



## Students' and Teacher's Views on the Effectiveness of Multiple Intelligences-Assisted Layered Curriculum in the Social Studies Course

Ali Sinan BİLGİLİ<sup>a</sup>, Mehmet Nuri GÖMLEKSİZ<sup>b</sup>, Ümmühan ÖNER<sup>c\*</sup>

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### Abstract

The aim of this study is to determine students' and Social Studies teacher's views on the effectiveness of multiple intelligences-assisted layered curriculum. Study group includes 14 7th grade students and one Social Studies teacher at a primary school in Elazığ city center during 2010-2011 academic year. The research was conducted based on the "case study" research design, one of the qualitative research designs. As data collecting tool, student and teacher interview form and observation form consisting of open-ended questions were used. Content analysis was used to analyse the data. It was found out that the useful aspects of multiple intelligences-assisted layered curriculum were 'helping students to learn', 'repetition', 'motivating to do research', 'active participation in class' and 'increasing students' interest'. When choosing an activity, the students paid attention to whether the activities were 'difficult', 'easy', 'helpful for students to learn', 'interesting' and 'related to drawing'. In the process of implementation of the multiple intelligences-assisted layered curriculum, it was found out that the students had difficulty in 'writing story', 'writing essay', 'writing poem', 'solving test', 'drawing map', and 'selecting activity'

## Sosyal Bilgiler Dersinde Çoklu Zekâ Kuramı Destekli Basamaklı Öğretim Programının Etkililiğine İlişkin Öğrenci ve Öğretmen Görüşleri

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### Öz

Araştırmanın amacı çoklu zekâ kuramı destekli basamaklı öğretim programının etkililiğine ilişkin öğrenci ve öğretmen görüşlerini belirlemektir. Araştırmanın çalışma grubunu 2010-2011 eğitim öğretim yılında Elazığ il merkezindeki bir ilköğretim okulunda 7. sınıf düzeyinde öğrenim gören 14 öğrenci ve 1 Sosyal Bilgiler öğretmeni oluşturmaktadır. Araştırma nitel araştırma desenlerinden "durum çalışması" desenine göre yürütülmüştür. Veri toplama aracı olarak açık uçlu sorulardan oluşan öğrenci ve öğretmen görüşme formu ve gözlem formu kullanılmıştır. Veriler içerik analizine uygun olarak analiz edilmiştir. Çoklu zekâ kuramı destekli basamaklı öğretim programının faydalı yönleri 'öğrenmeye yardımcı olma', 'tekrar etme', 'araştırmaya sevk etme', 'derse aktif katılım', 'ilgiyi artırma' olarak belirlenmiştir. Öğrenciler etkinlik seçerken etkinliklerin 'zor olması', 'kolay olması', 'öğrenmeye yardımcı olması', 'ilgi çekici olması', 'çizimle ilgili olması' konularına dikkat etmişlerdir. Çoklu zekâ kuramı destekli basamaklı öğretim programının uygulanma sürecinde öğrencilerin en çok 'hikâye yazma', 'kompozisyon yazma', 'şiir yazma', 'test çözme', 'harita çizme', 'etkinlik seçimi' aşamalarında zorluk yaşadıkları belirlenmiştir.

\* \* Corresponding Author: uoner @firat.edu.tr

<sup>a</sup> Prof. Dr., Atatürk University, Erzurum, Turkey, <http://orcid.org/0000-0003-3182-3002>

<sup>b</sup> Prof. Dr., Fırat University, Elazığ, Turkey, <http://orcid.org/0000-0002-8268-0163>

<sup>c</sup> Asst. Prof., Fırat University, Elazığ, Turkey, <http://orcid.org/0000-0003-2394-0049>

## Introduction

Each student has his/her own individual differences and intelligence areas. In this context, these differences should be taken into consideration while planning the learning processes. Approaches and strategies suitable for students' individual differences, intelligence areas and learning speed should be provided for the students. The layered curriculum is a program that includes the division of the subjects within the learning process into three layers, the determination of the activities related to each layer, and the selection and evaluation of the activities by the students (Nunley, 2003, p. 35). Based on the conception that each student in the classroom has different interests and learning styles, this curriculum is a way of organizing the teaching-learning process, which gives students the opportunity to acquire knowledge, use the information they have obtained in daily life and present creative ideas (Başbay, 2006, p. 14). In this approach, the teaching-learning process is organized by allowing students to choose from activities they can perform. By ensuring the students participate in appropriate level of activities, the general objectives that will enable them to learn at the highest level within their capacity, and in accordance with their interests and abilities are determined. After making these general objectives layered within the framework of certain steps based on the activities, the implementation continues (Demirel, 2006, p. 243). The layered curriculum is based on three basic principles which are defined as preferential right, responsibility and progressive complex thinking style. Before preparing a lesson plan for layered curriculum, the basic concepts, tasks in the units, and intelligence areas of the students are determined. The increasingly complex tasks are divided into three layers taking into consideration the Bloom Taxonomy (Nunley, 2003, p. 35). These layers represent the practice required for the learning of the unit. Students can choose what they want to study in depth and conduct their practice (Nunley, 2002, p. 11). Within this framework, by determining the level of difficulty and the progressive relationships, activities to be performed within the curriculum and extracurriculum are divided into three levels as C, B and A from the easiest to the hardest one. Students perform different tasks and responsibilities in these layers and carry out the activities they chose by taking their interests into account (Başbay, 2010, p. 249). The bottom layer is C, where students can get the highest grades by performing the tasks in. This layer allows students to acquire a general knowledge of the subject. In the C Layer, there are tasks that address visual, tactile, auditory learners (Nunley, 2002, p. 13). Students can choose from 4 or 5 different tasks according to their interests and learning styles. In the B Layer, the students add new ones to the basic information obtained in the C Layer. (Maurer, 2009, p. 5, 6). In this layer, the students are asked to question the information they have previously learned, analyze it in detail, reach the synthesis and as a result, produce an original product. According to the topic they have chosen, students are expected to present the learnt knowledge creatively, analyze a current problem critically, and create an original idea (Demirel, Şahan, Ekinci, Özbay & Begimgil, 2006, p. 75). The aim of this layer is to allow the students to make connections with previous subjects (Maurer, 2009, p. 6). The layer B requires a higher level of thinking than the layer C. In the B layer, the students process and apply the knowledge they have learned in layer C. Students rearrange, use, design learning activities, solve problems and brainstorm the knowledge they have learned previously. The last layer, the A layer requires high-level thinking skills. The student in this layer uses the values, ethics and personal thoughts in the traditional research (Nunley, 1998). Because of these characteristics, the A layer is the most difficult layer in terms of tasks. What the students need to do is to propose new ideas based on the knowledge they have acquired in the lower two layers (Başbay, 2010, p. 248).

One of the important stages of the layered curriculum is evaluation. The layered curriculum is a process in which learners evaluate themselves, reveal their weaknesses and identify their own learning speed. In the evaluation process, graded scoring keys, oral defense and student development files are used to evaluate the process (Yılmaz, 2010, p. 61). The fact that evaluation criteria that will be included in the graded scoring scale will be determined together with the students and given to the students before the study will be guiding for them (Sezer, 2005). Preparation of the scoring keys requires intensive work at the evaluation stage. Clear and understandable scoring scales should be used for all tasks that learners should fulfill. Similar evaluation criteria can be used for similar tasks in different layers when preparing the scoring keys (Başbay, 2006, p. 43). The scoring key allows students to achieve a certain standard in evaluating their learning products. Verbal defense enables the student to test the knowledge of the subject and reveal the degree which the student has mastered the subject (Demirel, 2006, p. 246).

The layered curriculum suggests that it is wrong to continue the teaching-learning process with only one activity, and adopts the idea of creating activities that will appeal to different intelligence areas by considering the differences in the intelligence areas, interests, skills and thinking systems of individuals (Başbay, 2010, p. 245).

The multiple intelligences theory has emerged from Gardner's study of "project zero" which is within the scope of Harvard University project, in which the development of cognitive potential of normal and talented children and the brain disorders resulting mental disorders were investigated. The project started with the assumption that each individual has the potential to develop their strengths in more than one area. The project also includes identification of learners' intelligence areas and studying styles (Gardner, 1993, p. 89). Gardner, while creating the theory of multiple intelligence, has done research on people from different sections of society and benefited from many extensive and independent sources, including people in different cultures. Similar evidence gathered from different sources strengthened the idea that there might be different intelligence areas (Gardner, 2004, p. 11). In the multiple intelligences theory, intelligence was defined as "the ability to shape a product with one or more cultural values or problem solving" (Gardner, 1993, p. 7). According to this definition, intelligence is considered as a potential that exists in the individual and emerges in relation to opportunities. Cultural values have a significant impact on the behaviors considered as intelligence. In this context, the multiple intelligences theory that brings a different perspective to the concept of intelligence, argues that intelligence has a meaning beyond verbal and mathematical abilities (Gürel and Tat, 2010, p. 336). Two important features of multiple intelligences theory enable it to have a different structure from the traditional conception. First, the definition of intelligence available in the theory is based on problem solving and acquiring a product in real life. The second feature is that intelligence is considered as plural (Bümen, 2010, p.4). An individual does not use his/her intelligence separately; she/he uses it in multiple ways. Therefore, the intelligence areas of the individual are his/her biological potential and ready for development (Akboy, 2005, p. 230). Instead of achieving success in only one area of multiple intelligences, the individuals are desired to be successful in different areas as well (Demirel, Başbay & Erdem, 2006, p. 16). Gardner argues that an individual's intelligence area is effective on the way of his/her learning and that effective learning strategies can be developed by taking the individual's dominant intelligence area into consideration (Gürel and Tat, 2010, p. 336). The multiple intelligences theory focuses on the need to take into account the individual differences of students in the classroom. For this reason, it proposes a change of thinking based on teacher-centered approach (Saban, 2002, p. 61). In a student-centered teaching-learning process which is based on individual differences, the recognition that individuals can learn in different ways has brought about a different conception of teaching (Bümen, 2005, p. 21). Multiple intelligences theory, due to its nature and content, incorporates different learning and teaching strategies. The higher the rate of use of these strategies in the courses, the more effective, efficient and permanent learning will be provided. In this context, the use of different teaching strategies by the instructors will add wealth and diversity to the lesson (Baş, 2011, p. 17).

When the layered curriculum and multiple intelligences theory are examined, it is clearly seen that the starting point of both is the organization of the learning-teaching process based on the individual differences of the students. Teaching should be organized in a way to address the differences by taking into account the characteristics of all students and by providing a variety of methods and techniques. When all this is considered, it is thought that it will be useful to apply the applications/implementations related to the layered curriculum-assisted by multiple intelligences theory in the Social Studies course which includes topics related to different disciplines.

The aim of the study is to determine the views of students and teachers on the effectiveness of multiple intelligences-assisted layered curriculum. For this purpose, the answers to the following questions were sought:

1. What are the views of teacher and students about the useful aspects of using multiple intelligences-assisted layered curriculum in education? What are the observation results of its application?
2. What are the students' views regarding the criteria that are effective in the selection of activities while applying the multiple intelligences-assisted layered curriculum? What are the observation results of its application?
3. What are the views of teachers and students about the stages of difficulty when applying the multiple intelligences-assisted layered curriculum? What are the observation results of its application?

4. What are the students' views about the favorite/most popular activity when applying the multiple intelligences-assisted layered curriculum? What are the observation results of its application?
5. What are the views of the students about other courses in which the multiple intelligences-assisted layered curriculum can be applied?
6. What are the views of teachers and students about the different aspects of the multiple intelligences-assisted layered curriculum in comparison to the traditional teaching method?

## **Method**

### **Research Design**

This study was carried out according to the pattern of "case study" one of the qualitative research patterns. Case study is to investigate one or two cases in depth (Yıldırım & Şimşek, 2006, p.77).

### **Study Group**

Study group includes 14 7<sup>th</sup> grade students and one Social Studies teacher at a primary school in Elazığ city center during 2010-2011 academic year. In determining the students in the study group, an appropriate selection was made in accordance with the maximum variety sampling. The aim of selecting this sampling type was to create a relatively small sample and reflect the diversity that could be a party to the problem being investigated (Yıldırım & Şimşek, 2006, p. 108). In determining the students who would be interviewed about the implementation process of the multiple intelligences theory-assisted layered curriculum, first of all, the Social Studies course and the general achievement levels of the students were examined. 14 students in three different levels of achievement were identified by taking into consideration the opinions of the Social Studies teacher. It was made sure that the students and Social Studies teachers would volunteer to make the interviews.

### **Data Collection Tools**

Within the scope of this study, semi-structured interview technique and observation technique were used. The semi-structured interview allows the re-organization and evaluation of the questions by allowing partial flexibility to the researcher about the interviewee. In such an interview, the persons who are investigated are also controlled through research (Ekiz, 2003, p. 62). An interview form consisting of open-ended questions was used to determine the students' views on the process and applications. The questions to be included in the interview form were determined after examining the relevant literature and an interview form was created by taking into consideration the opinions of one Social Studies teacher and two faculty members working at the Curriculum and Instruction Department. Interviews were conducted in the class environment in the weekly course hours. The Social Studies teacher who conducted the experimental part of the study in the classroom was interviewed by the researcher of this study to determine his views on the implementation process of the multiple intelligences theory-assisted layered curriculum. In the interview form, open-ended questions were asked about the implementation process, positive and limitations of the multiple intelligences theory-assisted layered curriculum.

In this study, structured observation technique was used and observations were performed in the class environment. In the present study, observations were based on the "non-participant observation" approach. In the non-participant type of observation, there is no intervention of the observer (Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz & Demirel, 2010, p.143). Observation forms were used to record the observations. Observation forms included the status of teachers and students, student-student interaction, and the sections related to the learning and teaching activities. The observer observed the classroom environment in consideration of these criteria.

### **Data Collection**

The unit titled "Journey of the Turkish History" in the 7<sup>th</sup> grade syllabus of the Social Studies course was divided into three layers taking into account the structure of the layered curriculum and the learning outcome in the unit. While determining the tasks to be fulfilled by the students in all three layers, the views of the Social Studies teacher were taken and appropriate activities suggested by the teacher were selected. While determining the activities, it was made sure to create activities that could appeal to students with different intelligence areas

taking into account the intelligence areas in the multiple intelligences theory. In the preparation of the activities, the textbook, student workbooks and test books were also used. While there were 12 tasks in the layer C, there were 5 tasks in the B layer and 3 tasks in the A layer. The activity lists, in which the students could choose at each layer, and the points/scores they would receive when they completed these activities, were prepared. After the topics in the layers were covered, these activity lists were distributed to the students to select the activities they wished to perform. The activity lists given to the students included the points/scores they would receive as a result of their activities and the number of points required to pass to the next layer. Before the implementation of the practices, the teacher of the course was given detailed information about the multiple intelligence theory-assisted layered curriculum and how the process would be conducted. The Social Studies teacher who participated the research was chosen as he was volunteer for the study. Afterwards, information was given about the multiple intelligences theory-assisted layered curriculum by going to the class where the practice would be conducted, and explanation was made in detail on what to do before, during and after the applications. While the students did activities they selected from activity list during the two class hours, they made presentations and the teacher evaluated their studies at the other class hour. After the subjects determined for the C Layer were covered, the list of the predetermined activities for this layer was distributed to the students and the students were asked to select the tasks they wanted. In the C Layer, there were tasks such as making presentations, preparing puzzles, writing texts, preparing picture cards, and writing paragraphs. The students who performed these activities in the C Layer were given a table with activities related to the B Layer. The tasks in this layer were preparing a dictionary, brochure, poster and writing an essay. The students who could not accumulate points/scores to pass the upper layers were given additional tasks. A list of the tasks related to the A Layer was distributed to the students who completed the B Layer. The tasks in the A Layer were writing an essay, poem and story. The activities of the students who performed the activities related to the A Layer were scored, the students who completed the application successfully were determined, and their results were announced. Students who could not get the required score were given additional tasks.

### Data Analysis

The N-VIVO 10 program was used in the analysis of the data obtained in the study. Data were analyzed according to content analysis. The content analysis is the approach to reveal social reality, verbal and written messages through objective and unbiased classification in terms of grammar and language and expressing them with numbers and making inferences (Tavşancıl & Aslan, 2001, p. 2). The data obtained during the research process were carefully examined and a meaningful classification was made. In the present study, the codes were examined in depth and common points were found. After these applications, themes were determined. One week after the themes were determined, they were revised and various arrangements were made. Yıldırım and Şimşek (2006, p. 229) stated in the process of coding the data that the researcher had to read the data set several times and make arrangements on the resulting codes over and over again. Expert opinions were consulted on the resulting codes, themes, and names of the themes. After that, qualitative findings were interpreted.

In the studies conducted by applying content analysis, the validity and reliability conditions are necessary (Gökçe, 2008, p. 83). In qualitative research, it is very important to ensure internal validity, which is consistent in the data collection process and in the analysis and interpretation of the data. Internal validity can be achieved through a combination of different data sources and different data collection strategies during the study (Yıldırım & Şimşek, 2006, p. 267). In the present study, different data collection techniques such as interviews and observations were used to provide internal validity.

One of the ways of ensuring external validity is the detailed description of the study environment and processes (Yıldırım & Şimşek, 2006, p. 258). For this purpose, all activities that were carried out during the implementation process of the study, before and after were explained in detail. Similarly, information on the process of the creation of qualitative data collection tools and collection stage of qualitative data was given. Information on how the coding was done and how the themes were formed was provided. In addition, direct quotations related to themes and sub-themes were also given by taking into consideration the data obtained from interviews and observations. Direct quotations, with a pre-explanatory expression, were given in quotation marks by using an italic font.

At the beginning of the quoted sentences related to interviews and observations, explanatory statements consisting of the abbreviations such as ‘S1-F /h’, (Student1-female/high) ‘Obs-01-12-2010’, (Observation- Date), ‘Teac’

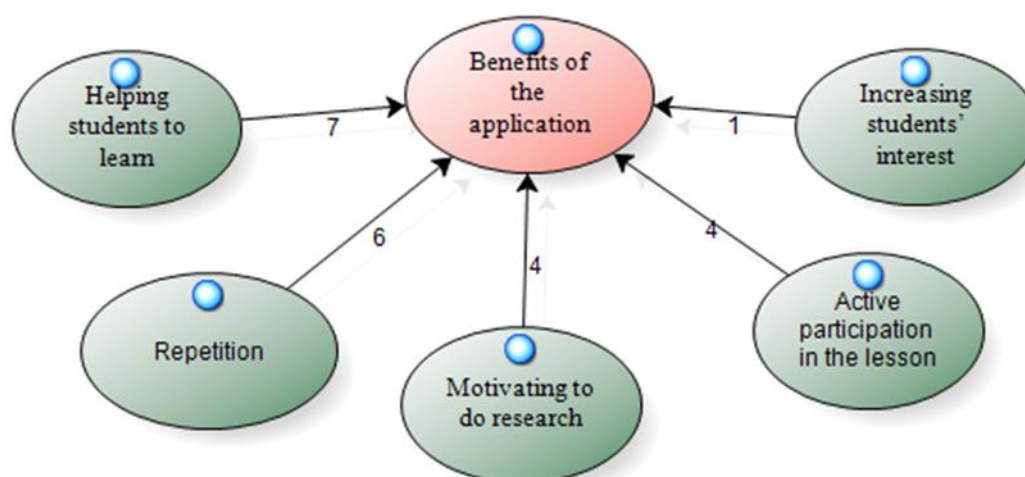
(Teacher) were presented. In the studies, enabling external validity related to the generalization of the results is another important issue to be addressed. One of the ways to ensure external validity is to diversify the sample that will allow for generalization (Yıldırım & Şimşek, 2006, p. 258). In the content analysis, one has to be careful in the selection of the sample in order to have a high representation power of the selected group (Tavşancıl & Aslan, 2001, p.46). In this study, using maximum diversity sampling to obtain external validity.

## Findings

The main themes identified in relation to the effectiveness of the multiple intelligences theory-assisted layered curriculum were; ‘the benefits of the application’, ‘the criteria for selecting the activity’, ‘the layer where it's difficult’, ‘the popular/favourite activity’, ‘the courses where it can be applied’ and ‘its difference from the traditional method’.

### Benefits of the multiple intelligences theory-assisted layered curriculum

One of the themes emerged related to the effectiveness of the multiple intelligences theory-assisted layered curriculum is related to the ‘benefits of the application’. Therefore, a theme named “benefits of the application” was created in the study. The model related to this theme is presented in figure 1.



**Figure 1.** Model related to the useful aspects of the multiple intelligences theory-assisted layered curriculum

In the theme of benefits of the application, it is seen that the most loading was done in the sub-themes of ‘helping students to learn’ and ‘repetition’. When the sub-themes were examined, it was found that they were related to each other. The students stated that they did research in order to perform their chosen tasks, repeated the subjects, and this situation facilitated their learning and increased their course achievement.

The students who drew attention to the dimension of ‘helping students to learn’ of the multiple intelligences theory-assisted layered curriculum stated that they learned the subjects more easily after the activities, and this affected their success in the exams. One of the students (S3-F/m) expressed her views as in the following “*It helped me learn the subjects. In my first test, I had many incorrect answers, but in my last first test, I had fewer incorrect answers. It improved my performance*”. With the following statement “*...I learned many things better. For instance, with the activity of the principalities in which we marked the location of the principalities on the map, I learned the location of the principalities better*”, another student (S5-M/l.) stated that during the application process, use of maps facilitated his learning. Similarly, with the following statement, “*...it helped me learn the subjects because I had the opportunity to reinforce my knowledge. In order to do the activities I chose, I revised*

*the issues that our teacher told us, and it helped me to learn better...*” another student (S7-M/h) stated that the application process facilitated his learning. Another student (S8-M/m) stated with the following statement, *“It proved to be effective. It made me learn easier. I answered questions of the topics about which I did activities very easily”* that he learnt the subject better after the activities. Another student (S10-F/h) explicated how he felt about the application with the following statement *“Yes. After the teacher explained the subject, I reinforced what I learned because we did the activities; I believe that I learned the subjects better”*. Another student (S12-F/h) with the following explanation, *“Yes. It helped me to understand the subjects better. I learned the meaning of many words I did not know while preparing the dictionary”*, she stated that he learnt the subject better after the activities.

The students, who thought that the multiple intelligences theory-assisted layered curriculum was useful in terms of ‘repetition’, stated that they reviewed the subjects in order to be able to perform their activities and this gave them the opportunity to repeat the process. One of the students (S1-F/h) who expressed her opinions on this subject with following statement *“While researching these issues, it helped me to do both repetition and reinforcement. This gave us the opportunity to update my knowledge...”* that she managed to update her knowledge with repetition. Another student (S2-M/I) expressed his opinions with the following statement *“We had the opportunity to revise the subjects while doing homework on the subjects. This enabled us to be more successful in the exams”*. While one of the students (S7-M/h) expressed his opinions with the following statement *“...It helped me learn the subjects because I had the opportunity to reinforce my knowledge. In order to do the activities I chose, I revised the issues that our teacher told us, and it helped me to learn better”*, another student (S11-F/h) similarly, expressed her opinions as in the following *“It helped us to remember the forgotten subjects; we had the opportunity to revise it again while doing research to do the activities”*. Another student (S13-M/m) expressed his opinions with the following statement *“It helped me to understand the subjects better. Since we didn’t do a lot of activities about the subject before, we could forget what we had learned; with the help of repetitions in Layered Curriculum, I learned better”*. These opinions are supported also by the findings in the observation notes. This was expressed in the observation note (Obs-01-12-2010) as in the following *“...It seems that while doing research, they gathered information about the subjects that they did before and so they revised the subject”*. Taking all these into consideration, it is possible to say that the multiple intelligences theory-assisted layered curriculum provided the students with the opportunity to repeat the subjects.

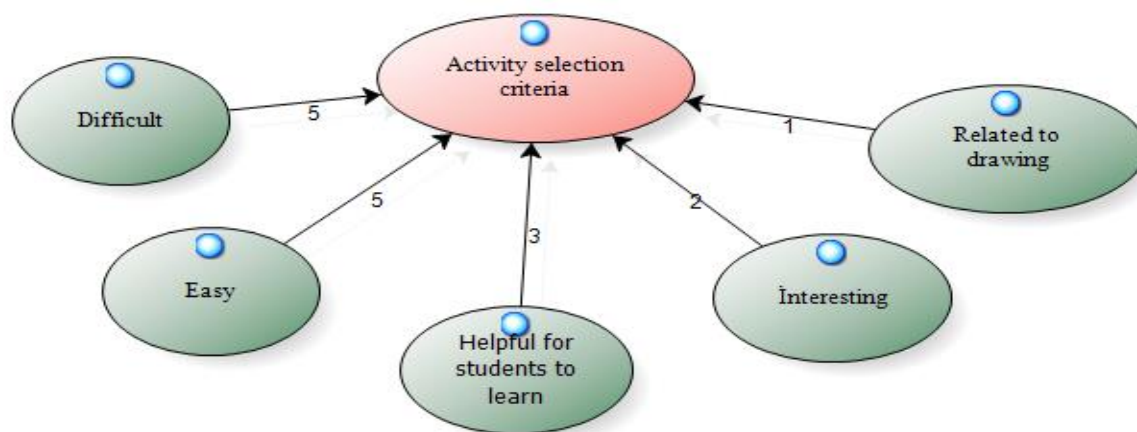
Another sub-theme related to the useful aspects of the multiple intelligences theory-assisted layered curriculum is ‘to motivate student to do research’. One of the students, (S4-M/m) who thought that they did research to be able to do their chosen activities and this was useful for them stated that *“...It was useful. We had to do research in order to perform the activities we chose. This allowed us to learn the subjects better. He helped me to succeed better in the course”*. Another student, (S14-F/I) stated her opinions as in the following; *“It helped me to learn. While I was doing activities, I did more research on the subject and learned more”*. Similarly, the course teacher emphasized that the application motivated students to do research by saying *“...its useful aspects can be listed as that it motivates students to research and use the methods of accessing information and knowledge”*. This was expressed in the observation notes as in the following, (Obs-01-12-2010) *“In order to carry out the tasks they chose, students did research by using textbooks and source books”*. In general, it is seen that the activities carried out on different subjects related to each layer in the applications, and the applications that motivated the students to do research were useful in this respect.

One of the sub-themes related to the useful aspects of the multiple intelligences theory-assisted layered curriculum was ‘active participation in the lessons’. One of the students, (S9-K/I) who indicated that the multiple intelligences theory-assisted layered curriculum was effective in ensuring the active participation of the students in the lesson stated that *“...It may have been beneficial. In the past, I did not participate in the lessons very much; thanks to these activities my participation in the course increased, I had the chance to express myself more easily”*. The necessity of selecting and performing the activities in each layer enabled the students to spend more active time in the classroom environment.

One of the sub-themes related to the useful aspects of the use of a multiple intelligences theory-assisted layered curriculum was to ‘increase in interest’. The course teacher with his statement that *“It is seen that the interest of the students increased in the lower layers where activities were easier to do and in the higher layers where more difficult tasks were involved”* indicated that students’ interest in the lessons increased with the activities in the application.

### Activity selection criteria of the students when applying the multiple intelligences theory-assisted layered curriculum

The most important feature of the layered curriculum is that students are able to select the activities that should be done in order to proceed from one layer to another. Students do choose the activities that they think they can do from the given tables. During the preparation of the activities, attention was paid that they appealed to different intelligence areas. The model related to this theme is presented in figure 2.



**Figure 2.** The model related to the activity selection criteria when applying the multiple intelligences theory-assisted layered curriculum.

As a result of the analysis on teacher, student interviews and observation notes, it was found that the sub-themes related to the selection of activities were ‘easy’, ‘difficult’, ‘helpful for students to learn’, ‘interesting’, ‘and related to drawing’. The students, who preferred difficult activities, stated that they chose the subjects from the activities that were outstanding and needed to be learned. A student, (S3-F/m) who indicated that she made sure that it was difficult when choosing an activity expressed her opinion with the following statement; “*I tried to make sure that it was difficult and outstanding, and so difficult that nobody would be able to do it easily*”. Another student, (S8-M/m) expressed his views as in the following “*... when choosing an activity, I made sure that I choose the difficult subjects which thought I had to learn*”. Another student (S9-F/l) expressed his views as in the following; “*I choose the difficult subjects that I had to learn*”. Another student (S12-F/h) explicated her activity selection criteria as in the following; “*There were a lot of issues I didn't know about in the unit, so I chose the difficult things I thought I had to learn from them. I thought it would be easier for me to learn the subjects if I chose the activities related to difficult subjects*”. This situation was explicated in the observation notes, (21-12-2010) as in the following; “*Students often choose activities that interest them, that they can do more easily, those that won't take too much time. Additionally, there are students who choose activities from particularly difficult subjects and try to be different*”.

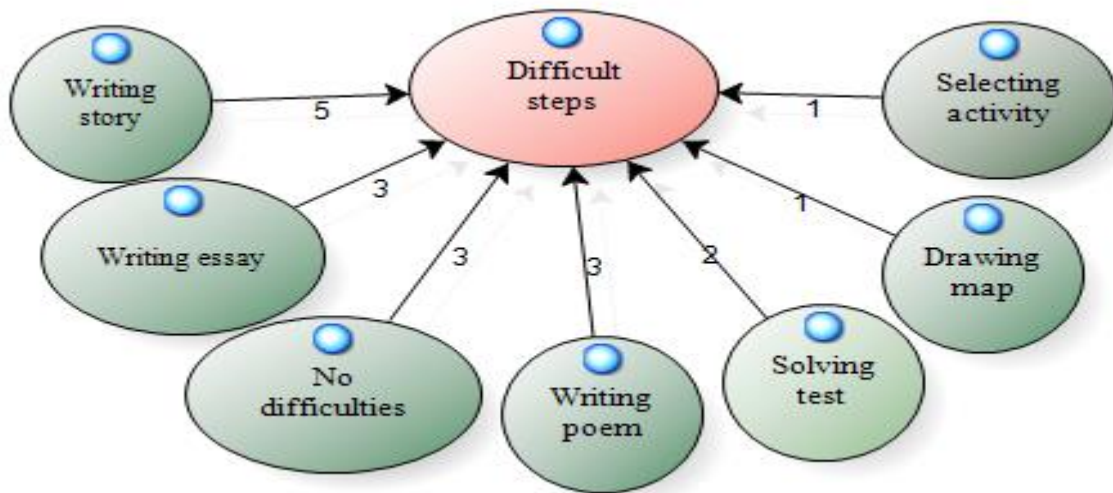
One of the students, (S1-F/h) who said that she made sure that the activities were easy said the following; “*...I made sure they were easy. I tried to choose activities that would not exhaust and force me and not take a lot of time*”. Another student, (S5-M/l) expressed himself with the following statement; “*I made sure that the activity was easy*”. Another student, (S11-F/h) summed up her assessment like this; “*I chose the subjects I already knew; I chose the easy ones....*” Another student (S13-M/m) stated his views with the following statement; “*I made sure that the activity was easy and is related to the subjects we learnt before*”. The statement in the observation notes (Obs-21-12-2010) “*Students mostly prefer the activities that often interest them, that they can do easily and do not take too much time to do...*” was similar to the students’ views.



The students stressed that they chose the activities that helped them learn better. One of the students, (S2-M/I) expressed this as in the following statement; *“I made sure that I chose the activities that would allow me to repeat the poem type of subjects. I learnt better when I repeated the topics to do the activities”*. Another student, (S12-F/h) expressed her views with the following statement; *“There were a lot of subjects I didn't know about in the relevant unit, so I chose the difficult ones I had to learn from. I thought it would be easier for me to learn the topics if I chose the activities related to difficult subjects...”* Similarly, another student, (S14-F/I) summed up her views as in the following statement; *“I chose the activities related to the subjects I was weak on, so I thought I would learn the subjects better this way”*. When all these are taken into consideration, it is possible to say that while selecting the activities, the students made sure to choose the activities that would help them learn. It is seen that the students who made sure that the activities were interesting while selecting them, chose the activities that they would enjoy and would not bore them. One of the students, (S7-M/h) expressed his views as follows; *“I made sure that the activities were interesting. I thought I would be more successful in the subjects that interested me”*. Similarly, another student, (S10-F/h) explained her activity selection criteria as in the following; *“I was careful about the subjects. I tried to choose the subjects I would not get bored and I would enjoy while studying, and made sure that they were interesting activities”*. Another student, (S4-M/m) stated that he made sure that the activity was related to drawing expressed his views with the following statement; *“I made sure to choose the activities in which I could draw. Since I like to draw pictures, I have chosen the activities such as preparing concept maps and posters...”*

**The difficulty experienced in some layers in the application of the multiple intelligences theory-assisted layered curriculum**

Within the scope of the present study, it was found that the students had difficulties in some layers while the practices were in progress. When analyzing the qualitative data, the encodings related to the problems experienced during the applications were gathered under the main theme of the “difficult steps”. The model related to this theme is presented in figure 3.



**Figure 3.** Model for the difficulty experienced in some steps in the application of the multiple intelligences theory-assisted layered curriculum

It is seen that the layers with the highest difficulty during the implementation of the multiple intelligences theory-assisted layered curriculum are listed as ‘writing story’, ‘writing essay’, ‘writing poem’, ‘solving test’, ‘drawing map’, and ‘selecting activity’. Some of the students stated that they did not have any difficulty at any step in applying the multiple intelligences theory-assisted layered curriculum.

During the applications, one of the sub-themes related to the difficult steps was ‘writing story’. The students who indicated that they had difficulty in writing a story stated that they had difficulty in the selection of the subject and felt the need to do research in the writing stage. One of the students, **S3-F/m.**, who indicated that she had difficulty in this step explicated why she had difficulty saying “*I had the most difficulty in the A Layer. I had a hard time in writing stories and poems. I've had a hard time in choosing subjects when writing stories and poems*”. Another student, (**S4-M/m**) stated that “*I had a hard time in Layer? A. I had trouble writing the story. I had to do research to write a story about the Ottoman period*”. Another student, (**S11-F/h**) summed up her views with the following statement; “*I had a hard time in the step of writing stories*”. Another student, (**S13-M/m**) expressed her views as follows; “*I had most difficulty in the B Layer. We were asked to write a story. I had a hard time in writing a story and essay*”. One other student, (**S14-F/l**) indicated the difficulty she experienced as follows; “*I had the greatest difficulty in Layer A. I had some difficulty in concentrating on my story*”.

One of the students, (**S1-F/h**) who indicated that she had most difficulty in writing an essay explicated her views with the following statement “*I had some difficulty in writing an essay in the A Layer. It is because I also have a difficulty in writing essays in other courses. I have a difficulty in concentrating and organizing my thoughts*”. Another student, (**S13-M/m**) expressed his views as follows; “*I had most difficulty in the B Layer. We were asked to write a story. I had a hard time in writing an essay*”. When the observation notes related to the layers in which difficulties were experienced in the application of multiple intelligences theory-assisted layered curriculum are examined, it is apparently observed that the students had difficulty in performing the activities in the upper layers. In the observation notes, (**Obs-21-12-2010**) it was explicated with the following statement; “*During the practice sessions, students had difficulties in performing activities in higher layers such as essay writing rather than the activities in the lower layers*”.

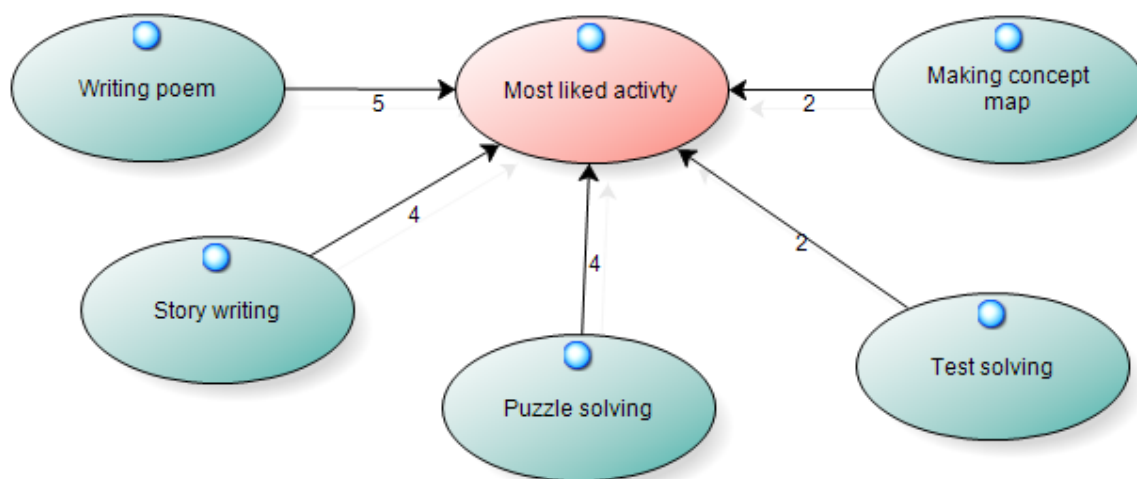
One of the sub-themes that was regarded difficult during the applications was the “writing poem” activity. While one student, (**S3-F/m**) who indicated that she had difficulty in writing poem said that “*I had the hardest time in the A Layer. I had a hard time writing stories and poems. I've had difficulty in choosing stories when writing stories and poems*”, another student, (**S6.F/m**) explicated as follows emphasizing similar points; “*...I had difficulty in the A Layer. I had a hard time in writing poem. I'm not good at writing poems and stories; I've had a hard time choosing a topic*”. Another student, (**S9.F/l**) explicated her views as follows; “*I had difficulty in the A Layer. I had a hard time especially in writing poem.*” One of the students, (**S2-M/l**) who indicated that he had difficulty in the “test solving” activity, expressed his views with the following statement; “*I had a hard time in solving the test in the C Layer. I had difficulty in solving some of the questions in the test*”. Another student, (**S10-F/h**) indicated the difficulty he had as follows; “*I had a hard time in solving the test in the B Layer*”.

One of the students, (**S7-M/h**) who stated that he had no difficulty at all in any layer in the application, explicated his views as follows; “*I had no difficulty at all in any layer; I implemented all the layers easily*”. Another student, (**S8-M/m**) summed up as follows; “*I had no difficulty during the implementation of the activities*”. Another student, (**S12-F/o**) summed up her views as follows “*There was no layer I had difficulty in*”. One student, (**S5-M/l**) who indicated that he had difficulty in the “drawing map” activity, expressed his views as follows; “*I had a hard time the most in the C Layer in the stage of drawing a map*”.

In the application of the multiple intelligences theory-assisted layered curriculum, one of the sub-themes related to the difficult steps was identified as “selecting activity”. The teacher stated that the students had the greatest difficulty in choosing activities. The course teacher expressed his views “*I think that the students sometimes have problems in choosing the appropriate activities. They have had difficulty in identifying the activities they can do according to their abilities when selecting the activities from the lists given to them*”.

### The most popular activity in the application of the multiple intelligences theory-assisted layered curriculum

It is seen that the students' encodings related to the activities they like doing are gathered under the theme of the 'most popular activity'. The model related to this theme is presented in figure 4.



**Figure 4.** Model for the most liked activity in the application of the multiple intelligences theory-assisted layered curriculum

The students were asked to select the activities from the lists given to them while the application of the multiple intelligences theory-assisted layered curriculum was underway. The students did some of the activities from the list of activities prepared based on different intelligence areas more willingly than others. During the applications, it was found that the activities that students loved to do the most willingly were 'writing poem', 'story writing', 'puzzle solving', 'test solving' and 'concept mapping'.

One of the students, who (**Obs-S2-M/I**) stated that he loved writing poem the most in the application of the multiple intelligences theory-assisted layered curriculum, expressed his views as follows; "*I loved writing poems*". Another student, (**S3-F/o**) indicated that she liked writing poem the most with the following statement; "*The activity I liked the most was writing poem.*". Another student, (**S11-F/h**) expressed her views as follows; "*I liked writing poem in the A Layer; puzzle solving in the C Layer*". Similarly, another student, (**S12-F/h**) expressed her views as follows; "*I liked writing poem in the A Layer*". Another student, (**S13-M/m**) expressed his views as follows; "*I loved writing poems the most*".

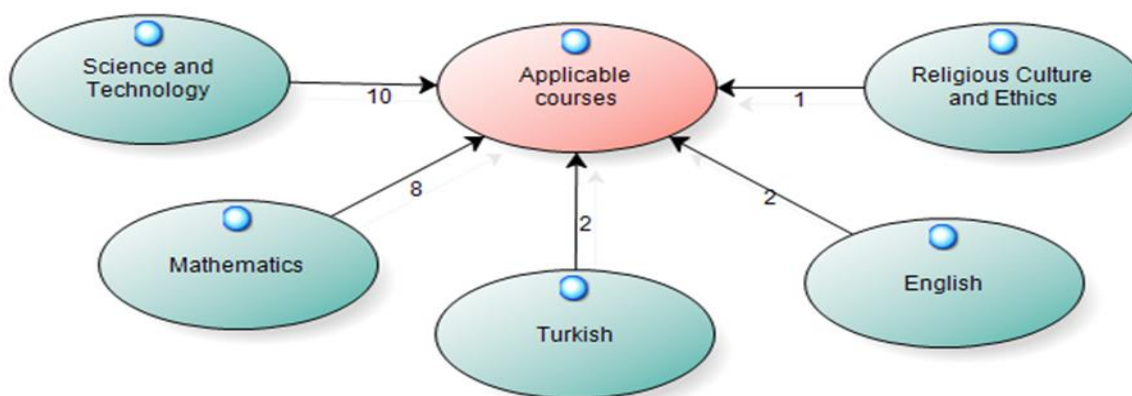
One student indicating that her most favorite activity was writing a story, stated that she did research in order to write a story and that it was beneficial to her for learning the subjects. One of the students, (**S14-F/I**) who liked the story writing activity, explained her reasons as follows; "*The activity I liked the most was the story writing. While writing a story, I did a lot of research for it, therefore, I learnt many things*".

One of the students, (**S4-M/m**) indicating that his most favorite activity was solving puzzles, expressed his views as follows; "*I liked the puzzle solving activity in the C Layer; I liked it a lot when answering the questions I knew; I did research on the questions I did not now*". Another student (**S7-M/h**) expressed his views as follows; "*I loved solving puzzles about Crusades*". While one student, (**S8-M/m**) expressed his views with the statement "*I enjoyed solving puzzles very much*", another student, similarly, (**11-K/h**) expressed her views as follows; "*I liked writing poem in the A Layer; puzzle solving in the C Layer very much*". One statement in the observation notes also seemed to support the fact that solving puzzles was one of the activities that students enjoyed doing the most. In the observation notes, (**Obs-21-12-2010**) the statement that "*...Although the students did not know the questions, they enjoyed puzzle-solving activity the most*" supported the statements of the students.

One of the students, (S1-F/h) who indicated that the activity she liked the most was doing tests, expressed her views with the following statement “*I enjoyed doing tests. I think it will be useful for my exams as well*”, another student, (S6.F/m) expresses her views in a similar way, saying; “*I enjoyed doing tests the most*”.

### Other courses in which the multiple intelligences theory-assisted layered curriculum can be applied

The students stated that the multiple intelligences theory-assisted layered curriculum can be applied in other courses as well. The model related to this theme is presented in Figure 5.



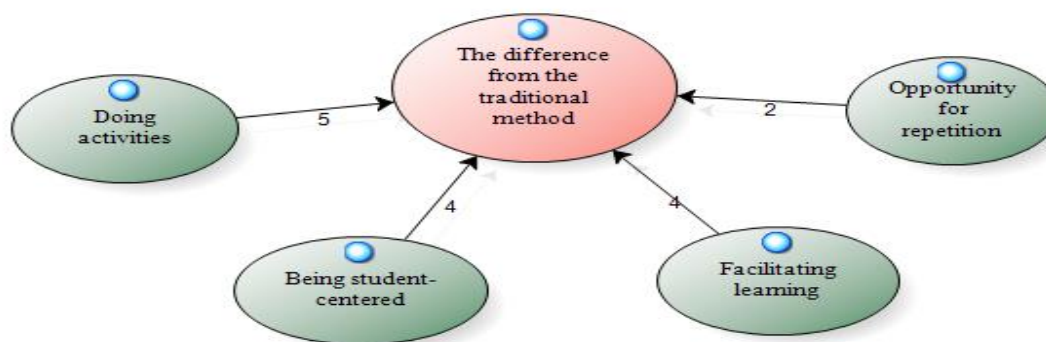
**Figure 5.** Model for the other courses in which the multiple intelligences theory-assisted layered curriculum can be applied

Considering the assessments of the students, the courses in which the multiple intelligences theory-assisted layered curriculum can be applied are listed as; ‘Science and Technology’, ‘Mathematics’, ‘Turkish’, ‘English’, and ‘Religious Culture and Ethics’. The students who stated that the multiple intelligences theory-assisted layered curriculum could be applied in the Science and Technology course, emphasized that the course could be learned more easily this way and could be a lot of fun. One of the students, (S1-F/h) emphasized that the course would be a lot of fun saying “*Science and Technology and Mathematics; I am not very successful in these courses. I could be more successful if the layered curriculum was applied in these courses as well*”. Similarly, another student, (S5-M/l) summed up his views with the following statement; “*The program could be applied in the Science and Technology and Religious Culture and Ethics courses. The course could be a lot of fun*”. One other student, S10-F/i., expressed her views with the following statement; “*I wish the program was applied in the Science and Technology course. The Science and Technology would be a lot of fun*”. While one student, (S3-F/m) stated that the course would be easier for her to follow with the following statement; “*The program could be applied in the Science and Technology course. It’s because I do not understand anything in this course*”, another student, (S2-M/l) emphasized that “*It could be applied in the Science and Technology course. It may make it easier for the student to understand and follow this course*”. One another student, on the other hand, (S4-M/m) expressed her views as follows; “*...the Science and Technology course. It may make it easier for us to understand this course*. Another student, (S7-M/h) expressed his views as follows “*It could be applied in the Science and Technology and Mathematics courses*”. The students, who stated that the multiple intelligences theory-assisted layered curriculum could be applied in the Mathematics course, indicated that this course could be understood more easily and students’ achievement levels would increase. One of the students, (S8-M/m) emphasized the fact that the application of the program made the learning of the courses easier saying “*It could be applied in Mathematics course. It’s because I am not very successful in this course and I have difficulty in understanding the subjects*”. Another student, similarly, (S11-F/h) “*Science and Technology and Mathematics courses; I have difficulty in understanding these courses. If the layered curriculum is applied, I think I will be able to understand and follow these courses more easily*”.

While one of the students, (S6-F/m) who thought that the multiple intelligences theory-assisted layered curriculum could be applied in the Turkish Language course, stated that the program could be applied in the Turkish course as well saying “*It could be applied in the Turkish course*”, another student, (S14-F/l) stated that the courses would be a lot of fun with the statement; “*I wish the program was applied in the Turkish and Mathematics courses. These courses would be a lot of fun*”. One of the courses in which the multiple intelligences theory-assisted layered curriculum can be applied is the Religious Culture and Ethics course. The student, (S5-M/l) who expressed his views on this issue indicated that the courses would be more enjoyable; “*It could be applied in the Science and Technology course and Religion and Ethics courses. The courses could much more fun*”.

### Findings related to different aspects of the multiple intelligences theory-assisted layered curriculum from the traditional method

When the findings were examined, it was seen that there were different student and teacher views on the different aspects of the multiple intelligences theory-assisted layered curriculum from the traditional method. Considering this situation, the main theme of ‘the difference from the traditional method’ was formed. The model related to this theme is presented in figure 6.



**Figure 6.** The model related to the different aspects of the multiple intelligences theory-assisted layered curriculum from the traditional method

As a result of the interviews carried out with the students and teachers, it was seen that sub-themes such as ‘doing activities’, ‘being student-centered’, ‘facilitating learning’ and ‘opportunity for repetition’ were formed related to different aspects of layered curriculum practices from the traditional method. One of the sub-themes related to the different aspects of the multiple intelligences theory-assisted layered curriculum from the traditional method was “doing activities”. One of the students, (S1-F/h) who expressed her views related to this issue explicated her position saying; “*...It was different. Under normal circumstances, we do not do any activities in the lesson; we do not do tests or solve puzzles related to the relevant subject; in this sense, I think it is different*”. Another student, (S4-M/m) emphasized the different aspects of the application as follows; “*In the traditional method, the course teachers would simply lecture the subject; in this method, we did activities within the subject and had the chance for revision*”. While one another student, (S10-F/h) expressed her views with the statement “*After the course teacher lectured the subject, he did not do much (in terms of activities) apart from using the course book. Through the activities, we had revision; also it was a lot of fun to select activities from the table and do them*”, another student, similarly, (S14-F/l) indicated that they did more activities with the new method and this helped them to learn better as follows; “*Previously, we would just move onto the following subject after reading the previous one; with this method, we did much more activities; I learnt much more this way*”.

The students, who thought that the important difference of the multiple intelligences theory-assisted layered curriculum was that it was student-centered, indicated that especially the fact that the selection of activities by the student helped the students to have more say in the course. One of the students, (S3-F/m) emphasized the fact that the activities were selected by the students themselves “*Our teacher selected the activities we would do before; in this method, we were able to select the activities ourselves. We could have a lot of mistakes without knowing the subject, but after learning the subject, we found that we had fewer mistakes*”. Another student, (S7-M/h) saying

that *“The students are more relaxed; they act on their own ideas; they can express themselves and speak out without waiting for the course teacher to allow them to speak”*, he indicated that they were able to express themselves more comfortably during the practices. Similarly, another student, (S11-F/h) expressed her views as follows; *“In the other (traditional) method, the teacher constantly explained (lectured); we only spoke when we were asked to answer, but in layered curriculum method, we prepared and taught the subject from what we know, what we remember and the information we have received from the books. This helped us to understand the subjects better”*. The findings obtained from the interview with the course teacher also support this state of affairs. The course teacher expressed his views as follows; *“...this stops the students to be the mere recipients of knowledge and information and enables them to generate it; this, eventually, boosts students' self-confidence”*.

One of the students, (S2-M/I) who emphasized the ‘facilitating learning’ aspect of the multiple intelligences theory-assisted layered curriculum, expressed his views as follows; *“This method helped me to understand the subjects better. I learned better with the activities, I was not bored”*. Another student, (S5-M/I) expressed his views as follows; *“This method helped me to understand the subjects better”*. Another student, (S9-F/I) emphasized that she learnt the subject she had difficulty with previously better through this method. *“I had difficulty in learning the subjects about history. Afterwards, when we started to cover the subjects with the layered curriculum method via the activities, this facilitated my learning”*. Another student, (S12-F/h) expressed her views as follows; *“What we always did in the class was to read the relevant subjects from the course book; but we utilized different sources this time; I think I have learnt much more this way”*. Students who emphasized the sub-theme of “the opportunity for repetition” in relation to the different aspects of the multiple intelligences theory-assisted layered curriculum indicated that they remembered the relevant knowledge more easily. While one of the students, (S8-M/m) stated that he had more chances to revise the subject with the layered curriculum method, expressed his views as follows; *“In the traditional method, we would forget the knowledge we had learned after a while, but in this method, we remembered the subjects during the exams more easily because we had the opportunity to repeat the subject through activities”*, another student, similarly, (S13-M/m) expressed his views as follows; *“Previously I would only read the relevant subject once and I would move on to the next one; we had a chance for repetition with the layered curriculum method; we were able to remember the subjects more easily this way”*. One another student, (S6.F/m) emphasized that the activities made the lesson more enjoyable as follows; *“Having lessons via the layered curriculum method was much more fun than the good old traditional method. We had more opportunities to do activities; we solved puzzles related to the subject”*.

## Discussion and Conclusion

This study aimed to determine students’ and teacher’s opinions about the effectiveness of multiple intelligences theory supported layered curriculum. To do that, 14 students and the Social Studies teacher were interviewed. The useful aspects of the multiple intelligences theory-assisted layered curriculum were identified as ‘helping students to learn’, ‘repetition’, ‘motivating to do research’, ‘active participation in the lesson’, and ‘increasing students’ interest’ by students. Similarly, in Biçer’s (2011) study, the contributions of the multiple intelligences theory-assisted layered curriculum were listed as increasing students’ course success, facilitating the learning, enabling the permanence of knowledge, increasing students’ vocabulary, and repetition. In another study carried out by Yılmaz and Gültekin (2013), on the other hand, it was concluded that the activities carried out with the layered curriculum facilitated students’ learning. Yılmaz (2010) stated that with the layered curriculum, students’ ability to make summary improved and the students had an opportunity to improve some of their skills and abilities that they were not aware of. In the study carried out by Duman and Özçelik (2017), it was concluded that the applications related to the layered curriculum increased the interest of the students towards the course. İlman and Evin Gencil (2018) concluded that layered curriculum had positive contributions such as permanency of learning and being intriguing. According to Akran Koç (2018), with layered curriculum program, the students undertake responsibility, use their creativity and assess things critically. During the applications, it was concluded that the students tried to participate the courses effectively and exerted efforts to carry out the assigned tasks. In a study by Başbay (2006), it was concluded that the layered curriculum increased the learners’ desire to be in a learning environment and made learning enjoyable.

When they selected the activities, the students made sure that the activities were ‘difficult’, ‘easy’, ‘helpful for students to learn’, ‘interesting’, and ‘related to drawing’. In general, they chose to do activities that were appropriate for their areas of interest. In parallel with the current study, Durusoy (2012) concluded that the students

chose activities in line with their own abilities and those that they could do more easily. Yılmaz (2010) found that the students preferred informative, entertaining, feasible and non-boring activities in their selection of activities. In the study conducted by Yıldırım (2016), it was found that when selecting the activities, the students made sure that the activities had the features such as being easy, difficult, enjoyable and challenging.

In the process of implementation of the multiple intelligences theory-assisted layered curriculum, it was revealed that the students had difficulties in the steps of 'writing story', 'writing essay', 'writing poem', 'solving test', 'drawing map', and 'selecting activity'. Considering the layers in which the students experienced difficulties during the applications, it was seen that they had difficulty in doing activities in the higher layers in general. There were also some students who stated that they did not have difficulty during the applications. In Gömleksiz and Öner's study (2013), students similarly stated that they had difficulties in choosing the activities. Yılmaz (2010) concluded that students experienced difficulties in writing essays and creating concept maps. The students also emphasized that they had problems in reaching the resources and making the related activities. Durusoy (2012) stated that some of the students had difficulties in performing the activities and found the process exhausting.

During the applications, the students enjoyed the activities such as 'writing poem', 'story writing', 'puzzle solving', 'test solving' and 'concept mapping' students stated that they liked doing the activities that were in line with their areas of interest. Biçer (2011) indicated that students liked the activities such as writing a paragraph, preparing for a test, conducting an interview, preparing a flashcard, writing poems or stories, drawing pictures, making a TV program and making a presentation.

Other courses in which the multiple intelligences-assisted layered curriculum could be applied were listed as 'Science and Technology', 'Mathematics', 'Turkish', 'English', and 'Religious Culture and Ethics'. The students generally indicated that the applications related to this layered curriculum could be applied in the courses that they thought were difficult, so they could learn more easily and the courses could be more enjoyable. In the study of Gömleksiz and Biçer (2012), in support of the present study, the students would wish the layered curriculum to be applied in the courses in which they had difficulties. Yılmaz (2010) stated in his/her study that the layered curriculum could be applied in the Turkish and Mathematics courses.

Another result obtained in relation to the application process of the multiple intelligences-assisted layered curriculum was related to the difference between the layered curriculum and the traditional method. The different aspects of the layered curriculum were 'doing activities', 'being student-centered', 'facilitating learning', and 'opportunity for repetition'. The students stated that they had the opportunity to do activities during the application of the program and that they performed many more tasks in the classroom. In the study of Yılmaz (2010), it was observed that the fact that the layered curriculum contributed to the active participation of the students was emphasized. In the study conducted by Önel and Derya Daşcı (2018), prospective teachers stated that the course became more enjoyable with the applications related to the layered curriculum. In Yıldız's study (2018), it was emphasized that layered curriculum enabled students to participate in the course more actively. Following recommendations are offered based on the results of the current study:

1. The appropriate materials needed for the multiple intelligences-assisted layered curriculum to be implemented in a classroom environment should be provided if we use this approach of course.
2. In this study, the layered curriculum was implemented with the assistance of the multiple intelligences theory. The Layered Curriculum can be applied by the combination of different learning approaches (Cooperative Learning, Problem Based Learning).
3. The activities related to the multiple intelligences-assisted layered curriculum can be performed in a computer environment in an intelligent classroom environment.
4. Additional quantitative and qualitative studies in which the multiple intelligences-assisted layered curriculum is implemented at different grade levels and in different courses can be carried out.

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#### Researchers' Contribution Rate

Authors	Literature review	Method	Data Collection	Data Analysis	Results	Conclusion
Prof.Dr. Ali Sinan BİLGİLİ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Prof.Dr. Mehmet Nuri GMLEKSİZ	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Asst. Prof. mmhan NER	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



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## Appendix 1


**Bartın University Journal of Faculty of Education  
The Ethical Issues Declaration Form For Authors**

Article Title	Students' and Teacher's Views on the Effectiveness of Multiple Intelligences-Assisted Layered Curriculum in the Social Studies Course
Discipline	Education
Type of Article	Research article
Year of Data	2010-2011 academic year
Collection	

As the author of the article, I declare in this form that scientific and ethical rules are followed in this article and that the article does not require the permission of ethical committee for the reason that the study was conducted in 2011. Because ethical permission was not demanded at that time. We have the official permission to conduct the study and was given as attachment.

27/05/2020

## Authors' Info and Signatures

Authors	Institute	Title	Name	Signature
1.	Atatrk University	Prof. Dr	Ali Sinan BILGILI	
2.	Firat University	Prof. Dr	Mehmet Nuri GMLEKSIZ	
3.	Firat University	Asst. Prof	mmhan NER	

## Correspondent Author's Info

Institute	Firat University
Postal address	Firat University Faculty of Education Department of Turkish and Social Sciences Education Elazığ.
E-mail	uoner@firat.edu.tr
Phone	05053487363