's activeness in the classroom setting and the importance of activities supported by the constructivist approach. Association made by students between their prior experiences and new knowledge is of importance. The 2018 Life Sciences Curriculum addresses this point as follows: Rapid change in science and technology, changing needs of individuals and societies, novelties and developments in learning-teaching theories and approaches have had a direct impact on roles expected from individuals. Such change defines an individual who produces information, can use it functionally in life, can solve problems, think critically, is entrepreneur and

determined, have communication skills, can empathize, and contribute to society and culture, etc. (Ministry of National Education, 2018).

Accordingly, it is critical to utilize various activities that will make students participate in the course more actively because students prefer a constructivist-learning environment in the classroom. A classroom environment where activities are performed in a student-centered manner help students be happy and increase their motivations for the course (Dündar, 2008). In a study which investigated the effects of using activities in the classroom setting in courses (Kosky, 2008), a classroom setting different from the classical classroom order was created in an effort based on the question “Why do students have to sit and listen to the teacher all the time?” Children who can perform various activities with their peers can also have fun. It was shown that student-teacher interaction increased quietly due to the activities of the study in question. Through such communication and interaction, students both feel more comfortable and become more open to learning.

Use of methods and activities that provides activeness in courses and activity-based learning has a vital place in education. Especially enabling students to be active is of importance pedagogically. Thus, activity-based learning should be featured by educators especially in the cognitive sense (Skehan, 1996). Activation of students in the classroom and examinations of the products provided by them are the prerequisites of identifying their creativity levels. Evaluation of a student product allows to find tips about their levels of creativity regarding their lives (Kettler & Bower, 2017). Furthermore, providing diverse products in the classroom setting improves students’ creativity while offering them the opportunity to cooperate.

Cooperative learning is a method suggesting that small student groups work together and learn from each other (Johnson & Johnson, 1994, *cited in* Adeyemi, 2008). In this learning method, students work and discuss together and try to help and overcome their shortcomings. Hence, cooperative learning is one of the most appropriate methods for social sciences and one should prefer to use it in courses (Adeyemi, 2008, p.704). Alvarez, Alarcon and Nussbaum (2011) stated that cooperative activities support students’ socialization. Students have the chance to learn better because they discuss a certain matter. Furthermore, cooperative activities underlie the understanding of student-activity. Therefore, teachers use cooperative learning during activities.

Examining the qualities of products provided by students in cooperation in the classroom setting and determining what they think and feel when producing them are considered guiding methods for teachers. However, there are very few studies in the national and international literature that examine the quality of products provided by students in classroom and the student opinions on the products. Contributing to the literature, this study is deemed important for different studies that activate students both inside and outside classroom and examine diverse products provided by them.

Hence, this study aimed to examine the qualities of products provided by the primary school third-grade students in the classroom setting from several aspects and receive student opinions on the matter. To this end, answers to the following research questions were sought for:

- 1) What are the products provided by the students in Life Sciences courses?
- 2) What are the qualities of the products provided by the students in Life Sciences courses?
- 3) How do the students produce their products in Life Sciences courses?
- 4) What are the student opinions on the process of providing the products in Life Sciences courses?

### **Methodology**

The research used case study, which is a qualitative research design. The most important characteristic of case studies is that one or more cases are investigated in depth. Factors in respect to a given case are investigated in a holistic approach. Meanwhile, it is focused on how they affect the given case and how they are affected by that case. Case studies are appropriate for the nature of this study for its attributes such as studying a current phenomenon within its own life frame and usability where there are multiple pieces of evidence or data resources (Yıldırım & Şimşek, 2013).

### **Study Group**

The study group of the research was composed of all students in a third-grade class at a state primary school in the European side of İstanbul, Turkey. The reason why this class with 32 students was chosen is that the teacher and students were volunteered. The school was chosen because it was convenient (Patton, 2014). Twenty of the third-grade students are girls and 12 are boys.

### **Data Collection Instruments**

Since it was considered important to use different data collection instruments together and for achieving data diversity to increase reliability, document review, observation and interview were utilized as data collection instruments.

**Document review:** One hundred twenty-eight products provided in the Life Sciences courses in this study were analyzed with document review. The review addressed the products, their qualities and whether they were related to the subject of the course.

**Observation:** Four class hours were observed during the instruction of the primary school third-grade Life Sciences courses. The subjects of the courses were "Traffic Rules, Leadership Characteristics, I Can Say No, and Let Us Do Kindness." The reason why these courses were chosen is that they are the courses instructed according to classroom teacher's syllabus.

During these courses, the researcher observed whether the students cooperated with each other, whether they wanted to work with group or alone, whether they completed the products or left them unfinished, whether they enjoyed working, whether they were willing to exhibit their products and whether they provided products similar to products of their friends or provided completely creative products. When determining these categories that were observed during the courses, it was ensured upon the opinions of eight experts that they were serving the research purpose. Four of the experts are associates while four of them are classroom teachers. The content validity indexes of the questionnaire items were calculated using the Lawshe (1975) technique. According to the Lawshe (1975) technique, since there were eight experts, the content validity rate needs to be 0.75 at minimum to find it significant (*cited in Yurdugül, 2005*). Content validity indexes of the questionnaire items were found to be 0.95. It was accordingly determined that these observed categories were valid.

**Interview form:** The students were interviewed in this study to identify their opinions on the activities in the courses. Ten students who participated in the course more or less actively than others were chosen for the interviews. The interviews were conducted in a semi-structured manner. The questions aimed to identify positive or negative opinions of the students on the courses. When addressing the student opinions, the students were coded as S1, S2, S3... so that their identities would not be disclosed.

### Data Analysis

Content analysis, which is a qualitative research method, was used in data analysis (Yıldırım & Şimşek, 2013). Two experts of the field were consulted to ensure the reliability of the encoding in the content analysis. It was also ensured that they did encoding, and it was compared with the encoding done by the research. The results achieved using Miles and Huberman's (1994) reliability formulation are shown in Table 1.

**Table 1.** Reliability Coefficients of the Data Collection Instrument

Data Collection Instrument	Expert 1	Expert 2	Mean
Document review	0,94	0,92	0,93
Observation	0,92	0,90	0,91
Interview	0,88	0,90	0,89

Mean reliability coefficient was found to be 0.93 in the comparison between the coding of two experts and the data obtained by the researcher in the document review in Table 1. In the comparison of the data obtained in the observation, the mean coefficient of the comparison between researcher's and two experts' coding was found 0.91 and it was found to be 0.89 for the interviews. It can be accordingly said that the analyses performed were reliable as an analysis is considered reliable when the coefficient in

question is 0.80 or above according to Miles and Huberman (1994). Also the content validity indexes of the data collection instruments were calculated using the Lawshe (1975) technique (*cited in*, Yurdugül, 2005).

### Findings

This section addresses the data obtained in the document review, observation and interviews that are the data collection instruments that were used in the research.

### Products Provided by the Students

The products provided by the students in the Life Sciences courses, which were observed by the researcher were analyzed with the document review method, and the product qualities are presented in Table 2.

**Table 2.** Products Provided by the Students in the Life Sciences Courses

Subjects	Student Products	Number (f)
1. Subject: Traffic Rules	Slogans	12
	Posters	7
	Poems	5
	Songs	5
	Painting	3
2. Subject: Leadership Characteristics	Comparison tables	32
	Poems	11
3. Subject: I Can Say No	Acrostics	11
	Pictures	10
	Letters	20
4. Subject: Let Us Do Kindness	Pictures	12
	Total	128

According to Table 2 showing the student products, total number of products provided by 32 students in all courses is 128. The products provided by the students in the first course addressing the subject "Traffic Rules" are slogans (12), posters (7), poems (5), songs (5) and painting (3). An example of the posters made for the subject "Traffic Rules" is presented in Figure 1.

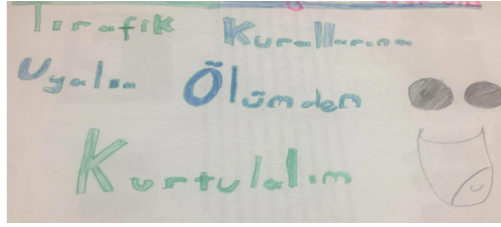


Figure 1. Posters

In the activity of making posters in Figure 1, the students were asked to make posters about obeying the traffic rules. There is a slogan “Obey the traffic rules, evade death” in the poster prepared by the student. All of the student products provided in the second course addressing the subject “Leadership Characteristics” were comparison tables. An example of these tables is given in Figure 2.

<u>İyi Lider</u>	<u>Kötü Lider</u>
1- Dürüst	1- Arkadaşlarına bağırır
2- temiz kalpli	2- Kötü kalpli
3- dost canlısı	3- müsibetçi
4- zeki	
5- çalışkan	

Figure 2. Comparison tables

In the comparison table in Figure 2, the student compared the characteristics of a good leader and a bad leader. Accordingly, a good leader is honest, pure-hearted, friendly, intelligent and hardworking while a bad leader is someone who yells at their friends, is ill hearted and spoilsport. In the third course addressing the subject “I Can Say No”, 11 of the students wrote poems, 11 of them wrote acrostics and 10 of them drew pictures. An example of acrostics activity is presented in Figure 3.

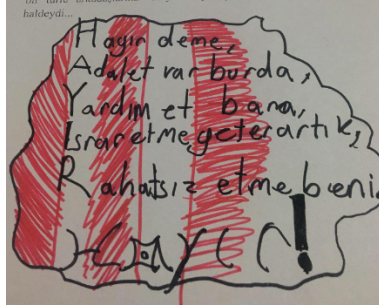


Figure 3. Acrostics

It is understood from the acrostics in Figure 3 that when the first letters of the poem lines are read downwards, it says “Hayır” (“No”). It is an acrostic written by the student in accordance with the subject “I Can Say No”. The student stated in the acrostics that he/she wants to say no to another person and they should not insist.

As for the products provided in the last course addressing the subject “Let Us Do Kindness”, 20 of the products were letters and 12 of them were pictures. An example of pictures drawn by the students is given in Figure 4.

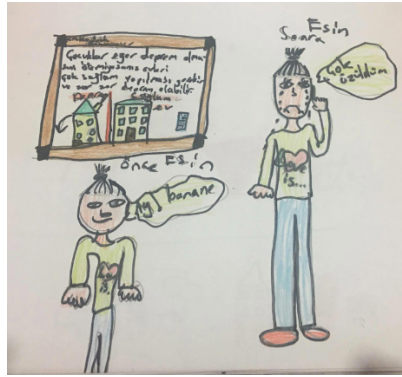


Figure 4. Pictures

In the picture shown in Figure 4, the student picturized a situation where support is asked for earthquake victims at school. Accordingly, a student who does not feel the urge to help earthquake victims becomes so sad and cries when the same happens to him/her. The student who drew the picture tried to emphasize the importance of doing a kindness.



### Qualities of Student Products

The student products were examined with the document review method. While examining the qualities of the products, analyzes were conducted in a way that was completely related to the main idea of the subject, having a relationship with the subject and totally unrelated to the subject. Data on the qualities of the products are shown in Table 3.

**Table 3.** Qualities of Products Provided by the Students

Product qualities	Number (f)
Number of products provided in the required quality	82
Number of products related to the subject	35
Number of products unrelated to the subject	11
Total number of products	128

Table 3 shows that 82 of 128 products had the required qualities. Moreover, 35 of these products were found to be related to the subject despite not being in the exact required quality. Eleven of the products were unrelated to the instructed subject. The data generally indicate that more than half of the students in the classroom provided products in the required qualities and the products were highly related to the subject.

### Process of Providing the Products

The data obtained in the observations of the process of providing the products in the Life Sciences courses are given in Table 4.

**Table 4.** Process of Providing the Products According to the Observation Results

Main themes	Subthemes	Subthemes	Number of Students (f)
How products were produced	Providing creative products	Providing products similar to friends'	23
		Providing creative and different products	9
	Completing the products	Competing the products within required time	20
		Leaving the products unfinished	12
Student behaviors	Being able to cooperate	Being able to work cooperatively	25
		Preferring to work individually	7
	Exhibiting products	Willing to exhibit products	20
		Reluctant to exhibit products	12

According to Table 4, the data obtained regarding the process of students' providing the products in the classroom settings were grouped in two main themes of "how products were produced" and "student behaviors". The theme "how products were produced" involved subthemes about the process of students' producing the products while the theme "student behaviors" covered the specific student behaviors during the process.

As for the subtheme "providing creative products" in the main theme "creative products", 23 of the students provided products similar to their friends' whereas 9 of them provided creative and different products. On the other hand, 20 of the students completed the products within required time while 12 of them left their products unfinished.

Regarding the student behaviors, it was observed that there were 25 students who could work cooperatively, and 7 students preferred to work individually. Furthermore, 20 students who were willing to exhibit their products while 12 students did not want to exhibit their products before their friends.

#### Student Opinions on the Process of Providing Products

Ten students who were more active and more passive than others were interviewed about the process of providing products in the Life Sciences courses. Table 5 presents the data obtained about the positive and negative student opinions.

**Table 5.** Student Opinions on the Process of Providing Products

Main Themes	Subthemes	Number (f)
Positive	Improving imagination	10
	Having fun and being happy	10
	Producing different ideas	10
	Doing activities different from those in the textbook	9
	Examining what friends did	9
	Remembering what one has learned	8
	Realizing one's ability	5
Negative	Being able to work with friend	5
	Not wanting to work with friend	5
	Lack of time	3
	Not liking one's own product	2
	Reluctant to exhibit products	2

According to Table 5, student opinions on providing products were gathered in two main themes of positive and negative. The positive opinions include that these products improved their imaginations, they had fun and become happy and could produce different ideas. Nine of the students were happy because they did activities different from those in the textbook and had the chance to examine what their friends did. Stating his/her opinions about the matter, S2 said, "It is very nice to be active and do various fun activities in the course." Furthermore, S10 stated, "I become happy when I do activities other than those in the textbook. I feel as if I were creative. I produce different ideas." S4 stated his/her opinions by saying, "Everyone produces different ideas when we work with our friends. By this way, we produce nicer products."

Eight of the students stated that producing products in courses help them remember what they have learned whereas 5 students reported that they noticed their abilities and were happy as they could work with their friends. About the matter, S5 said, "We are more successful in the exams when we do different activities in the classroom. Because we will remember them." while S3 stated his/her opinions by saying, "I like working with my friends during these activities. I think it is more fun in that way."

As for the negative opinions, 4 of the students stated that they did not want to work with their friends. Moreover, 3 of the students reported that they had lack of time, 2 students did not like their own products and 2 students did not want to exhibit their products, which made them provide negative opinions. Regarding the matter, S1 reported that he/she wanted to work alone rather than with friends by saying, "I want to use the colourful papers my teacher distributes. For example, my teacher tells me to work with Can, but he cannot do it well." Saying, "It is good to do activities, but I do not want to demonstrate before the class", S7 state that he/she did not like the exhibition stage.

According to the abovementioned findings, even though some of the students provided negative opinions, they generally reported that they were content with producing various products in Life Sciences courses and wanted to continue these activities.

### **Conclusion, Discussion and Recommendations**

The main purpose of this study was to examine the qualities of products provided by students in the primary school third-grade Life Sciences courses in the classroom setting from several aspects and receive student opinions on the matter.

The products provided by the students were examined with the document review method, and it was determined that the products were in the required qualities. When examining the properties of the products, those that are completely relevant to the main idea of the subject are considered as desired. In addition, those that are closely or remotely related to the subject and are completely unrelated are also identified.

The most provided student products for the subject "Traffic Rules" were slogans while the least ones were pictures. Whereas it was found that all the students made comparison tables for the subject "Leadership Characteristics", the most provided products were poems and acrostics and the least provided ones were pictures. For the subject "Let Us Do Kindness", the most provided products were letters and the least provided ones were pictures.

The number of students who completed the products within required time was more than half of the class. It was also determined that the students generally wanted to work with friends cooperatively and they were academically successful in the end. This result coincides with other studies on cooperative learning in the literature (Adeyemi, 2008; Ajaja & Eravwoke, 2010; Hanze & Berger, 2007; Kolawole, 2008; Zakaria, Chin & Daud, 2010; Zakaria & Iksan, 2007).

As a result of interviews with students; it was observed that they are happy to present different products in Life Sciences courses, this is a situation that increases their imagination and they feel good. In addition, it was found that they were happy for doing different activities from the workbook and had the opportunity to examine what their friends did, and that creating products in the courses prevented them from forgetting what they learned. Also, it was observed that the students realized their talents and expressed that they were happy to work together with their friends.

In parallel with these findings, a study which achieved positive results examined the effects of cognitive and meta-cognitive activities performed with secondary school students on their abilities to provide written products. It was observed that the students had improved reading and writing skills due to these activities and provided quality products (Mateos, Martin, Villalon and Luna, 2008). As seen in this study, it is known that activities supporting the active learning improve several skills of students and have positive impacts.

In the study conducted by Kurtuluş and Çavdar (2011) with Science teachers working at elementary schools in the city center and villages of Trabzon, Turkey, the participants reported that the activities in the program were interesting and remarkable, fun and instructive, and the activities facilitated learning. However, the results show that students are not happy with teacher-activities. The students stated that they were bored of courses instructed in such way. A similar situation was observed in Erdoğan's (2009) study. Students in Social Studies courses prefer preparing activities with various materials and achieving an active learning environment. Courses instruct in these ways receive students' increased attention.

An important difference between this study and other studies is that it was concluded that some of the students in the classroom were reluctant to cooperate with their friends and exhibit their products. Even though these students were few in numbers, this is a striking finding, which was achieved during the observations. It was observed

that these students generally act alone in the courses and during recesses and shier than others. On the other hand, the products provided by these students were found to be in required qualities.

Consequently, it was determined that the products provided by the students in the primary school Life Sciences courses were in required qualities in general, the students were rendered active in this way, and they became happier when they provide products in these courses.

It can be recommended to future studies that both qualitative and quantitative studies can be conducted to identify effects of student products on several domains such as cooperative learning, creativity levels, and problem solving. That should allow for a multi-dimensional examination. This study covers the primary school Life Sciences courses. Future studies can address higher grade levels and use different courses. Another recommendation to future studies can be that they give weight to action research. By this means, it can be ensured that students who constituted the minority in this study, are shy and do not want to cooperate are included in the activation process.

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