

## Impact of different activities on learning the subjects in the course 'Introduction to Education'

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### Abstract

This study aims to determine how the activities applied within the course 'Introduction to Education' affect learning the subjects about education. The research had the one-group post-test-only design, a type of quasi-experiment design. The study group of the research consisted of 97 prospective teachers. 'Introduction to Education' covered the discussion of 11 fundamental subjects, as well as different activities conducted in regard to each topic. Based on the results of the research, it was concluded that the activities used in the courses ensured effective learning, were appreciated by the prospective teachers and increased participation. The factors that decreased the effects of the activities, however, were found to have been mostly student-originated. Finally, it was recommended that instructors use effective activities that would increase the participation of students during the classes.

Keywords: Activities, introduction to education, teacher education.

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## 1. Introduction

Of all the professional teaching knowledge courses, 'Introduction to Education' is the primary one to be received by the prospective teachers of the faculties of education (Turkoglu, 2011). 'Introduction to Education' course, as is currently known, is a class that is included in the curricula as a consequence of the restructuring in faculties of education (Demiral & Kaya, 2018). Although its name may change from time to time, 'Introduction to Education' has always been taught in institutions that educate teachers (Erginer, 2006). 'Introduction to Education' has a significant place in that it is an introductory course, aiming to create the field-based knowledge of prospective teachers. Upon their decision to become a teacher and start a faculty of education, prospective teachers, through Introduction to Education, have access to the knowledge of fundamental philosophies and approaches underlying the discipline that constitutes the basis for teaching (Bakioglu, 2015). Thus, it is essential to ensure effective learning in a course with such importance.

The students, who took 'Introduction to Education' in the 2017–2018 academic year, were asked specific questions in regard to 'Introduction to Education' in the beginning of the semester, yet no satisfactory answers were given to these questions. Therefore, a needs analysis was carried out in order to determine the requirements needed to ensure effective learning in 'Introduction to Education'. In order to analyse the opinions of prospective teachers in regard to 'Introduction to Education', seven prospective teachers from different departments, who received 'Introduction to Education', were interviewed within the framework of the needs analysis. During the aforementioned interviews, it was concluded that 'Introduction to Education' which those students attended were lectured on a theoretical basis and in an instructor-centred manner, and that effective learning could not be ensured as the students could not participate actively. In a study conducted by Bulca et al. (2012), it was determined that the prospective teachers could not take part in any practice during the courses on professional teaching knowledge. Similarly, in a study they conducted, Cuhadur and Dursun (2010) concluded that the students demanded more emphasis on practices within their professional teaching knowledge courses. In their study, Tosuntas (2013) concluded that the instructors working in the departments of educational sciences rarely used the methods other than the direct instruction method. Atik Kara (2012), however, claimed that prospective teachers were dissatisfied with the professional teaching knowledge courses being lectured on a theoretical basis.

According to Jonassen (1991), effective learning can be ensured when learners actively take place in the process of learning. Also, Jonassen (2002) added that knowledge was constructed more easily if learners acted individually or collaboratively. Thus, students need to be activated in order to let them take part in the lessons. As per the 'Turkish Language Association' (TLA, 2020), a person's state of being active is named 'activity'. Morable (2009) defined the concept of activity as all kinds of activities in a classroom setting, which are conducted in line with the learning objectives and which are performed by materialising and visualising the topics, and by making them enjoyable and interesting in different ways for students throughout the process of learning, including the use of various instruments when needed. Greeno and Engestrom (2013) argued that focusing on an activity was a powerful way to conceptualise learning. Therefore, it was aimed to increase the participation of students through activities, and to ensure effective learning in the introduction to education class, which is intensive by its content and theoretical by its structure. Hence, this study, through the opinions of students, aimed to determine how the activities applied within 'Introduction to Education' affect learning.

## 2. Methodology

### 2.1. Research design

The research had the one-group post-test-only design, a type of quasi-experiment design. The one-group post-test-only design is used in researches where a dependent variable is measured for one

group of participants following a treatment (Privitera & Ahlgrim-Dezell, 2019). In this research, the dependent variable is 'learning about the subjects about education', and the treatment is the activities applied within the course. Experimental designs are research designs that cover the generation of data, which the researchers intended to observe directly under their control in order to determine the cause-and-effect relationships (Karasar, 2012). Fraenkel and Wallen (2006) stated that the fundamental idea underlying the experimental research is the systematical observation of what is going on after trying specific things.

## 2.2 Study group

The study group of the research was determined through an easily accessible situational sampling technique, as random designation was not possible (Yildirim & Simsek, 2004). The researcher worked with a total of 97 prospective teachers from two classes in the Faculty of Education in Aydin, Turkey, where the researcher lectured 'Introduction to Education' course throughout the fall semester of the 2018–2019 academic year. The reason for applying activities to two classes instead of one class is to increase the generalizability of the results by collecting data from more participants.

## 2.3 Collection and analysis of data

At the end of each course, activity assessment cards were handed out to a total of 10 students, 5 from each of the 2 classes, in order for them to assess that specific activity. It was ensured that different participants filled out the activity cards at each class. The activity assessment card asked three questions:

- 1) What is your opinion on the activity?
- 2) How could the activity be made more effective?
- 3) How would you rate the activity out of 10 points?

The data collected from the activity cards were analysed by the descriptive analysis technique. The descriptive analysis fundamentally aims to summarise and interpret the data obtained by various data collection techniques according to predetermined themes (Yildirim & Simsek, 2004). The categories were defined through the codification process, which yielded the main themes as a result. The data analysed were quantified by providing frequency distributions (f) and percentage values (%) (Balci, 2015).

The 'Introduction to Education' course covers 11 fundamental subjects. Each subject and subject-related activities was distributed into weeks. During the preparation of the activities, special attention was paid to ensure that the activities emphasised the critical points of the subject, increased the participation of the students, offered motivation and provided the prospective teachers with an opportunity to learn, as specified by Epstein and Ryan (2008). The activities had been conducted at each class for 11 weeks.

First week

Subject: Fundamental concepts about education.

Activity: Activity of matching education-related concepts with definitions.

The subject of education-related fundamental concepts is discussed with the participants through the direct instruction and discussion method, as well as with the question–answer technique. In order to consolidate the subject, each participant was given one concept that was discussed in that particular subject, along with the definition of that concept, in a written form on a paper strip. Taking turns, the participants direct a question to the classroom in regard to the concept they have in hand; for instance, 'What is a curriculum?' Participants, who believe that they have the definition to that

concept in hand, raise their hands to read that definition. The entire class votes for which definition is the most authentic one, through which the authentic definition is decided.

#### Second week

Subject: Historical development of education in Turkey.

Activity: A contest for the best painting that describes the periods of historical development of education in Turkey.

The subject of the periods of historical development of education in Turkey is discussed through the direct instruction and discussion method, as well as with the question–answer technique. In order to consolidate the subject, participants are provided with drawing papers, on which they can work in pairs. One of the periods of historical development of education in Turkey is written on each drawing paper. Participants are asked to draw a painting to describe the status of education in that particular period. Taking turns, the groups present their drawings to the class and put them up on the board under the title of the relevant period.

#### Third week

Subject: Philosophical foundations of education.

Activity: A philosophical creature activity.

The subject of the philosophical foundations of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. At the end of the subject, the instructor assigns numbers to specific parts of the board. Subsequently, the instructor randomly gives the participants pieces of paper, on which the titles of the subject discussed are written. Students summarise the concept written on the paper, based on the order of numbers on the papers. After each summary, the student puts that paper up over the relevant number on the board. By the end of this process, a creature appears on the board. Students are asked to name that creature.

#### Fourth week

Subject: Psychological foundations of education.

Activity: Drawing a mind map regarding the psychological foundations of education.

The subject of the psychological foundations of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. A mind map of the psychological foundations of education is simply drawn on the board, while the class is being lectured. Following the end of the lecture, the participants are told that they can make the mind map even more elaborate through images and remarks. Volunteer participants come forward and make additions to the mind map.

#### Fifth week

Subject: Social foundations of education.

Activity: Card folding game in regard to the elimination of social problems through education.

The subject of the social foundations of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. At the end of the class, participants are asked to use one half of a piece of paper to write a social problem, and then to fold it. Following the collection of the papers, they are randomly handed out to the participants, who are asked to explain on the other half of the paper how those problems could be overcome through education. At the end of the activity, the papers are collected, which are then selected randomly to be read out loud to the class.

#### Sixth week

Subject: Economic foundations of education.

Activity: A marketplace activity about the relationship between education and economics.

The subject of the economic foundations of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. Participants are given cards at the end of the lecture. Participants are asked to give an example regarding the effects of education on economics. Participants place their cards on the desks in a way they do not tip over. Subsequently, the other half of the class walks around the desks with empty cards and write on the cards the examples of their choice. At the end of the activity, volunteers read their cards out loud to the class.

Seventh week

Subject: Legal foundations of education.

Activity: A quiz on the legal foundations of education.

The subject of the legal foundations of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. At the end of the class, all participants are asked to download an application to their mobile phones to answer the questions in order, which have been prepared by the instructor in advance. The participants with the highest score are rewarded.

Eighth week

Subject: Research methods in education.

Activity: An activity of cooperatively drafting a research proposal.

The subject of the research methods in education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. Based on a research determined by the class, the methods and techniques that fit the research the best are selected after each chapter. By the end of the course, a draft for a research proposal is obtained.

Ninth week

Subject: Functions of education.

Activity: An activity of using the fishbone diagram technique in regard to the functions of education.

The subject of the functions of education is discussed through the direct instruction and discussion method, as well as with the question–answer technique. Then, a fishbone diagram is drawn on the board. The functions of education are written on the head of the fish. After the main headings are written on the core bones, students are asked to write expressions and examples that fit those headings.

Tenth week

Subject: Turkish education system.

Activity: An activity of moving the ball around.

While discussing the subject of the Turkish education system, the instructor tosses a ball to a participant to ask them a question. Then, the participant holding the ball is asked to toss the ball to a friend for a new question. This way, the ball is moved around the participants along with new questions.

Eleventh week

Subject: Teaching as a profession.

Activity: An activity of true–false.

Prior to the discussion of the subject, each participant is given red and green cards. While lecturing the subject 'teaching as a profession', the instructor utters true or false sentences about the subject. Participants are asked to show the green card if they think that the expression is true and the red card if they think that it is false.

### 3. Findings and Interpretation

The data, which were collected from the activity cards at the end of each course, were analysed through the descriptive analysis method. The data obtained in regard to each activity were given in order. The activities were interpreted in general after all of the results.

Table 1 shows the results obtained through the opinions of the participants at the end of the activity of matching education-related concepts with definitions, which took place at the end of the first class.

**Table 1.** Results of the activity of matching education-related concepts with definitions

Opinions, recommendations and mean scores regarding the first activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	8	44.4
	Consolidates what is learned	5	27.8
	Makes learning enjoyable	3	16.7
	Improves permanence	1	5.5
	Increases participation	1	5.5
	Total	18	100
Recommendation on making the activities more effective	More questions should be added	5	33.3
	Silence should be ensured	4	26.7
	It should be supported with visual materials	3	20
	Questions should be enjoyable	1	6.7
	Good enough	1	6.7
	Definitions should be shortened	1	6.7
Total	15	100	
Mean score	7.8		

Upon the analysis of Table 1, it was concluded that seven participants (44.4%) believed that the activities ensured effective learning, six participants (27.8%) that the activities consolidated learning, three participants (16.7%) that the learning became enjoyable, one participant (5.5%) that the permanence of learning was improved and one participant (5.5%) that they increased participation. Furthermore, the analysis of the same table demonstrates that five participants (33.3%) recommended that more questions be added, four participants (26.7%) that silence be ensured, three participants (20%) that they be supported with visual materials, one participant (6.7%) that questions be made enjoyable and one participant (6.7%) that definitions be shortened in order to make the activities more effective. One participant (6.7%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 7.8 points to the activity. Thus, it can be interpreted that the activity of matching education-related concepts with definitions is effective to ensure learning and to consolidate what is learned.

Table 2 shows the results obtained through the opinions of the participants at the end of the activity of a contest for the best painting that described the periods of historical development of education in Turkey, which took place at the end of the second class.

**Table 2.** Results of the painting contest

Opinions, recommendations and mean scores regarding the second activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	6	40
	Makes learning enjoyable	6	40
	Increases collaboration	2	13.3
	Consolidates what is learned	1	6.6
	Total	15	100
Recommendation on making the activities more effective	Effective enough	7	63.6
	Cheating should be prevented	2	18.2
	Silence should be ensured	1	9.1
	More time should be provided	1	9.1
	Total	11	100
Mean score	8.6		

Upon the analysis of Table 2, it was concluded that six participants (40%) believed that the activities ensured effective learning, six participants (40%) that they made the learning enjoyable, two participants (13.3%) that the activities increased collaboration and one participant (6.6%) that they consolidated what was learned. Furthermore, the analysis of the same table demonstrates that two participants (18.2%) recommended that cheating be prevented, one participant (9.1%) that silence be ensured and one participant (9.1%) that more time be provided in order to make the activities more effective. Seven participants (63.6%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.6 points to the activity. From the findings, it can be seen that the activity of the contest for the best painting not only ensures effective learning but also makes learning enjoyable.

Table 3 shows the results obtained through the opinions of the participants at the end of the philosophical creature activity, which took place at the end of the third class.

**Table 3.** Results of the philosophical creature activity

Opinions, recommendations and mean scores regarding the third activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	11	68.8
	Improves permanence	2	12.5
	Makes learning enjoyable	1	6.2
	Consolidates what is learned	1	6.2
	Increases participation	1	6.2
	Total	16	100
Recommendation on making the activities more effective	It should be enlivened	5	38.4
	The activity should be prolonged	3	23.1
	Collaboration should be increased	2	15.3
	Good enough	1	7.7
	Animation is needed	1	7.7
	It should be more explanatory	1	7.7
Total	13	100	
Mean score	8.4		

Upon the analysis of Table 3, it was concluded that 11 participants (68.8%) believed that the activities ensured effective learning, 1 participant (6.2%) that the activities consolidated learning, 2 participants (12.5%) that the permanence of learning was improved, 1 participant (6.2%) that the learning became enjoyable and 1 participant (6.2%) that they increased participation. Furthermore, the analysis of the same table demonstrates that five participants (38.4%) recommended that the activity be enlivened, three participants (23.1%) that the activity be prolonged, two participants (15.3%) that collaboration be increased, one participant (7.7%) that animation be made and one

participant (7.7%) that it be more explanatory in order to make the activities more effective. One participant (7.7%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.4 points to the activity. From Table 3, it is obvious the philosophical creature activity is really effective to ensure learning.

Table 4 shows the results obtained through the opinions of the participants at the end of the activity of drawing a mind map regarding the psychological foundations of education, which took place at the end of the fourth class.

**Table 4.** Results of the activity of drawing a mind map regarding the psychological foundations of education

Opinions, recommendations and mean scores regarding the fourth activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	8	66.7
	Consolidates what is learned	2	16.6
	Makes learning enjoyable	1	8.3
	Improves permanence	1	8.3
	Total	12	100
Recommendation on making the activities more effective	Participation should be increased	4	40
	Good enough	3	30
	It should be more enjoyable	2	20
	It should be repeated next week	1	10
	Total	10	100
Mean score	8.5		

Upon the analysis of Table 4, it was concluded that eight participants (66.7%) believed that the activities ensured effective learning, two participants (16.6%) that the activities consolidated learning, one participant (8.3%) that the learning became enjoyable and one participant (8.3%) that the permanence of learning was improved. Furthermore, the analysis of the same table demonstrates that four participants (40%) recommended that participation be increased, two participants (20%) that the activity be more enjoyable and one participant (10%) that the activity be repeated next week in order to make the activities more effective. Three participants (30%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.5 points to the activity. It is clear from Table 4 that the activity of drawing a mind map regarding the psychological foundations of education ensures effective learning.

Table 5 shows the results obtained through the opinions of the participants at the end of the activity of elimination of social problems through education, which took place at the end of the fifth class.

**Table 5.** Results of the activity of elimination of social problems through education

Opinions, recommendations and mean scores regarding the fifth activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	7	50
	Makes learning enjoyable	5	35.8
	Consolidates what is learned	2	14.2
	Total	14	100
Recommendation on making the activities more effective	Rewarding is needed	3	27.3
	Participation should be increased	2	18.9
	It should be prolonged	2	18.9
	Good enough	2	18.9
	Participants should be serious	2	18.9
Total	11	100	
Mean score	7.8		



Upon the analysis of Table 5, it was concluded that seven participants (50%) believed that the activities ensured effective learning, five participants (35.8%) that the learning became enjoyable and two participants (14.2%) that the activities consolidated learning. Furthermore, the analysis of the same table demonstrates that three participants (27.3%) recommended that rewarding be made, two participants (18.9%) that the participation be increased, two participants (18.9%) that the activity be prolonged and two participants (18.9%) that participants be serious in order to make the activities more effective. Two participants (18.9%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 7.8 points to the activity. It can be interpreted that the activity of elimination of social problems through education both ensures effective learning and makes learning enjoyable.

Table 6 shows the results obtained through the opinions of the participants at the end of the marketplace activity about the relationship between education and economics, which took place at the end of the sixth class.

**Table 6.** Results of the marketplace activity about the relationship between education and economics

Opinions, recommendations and mean scores regarding the sixth activity		f	%
Opinion on the activity	Ensures effective learning	5	35.8
	Increases participation	3	21.4
	Makes learning enjoyable	3	21.4
	Consolidates what is learned	2	14.3
	Improves permanence	1	7.1
Total		14	100
Recommendation on making the activities more effective	Good enough	3	30
	The activity should be prolonged	2	20
	Silence should be ensured	2	20
	Rewarding is needed	2	20
	Cheating should be prevented	1	10
Total		10	100
Mean score	8.2		

Upon the analysis of Table 6, it was concluded that five participants (35.8%) believed that the activities ensured effective learning, three participants (21.4%) that the activities increased the participation of the participants, three participants (21.4%) that they made the learning enjoyable, two participants (14.3%) that they consolidated what was learned and one participant (7.1%) that the permanence of learning was improved. Furthermore, the analysis of the same table demonstrates that two participants (20%) recommended that the activity be prolonged, two participants (20%) that silence be ensured, two participants (20%) that rewarding be made and one participant (10%) that cheating be prevented in order to make the activities more effective. Three participants (30%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.2 points to the activity. It is resulted from Table 6 that the marketplace activity has a positive impact on learning.

Table 7 shows the results obtained through the opinions of the participants at the end of the activity of a quiz on the legal foundations of education, which took place at the end of the seventh class.

**Table 7.** Results of the activity of a quiz on the legal foundations of education

Opinions, recommendations and mean scores regarding the seventh activity		f	%
Opinion on the activity	Ensures effective learning	8	66.6
	Consolidates what is learned	3	25
	Enables advanced thinking	1	8.3
	Total	12	100

Recommendation on making the activities more effective	Silence should be ensured	3	25
	The activity should be prolonged	3	25
	Cheating should be prevented	2	16.7
	Good enough	2	16.7
	Questions should be enjoyable	1	8.3
	Questions should be more difficult	1	8.3
	Total	12	100
Mean score	8.8		

Upon the analysis of Table 7, it was concluded that eight participants (44.4%) believed that the activities ensured effective learning, three participants (25%) that the activities consolidated learning and one participant (8.3%) that they enabled advanced thinking. Furthermore, the analysis of the same table demonstrates that three participants (25%) recommended that silence be ensured, three participants (25%) that the activity be prolonged, two participants (16.7%) that cheating be prevented, one participant (8.3%) that questions be made enjoyable and one participant (8.3%) that questions be made more difficult in order to make the activities more effective. Two participants (16.7%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.8 points to the activity. It is clear from Table 7 that the activity of the quiz is effective in ensuring effective learning.

Table 8 shows the results obtained through the opinions of the participants at the end of the activity of drafting a motion for a joint research, which took place at the end of the eighth class.

**Table 8.** Results of the activity of drafting a motion for a joint research

Opinions, recommendations and mean scores regarding the eighth activity		f	%
Opinion on the activity	Ensures effective learning	5	38.4
	Consolidates what is learned	3	23.1
	Improves permanence	3	23.1
	Increases participation	2	15.4
	Total	13	100
Recommendation on making the activities more effective	Duration should be prolonged	4	36.4
	Good enough	3	27.3
	Participation should be increased	2	18.1
	It should be visualised	1	9.1
	It should be made enjoyable	1	9.1
	Total	11	100
Mean score	7.6		

Upon the analysis of Table 8, it was concluded that five participants (38.4%) believed that the activities ensured effective learning, three participants (23.1%) that the activities consolidated learning, three participants (23.1%) that the permanence of learning was improved and two participants (15.4%) that they increased participation. Furthermore, the analysis of the same table demonstrates that four participants (36.4%) recommended that the duration of the activity be prolonged, two participants (18.1%) that participation be increased, one participant (9.1%) that the activity be supported with visual materials and one participant (9.1%) that questions be made enjoyable in order to make the activities more effective. Three participants (9.1%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 7.3 points to the activity. Finally, it can be interpreted that the activity of drafting a motion for a joint research ensures effective learning and consolidates what was learned.

Table 9 shows the results obtained through the opinions of the participants at the end of the activity of using the fishbone diagram technique in regard to the functions of education, which took place at the end of the ninth class.

**Table 9.** Results of the activity of using the fishbone diagram technique in regard to the functions of education

Opinions, recommendations and mean scores regarding the ninth activity		<i>f</i>	%
Opinion on the activity	Ensures effective learning	4	30.8
	Consolidates what is learned	4	30.8
	Improves permanence	2	15.3
	Makes learning enjoyable	2	15.3
	Increases participation	1	7.7
	Total	13	100
Recommendation on making the activities more effective	It should be prolonged	4	36.3
	Pretty good	3	27.2
	Participation should be increased	2	18.2
	It should be enlivened	1	9.1
	It can be repeated next week	1	9.1
Total	11	100	
Mean score	8.1		

Upon the analysis of Table 9, it was concluded that four participants (30.8%) believed that the activities ensured effective learning, four participants (30.8%) that the activities consolidated learning, three participants (16.7%) that the learning became enjoyable, two participants (15.3%) that the permanence of learning was improved and one participant (7.7%) that they increased the participation. Furthermore, the analysis of the same table demonstrates that four participants (36.3%) recommended that the activity be prolonged, two participants (18.2%) that the participation be increased, one participant (9.1%) that the activity be enlivened and one participant (9.1%) that the activity be repeated next week in order to make the activities more effective. Three participants (27.2%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.1 points to the activity. It is undoubtedly seen from Table 9 that the activity of using the fishbone diagram technique has a positive impact on learning.

Table 10 shows the results obtained through the opinions of the participants at the end of the activity of moving the ball around, which took place at the end of the tenth class.

**Table 10.** Results of the activity of moving the ball around

Opinions, recommendations and mean scores regarding the tenth activity		<i>f</i>	%
Opinion on the activity	Makes learning enjoyable	4	36.3
	Ensures effective learning	3	27.3
	Increases participation	3	27.3
	Improves permanence	1	9.1
	Total	11	100
Recommendation on making the activities more effective	It should be prolonged	3	30
	Pretty good	3	30
	Questions can be made enjoyable	2	20
	No hints should be given	2	20
	Total	10	100
Mean score	7.7		

Upon the analysis of Table 10, it was concluded that four participants (36.3%) believed that the activities made the learning enjoyable, three participants (27.3%) that the activities ensured effective

learning, three participants (27.3%) that they increased the participation and one participant (9.1%) that the permanence of learning was improved. Furthermore, the analysis of the same table demonstrates that three participants (30%) recommended that the activity be prolonged, two participants (20%) that questions be made enjoyable and two participants (20%) that no hints be given in order to make the activities more effective. Three participants (30%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 7.5 points to the activity. Thus, it can be interpreted that the activity of using the fishbone diagram technique has a positive impact on learning.

Table 11 shows the results obtained through the opinions of the participants at the end of the true–false activity, which took place at the end of the eleventh class.

**Table 11.** Results of the true–false activity

Opinions, recommendations and mean scores regarding the eleventh activity		<i>f</i>	%
Opinion on the activity	Makes learning enjoyable	5	38.4
	Increases participation	4	30.8
	Ensures effective learning	4	30.8
	Total	13	100
Recommendation on making the activities more effective	Pretty good	4	40
	No hints should be given	2	20
	Questions can be made more difficult	2	20
	Questions should be enjoyable	1	10
	The activity should be prolonged	1	10
	Total	10	100
Mean score	8.6		

Upon the analysis of Table 11, it was concluded that five participants (38.4%) believed that the activities made learning enjoyable, four participants (30.8%) that they increased participation and four participants (30.8%) that the activities ensured effective learning. Furthermore, the analysis of the same table demonstrates that two participants (20%) recommended that no hints be given, two participants (20%) that questions be made more difficult, one participant (10%) that questions be made enjoyable and one participant (10%) that definitions be shortened in order to make the activities more effective. Four participants (40%), however, reported that there was no need for a recommendation, specifying that the activity was good enough. Out of 10 points, the participants gave 8.6 points to the activity. Hence, the findings show that the true–false activity makes learning enjoyable, increases participation and ensures effective learning.

Based on the results obtained following the analysis of the data, it can be interpreted that the activities used in classes were successful in ensuring effective learning. The activities used managed to make learning enjoyable, while also increasing participation and collaboration. According to participants, these activities consolidated what they learned and increased the permanence of learning. Upon the analysis of the recommendations that the participants made in regard to making the activities more effective, it can be seen that they reported that they wanted to participate more, through the provision of more time or by the addition of more questions. Nevertheless, the duration allocated for the activities, and the length of the activities were forced to be short, because of the fact that there were only weekly 2 course hours despite the course content being intensive. Moreover, there were participants who were of the opinion that no recommendations were needed, reporting that the activities were good enough. Based on the participants' recommendations regarding the activities, it can be interpreted that the activities were appreciated by the participants. Regardless of how effective the activities were or how much they were appreciated, specific problems were mentioned, such as some participants being noisy, cheating or lacking seriousness during some of the activities. It can be interpreted that such problems stemmed from the personal characteristics of the participants. Following the analysis of the mean scores that resulted from the ratings made by the

participants in regard to the activities out of 10 points, it was seen that the mean scores ranged from 7.6 to 8.8. Considering these mean scores, it can be interpreted that the activities were highly effective.

#### **4. Conclusion and discussion**

Based on the results, it was concluded that the activities used in classes were successful in ensuring an effective learning. In the studies they conducted, Kyriazis et al. (2009) concluded that the activities held with participants increased the efficiency in higher education. Similarly, Obioma (1986) and Pierse and Sutton (2012) reported that activities ensured effective learning. Also, Jonassen (2002) and Greeno and Engeström (2013) stated that students could learn more easily by engaging in activities. Conti et al. (1995) resulted in their study that creative activities had positive impacts on college students' learning.

It was determined that the activities were appreciated by the participants, and that the classes were more enjoyable to lecture when accompanied by activities. In a study they conducted, Hee (2005) and Tao et al. (2016) reported that classes with activities were appreciated by the participants even more.

The activities held ensured an increase in the participation in classes. In a similar manner, in a study conducted by Gunes et al. (2020), they concluded that the participants did not get bored, thanks to the activities conducted in classes, which enabled them to participate in classes even more. Suydam and Higgins (1977) emphasised that the participation of participants was the most fundamental factor in learning-oriented activities.

The duration allocated to the activities were found to be insufficient by the participants, due to the volume of contents and the shortness of class hours. As the 3-hour class time, which the Introduction to Education class had weekly, was cut down to 2 hours by YOK (2018) in the fall semester of the 2018–2019 academic year, this duration proved inadequate for the Introduction to Education class which had intensive content. In a study they conducted, Capa and Cil (2009) recommended that professional teaching knowledge courses needed longer durations. Furthermore, in the same study, it was also reported that the attitude towards the profession of teaching positively improved when the professional teaching knowledge courses had quality and longer durations.

Even though the activities increased the participation by enabling an effective learning, mostly student-originated factors caused the effects of the activities to decrease. In a study conducted by Bear et al. (1983; as cited in Esen, 2006), it was reported that some behaviours shown by students, such as chatting, whispering and walking around in the classroom unnecessarily, prevented other students from learning, as mentioned by the teachers taking part in the study.

#### **5. Recommendations**

The study concluded that the activities used in the classes ensured effective learning, were appreciated by the participants and increased participation. Thus, it can be recommended that instructors use effective activities that would increase the participation of participants during classes. The study analysed the results of the use of activities in the 'Introduction to Education' course; creative activities can also be used in different classes which participants find challenging, and their results can be shared in the literature. Several studies can be conducted to investigate the student-originated factors that weaken the effects of the activities, such as noise or frivolity, and to eliminate these factors. Moreover, it could be ensured that students learn the contents of this course in a better way by increasing the weekly class time of the course 'Introduction to Education', as a part of the delegation of authorities to the faculties of education by YOK (2020) in regard to the renewal of the curricula of the faculties of education.

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