

## THE EFFECT OF CLIFFHANGERS TECHNIQUE DESIGNED WITH BAND CARICATURES ON TALENTED STUDENTS IN SOCIAL STUDIES LESSON AND THEIR COMPLETION STATE

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### ABSTRACT

This research intends to study the effects of cliffhanger technique designed with band caricatures on talented students in social studies lesson and it uses both qualitative and quantitative research techniques. Pretest and posttest control group design was used in the quantitative part of the research. The experimental group involved 13 talented students and the control group involved 32 students who have normal developmental characteristics. In the qualitative part, the students' ability to complete the cliffhanger events correctly and to understand the plot of events are scrutinized in detail with content analysis. The data resource of the research consists of social studies achievement test and band caricatures evaluation form. The research is carried out on the basis of "Culture and Heritage" unit of social studies lesson for 5th grades. The quantitative data were analyzed on SPSS 22 statistical program and assessed with Shapiro-Wilk, Independent Samples t test, Mann-Whitney test and Wilcoxon Signed-Rank Test. The qualitative data were analyzed on MAXQDA 12 program. Each document of the students who completed the incomplete events in band caricatures was transcribed and computerized, and then the documents for each achievement was analyzed with MAXQDA 12 in accordance with the content analysis. The research revealed that the use of cliffhanger technique with band caricatures positively increased the academical achievements of both talented students and students with normal development. However, the cliffhanger technique designed with band caricatures did not cause a significant increase in the academical achievements of the talented students nor the students with normal development. When the students with normal development and talented students were compared with regards to completing the example events correctly which were designed with band caricatures and understanding the plot, it was seen that the talented students were better at both completing the events correctly and understanding the plot.

**Keywords:** Talented students, band caricatures, cliffhanger, humor, social studies lesson

**INTRODUCTION**

When somebody speaks about ‘considering the individual differences or implementing educational activities customized according to the individual differences’ we first think about the disadvantaged groups or the talented groups. Talented individuals are those who perform better than their peers in intelligence, creativity, art, capacity of leadership, motivation or special academic fields (MEB, 2013).

Performing the educational activities according to the features of the individuals may also require making modifications or improvements in schools systems accordingly and it can be related with special education. Special education is defined as holistic services which are customized and planned for each individual, applied systematically and evaluated carefully for maximizing the probability of living independently for the those who have special needs (Kırcaali İftar, 2000). It can be inferred from the definition of special education that the individuals should have special needs thus they also need special education. Talented students are also among those who have special needs. According to Davaslıgil (2004) “interests, talents and skills of each child are different from the others’ and the educational programs should be arranged and organized accordingly to meet these needs”. In this context, being aware of the properties of talented students may be important. According to Davis (2013), talented students have many distinctive characteristics compared to the students with normal development. Early and instant learning, efficient and high memory capacity, multi skills (multi potentiality), activation, creating excitement, high motivation, energy, concentration, relentless, never gives up, insistent, focused on the task, active, sharing the knowledge, guiding, offering assistance and participatory, awareness in social issues and justice, questioning, asking inquisitive questions are some of these characteristics (Davis, 2013).

Considering the above-mentioned characteristics of the talented students it can be said that these children need a special education, too. Actually, literal search shows that many countries have already special institutions providing these children with proper educational activities (Akkutay, 1984; Akarsu, 2004; Davaslıgil, 200b; Davis, 2013; Bilgili, 2004). In our history of special education activities for talented children, Enderun Schools are found to be the first special education organizations (Akkutay, 1984; Ataman, 2000; Ömeroğlu, 2004; Enç, 2005). Enderun Schools were followed by; a) special classes and homogeneous classes for groups with similar skills, b) İnanç High School and Yeni Ufuklar College, c) Turkish Foundation for the Education of Talented Children, d) Science High Schools, e) Anatolian Fine Arts High Schools, f) Beyazıt Primary School and g) Science and Art Centers (BİLSEM), j) Research Development and Implementation Center. Since this research is carried out with talented children at a science and art center, this part provides information about the general features of science and art centers.

The first Science and Art Center was opened in Ankara in 1995 by the Turkish Republic Ministry of Education General Directorate of Special Education and Guidance Services within the frame of “Improving the Special Skills of Primary School Students Project”. This center was first established under the name of Ümit Science and Art Center but its name was later changed to Yasemin Karakaya Science and Art Center. Currently, the total number

of BİLSEMs (Science and Art Center) across Turkey is 159. Main intention of the Science and Art Centers have been to have the talented children, before the university age (preprimary, primary, secondary and high school), discover their individual skills and use these skills at the highest level by improving their existing capacity. In the organization and planning of the educational activities in these centers a great attention is paid to prevent any interruption in their education at their formal school. The talented students who are admitted to the Science and Art Centers are categorized in 3 groups according to their skills. Visual arts, musical or general mental skills are the main categories in which these students are admitted to the centers. Opening such centers requires meeting some certain criteria. Properties, transportation opportunities and population of the city (should be minimum 100,000) or the district where a center is proposed to be opened, and also the number of students expected to benefit from the center are some of these criteria. In the cities or districts meeting the above-mentioned criteria, these centers can be opened with the proposal of the city governor and approval of the Ministry of Education (Baykoç Dönmez, 2011; Ulusoy, Sakaltaş, Güneş, Dokgöz, Akin and Köseoğlu, 2014; BİLSEM Yönergesi, 2016).

The operating system of BİLSEMs is different from the other formal educational organizations. In formal educational organizations, the students take notes or study to have high grades in the exams, whereas the education in BİLSEMs is process driven, project based and the students expected to implement projects in accordance with the specified requirements (Ulusoy, Sakaltaş, Güneş, Dokgöz, Akin and Köseoğlu, 2014; Kılıç and Bağrıaçık, 2017).

Talented students are envisaged to be raised within the frame of the above-mentioned characteristics and educational activities. Although the educational activities at BİLSEMs are different, many of the activities are developed in the light of teaching programs for normal schools. Social studies lesson teaching program is one of these teaching programs.

Social studies is concerned with the nature of people and it is a lesson that helps children acquire new knowledge, comprehend the learning processes and become active citizens (Zarillo, 2012). Social studies lesson has been involved in the teaching programs since 1968. It is seen that social studies teaching programs have been prepared putting the constructive approach in the center. Constructivism is a more flexible and culturally relative view which admits knowledge is formed on the grounds of personal and social experience (Doolittle and Hicks, 2003). The fact that radical and social constructivism is based on subjectivity and relativity shows that social studies, which is based on questioning and determining the point of views, has adopted the constructivism approach (Safran and Ata, 2016).

When the studies related to learning and teaching are reviewed it can be easily seen that they seek for the answer of the question "how can meaningful learning be achieved?". It is also well known that this question has no one single answer. However, in general one of the answers of this question is: it can be achieved if the teaching process is organized in a way that the learner is put in the center of the whole process (Tay and Akyürek Tay, 2017).

It can be said that it is possible to use many strategies, methods, techniques and materials within the framework of active learning and teaching approach in the social studies lesson where constructivism that accepts this approach is put in the center (Ün Açıkgöz, 2002; Demirel, 1999). In active learning, the learners actively participate in the learning activities. Cliffhangers technique is one of the techniques that can be used in teaching strategies based on problem-based teaching, teaching based on active learning principles and teaching based on collaboration.

Cliffhanger technique is a teaching technique that is based on presenting a part of an event, situation, story, film, play or drama and suddenly stopping at a very exciting moment to make the students curious about the rest of it. Then, they are wanted to narrate it by themselves to compare it with the original story after they watch the rest of it. The scenarios that will be used in cliffhanger technique should be suitable for the objectives of the lesson and present real-life events to the students. This will let the students transfer what they have learned to real life. According to Tok (2009), the scenarios that will be used in this technique should be appropriate with regards to objectives of the lesson, age and gender of the students and general principles of morality. It can be also said that the subjects to be dealt with should be up to date, interesting, intriguing and contain a problem. These up to date, interesting and intriguing content can motivate the students to solve problems by increasing their participation. The cliffhanger technique that requires using the problem-solving skills also can help the students enjoy while learning. The following step should be considered when implementing the cliffhanger technique:

1. The teacher presents the scenario that will be dealt with in cliffhanger (event, situation, story, film, theater, drama, play, set of pictures, etc.).
2. The teacher interrupts the scenario at a very exciting moment.
3. The students are asked to complete the scenario.
4. The students individually complete the scenario (small groups can be formed to complete it)
5. The teacher helps the students use the steps of problem-solving technique while completing the scenario.
6. The students present their completed scenarios to the classmates.
7. The rest of the interrupted scenario is presented to the students.
8. The student version and the original version of the completed part are compared.
9. The activity finishes after evaluation.

The teacher can present an event as well as a drama, theater or film. However, the cliffhanger technique can also be presented with picture sets. To have a funnier atmosphere during the lesson, this method can also be applied with the caricatures. The caricatures, funny materials, can make the cliffhanger technique funnier and more interesting.

Humor is a social phenomenon that has been around for thousands of years and become modern today. Humor, an important and indispensable part of daily and organizational life (Özdemir and Cemaloğlu, 2017) is highly

influential in individuals' sociological, psychological and communication fields. Unfortunately, we do not have a comprehensive understanding of humor although it is so influential (Chandrasekaran, Vijayakumar, Antol, Bansal, Batra, Lawrence Zitnick and Parikh, 2016). As an important element in personal communication, it is necessary to know humor in detail and to discover the mechanisms behind it (Yang, Lavie, Dyer and Hovy, 2015). Humor, regarded as a result of inquiry, has an important place in cultural transfer and social development (Sağlam, 2013). Humor, which contains both cognitive and emotional factors, is generally regarded as a personal trait that comes out as a result of interpersonal interaction (Aslan and Çeçen, 2007). The inborn humor also reflects to the psychology of the individuals (Levine, 2017). The improved sense of humor promotes the interpersonal thoughts, imagination and positive emotions and also improves the quality of life (Jeder, 2015). The use of humor in social interactions has the potential to improve the interpersonal interactions, to reduce conflicts, to help overcome and even to improve the health results (Booth-Butterfield and Wanzer, 2018). People try to understand the events they are facing with humor (Recepoğlu, 2017). Humor takes a form when it is told to someone else (Kılınc, 2007). All situations and events that the individuals enjoy with their self-perception are closely related with the types of humor (Yavuz, 2017). Caricatures with or without text, humorous poems, stories and jokes, and muppet shows are the examples of the different types of humor (Öngören, 1998).

Caricature is a type of humor. It is a reflection of the humorous thoughts in the form of lines (Akkaya, 2011). Caricatures, a type of humor, has become more captivating with the advancement of visual media in today's world (Başarmak, 2013). Caricatures, closely related with the cognitive skills, also create a more motivating teaching and learning environment for teachers and students (Bayülgen, 2011). Caricatures have a special importance in teaching and learning with regards to their psychological effects where they are efficiently used.

There are different categories of caricatures according to their form, structure and purpose (Uğürel and Morali, 2006). Çelik (2014) categorized the caricatures as caricatures according to their purpose, caricatures according to form and caricatures of concept. Caricatures according to their purpose also differentiate depending on the style of expression, technique and fiction-form.

Band caricatures is reflecting in an illustration successive events which happen in certain places with characters involved (Uslu, 1999). The band caricatures are related with the daily life and this relation, as a reflection of the socialization, expresses a more selective and interactive dimension. Using the band caricatures in social studies lesson is an advantage and it is regarded as the main objective in socializing the students (LaRossa, Jaret, Gadgil and Wynn, 2000). However, as a type of humor, the band caricatures may improve the creativity of students. Students gain a critical point of view and their critical thinking and interpretation skills improve (Kleeman, 2006).

Humor is the basis of human condition (Muchmore, Griggs, Tidwell, Mnayer and Beyer, 2016). How the things go around in the world and the events we see every day are transferred to new generations through various techniques of humor (Ferreira, 2017). Enriching the teaching environment and active involvement of students in the lesson are important with respect to the quality of lesson and students. Using humor in the teaching

environment enables the individual communication of the students (Savaş, 2014). Humor, which is used as a teaching strategy today, has the quality to facilitate the learning and interaction processes (Oral, 2004). The caricatures that are used as an education material should be humorous and push students to think, which is essentially important (Çelik, 2014). Caricature is not only a visual material used in teaching process, but it is also important to have humorous elements in it (Sidekli, Sidekli, Er, Yavaşer and Aydın, 2014). Flowers (2001) suggests that humor improves the thinking skills. Humorous elements help teachers and students think different and freely.

Literature search shows that studies about the cliffhangers are limited (Terzi, 2018). This study intended to reveal primary school pre-service teachers' opinions about the global warming through the cliffhanger technique. It is seen that in the implementation of the cliffhanger technique no caricatures or band caricatures were used. Additionally, we have not come across any study about the use of the cliffhanger technique in social studies lesson. It is also seen that the aforementioned characteristics of the talented students were not studied before. It is found that there is only one study (Akyürek Tay, 2019) about the use of band caricatures in social studies lesson. In this study, the case method was used with the band caricatures and case method that was designed with the band caricatures were found to have improved the academic achievement of students in social studies lesson, ensured the permanence of newly learned information and improved creative thinking skills. The results of this study and finding no study in literature about the use of cliffhanger technique in social studies lesson is the starting point of this study. For these reasons, this study is expected to add and contribute to both social studies, cliffhanger technique and field of talented students.

This study intends to find the effects of the cliffhanger technique designed with band caricatures on academic success of talented students in social studies lesson and completion state of cliffhangers. It also seeks for the answers of the following questions:

1. According to the post-test scores, is there a significant difference between the academic achievement levels of talented students (experiment) who are taught with the cliffhanger technique designed with band caricatures and the students with normal development (control)?
2. According to their pretest and posttest scores, is there a significant difference in the academic achievement level of talented students (experiment) who are taught with the cliffhanger technique designed with band caricatures?
3. According to their pretest and posttest scores, is there a significant difference between the academic achievement level of the students with normal development (control) who were taught with the cliffhanger technique designed with band caricatures?
4. How are the cliffhangers completed by the talented students (experiment) who are taught with the cliffhangers technique designed with band caricatures and by the students with normal development.

**METHOD**

In this research, experimental method, which is a quantitative method, is used to find the effect of cliffhanger technique designed with band caricatures on academic success of the talented students in social studies lesson, and additionally to find how the students used the cliffhanger a qualitative method, content analysis is used.

The experimental method is based on experiments. An experiment can be defined as a test that is implemented under controlled conditions to analyze the accuracy of a hypothesis or to show a known truth. The key factor in this definition is control and this aspect of the experimental research makes it different from nonempirical quantitative studies (Muijs, 2004). Experimental designs can be categorized in different ways. For example, according to Creswell (2014) there are three experimental designs: preexperimental, quasi-experimental and true experimental design; whereas according Robson (2015) the three experimental designs are: true experimental design, quasi-experimental and single case experimental designs. However, Fraenkel, Wallen and Hyun (2012) define the experimental designs as weak experimental, true experimental, quasi-experimental and factorial design. Quasi-experimental design is used in this study and from this design class, pretest posttest control group design is used. In the quasi-experimental design part of this study, the experiment group from the Science and Art Center is paired with the control group from the government school. The symbol chart of the pretest posttest control group quasi-experimental design is as follows:

**Table 1.** Pretest Posttest Control Group Quasi-Experimental Design

Groups	Groups Formed	Pretest	Implementation	Posttest
E	M	A1	X	A3
C	M	A2	X	A4

E: Experimental group (talented students)

K: Control group (students with normal development)

M: Forming the groups by matching

A: Assessment

X: Experimental intervention or implementation (cliffhanger technique designed with band caricatures)

In the qualitative part of the research, the students' state of completing the events in the cliffhanger technique designed with band caricatures was analyzed. In this part, a content analysis was conducted on the students' narrations for the cliffhanger technique.

**Working Group**

During the research, multi-stage sampling method was used as the research was conducted with two groups: one experimental and one control group. In multi-stage sampling method, different methods can be used in each

stage of sampling (Büyüköztürk, Kılıç Çakmak, Akgün, Karadeniz and Demirel, 2012). Accordingly, in each stage of the research a different method was used for sampling.

In the first stage, the province where the researcher worked was selected with the convenient sampling method. According to Creswell (2014), the aim of the convenient sampling method is to involve appropriate and voluntary participants in the research. The experimental nature of the research led using the convenient sampling method as a compelling factor.

In the second stage, the working groups were selected. The students in the experimental group of the study were selected from Yusuf Demir Science and Art Center, which is the only center admitting talented students in the province. Purposeful sampling method was used for the selection of the experimental group. All of the thirteen 5<sup>th</sup> grade students studying at Yusuf Demir Science and Art Center were involved in the research; no other sampling method was used. The selection of this center was due to the fact that the researcher was working in this center and it was easy and economical to obtain permission for the research, to implement it and to increase the willingness of the students to get involved in the research. The group formed with these students is defined as the “Experimental Group” in the research. The gender distribution of these students are as follows:

**Table 2.** Gender Distribution of the Talented Students in Group Experiment-1

Gender	N	%
Female	8	61.5
Male	5	38.5
Total	13	100

Table 2 shows that the majority of talented students constituting the group experiment-1 are the female students. 80% of the students are female and 20% of the students are male.

The students in the control group were selected in two steps. In the first step, convenient sampling method was used. In this stage among the schools in the city center, Cumhuriyet Secondary School was the convenient sampling of the research as it was comparatively easy to obtain permission for the research, to implement it and to increase the willingness level of the students in cooperation with the school administration and teaching staff.

In the second step, 4 classes of 5<sup>th</sup> grade students whose pretest scores were closest to the scores of the group that was selected from the Science and Art Center were selected by using the purposeful sampling. This group is composed of 32 students and the gender distribution is given in Table 3.

**Table 3.** Gender Distribution of the Students in Experimental Group

Gender	N	%
Female	17	53.1
Male	15	46.9
Total	32	100



Table 3 shows that the number of female and male students with normal development characteristics in the experimental group of the research is close to each other.

#### **Determining the Equivalency of the Research Groups**

Social Studies Achievement pretest was applied to determine experimental preoperation equivalency of the groups. In determining the experimental preoperation equivalency of the experimental and control groups, their scores in the social studies achievement test were tested with Shapiro-Wilk and it was concluded that the data distribution was normal as the p values were higher than (.350;.070) .05. Depending on this result, Independent Samples t test was conducted.

**Table 4.** "Independent Samples T Test" to Determine the Experimental Preoperation Equivalency of Experimental and Control Groups

Group	N	$\bar{X}$	S	df	t	p
Talented Students	13	5.85	2.19	43	.572	.571
Students with Normal Development	32	5.41	2.39			

According to the results of the T test, there is no significant difference ( $t=.572$ ,  $p>0,05$ ) between the pretest scores of the talented students and normal students with normal development who are going to study with cliffhanger technique designed with band caricatures. These results show that the research groups are equal with respect to social studies lesson achievement test, in other words it can be said that experimental preoperation research groups are equal.

#### **The Data Resource**

The data resource of the study is the social studies achievement test and the band caricatures evaluation form which is used in cliffhanger technique.

#### **Social Studies Achievement Test (SSAT)**

Social studies achievement test was developed by one of the researchers for his doctoral thesis in accordance with the "Culture and Heritage" unit in social studies teaching program for 5th grade students (Akyürek Tay, 2019). The achievement test consists of 25 questions. The alpha reliability coefficient of the test is .91. In this research, the alpha reliability coefficient of the test is calculated as .89.

#### **Research Process and Data Collection**

1. Social studies achievement test in the research was used as the pretest to select the working groups.
2. Lessons plans were prepared in accordance with the achievements in "Culture and Heritage" unit. One of the activities in the lessons plans was prepared with cliffhanger technique. The plans were reviewed by three experts

and two teachers of social studies lesson. Before the final versions of the lesson plans, they were edited in the light of the feedback obtained from the experts and teachers of social studies.

3. Since the text in cliffhanger technique used in lessons plans would be implemented with the band caricatures, a researcher prepared the band caricatures.

4. Teaching activities were implemented in accordance with the lesson plans. The cliffhanger technique in the activities was presented with the band caricatures but the last scene of the caricatures was not shown to the students. Then, the students were asked to complete the last scene. After that, it was shared with them. They were asked to compare their end with the end in the band caricature, by this way the technique served the purpose.

5. Social studies achievement test was applied after the activities, which lasted 20 teaching hours.

#### ***Band Caricatures Evaluation Form***

Band caricatures evaluation form is created to evaluate the band caricatures that were prepared for each achievement in "Culture and Heritage" unit of the social studies lesson for 5<sup>th</sup> grades and also used in cliffhanger technique. There are two questions in this form. After being reviewed by three experts for feedbacks to improve, the final version of the form was ready, which was in closed-end style. Appropriacy value of the expert feedbacks were calculated with the formula (Reliability= consensus/consensus+dissensus) of Miles and Huberman (1994). It is calculated as .83.

#### **Analysis of the Data**

In the study, SPSS 22 statistical program was used in the analysis of quantitative data and Shapiro-Wilk test was used to determine whether the data obtained for each sub-problem showed a normal distribution since the size of each group was less than thirty-five (35). According to Shapiro and Wilk (1965 cited that Demir, Saatçioğlu and İmrol, 2016), if the sample size is less than 35, Shapiro-Wilk test can be used. After the normal distribution of the data was tested, Independent Samples t test was used for the data showing normal distribution for test assessments of the independent groups while Mann-Whitney test was used for the data that did not show normal distribution. In the parallel test assessments, Wilcoxon Signed Ranks test was used for data that do not show normal distribution.

The qualitative data were analyzed on MAXQDA 12 program. The documents of the students who completed the incomplete events in band caricatures were transcribed and computerized, and all documents for each achievement were analyzed with respect to content. MAXQDA 12 program was used in the analysis of the data to determine the quantitative frequency of the categories and it was assessed if there were relations between the categories. For each achievement, the same procedure was done by two researchers separately and the formula (Reliability= consensus/consensus+dissensus) of Miles and Huberman (1994) was used to calculate the appropriacy between the frequency of the categories. In this calculation, the appropriacy is calculated as 1. In

other words, there was no difference between the evaluations of the two evaluators. In this context, it can be said that the evaluations are reliable. The data are presented in charts using MAXQDA 12 program and the comments of the researchers are supported with example citations from the documents. These citations are presented with codes on the documents such as BLM-1-1 and NRM-5-2. The abbreviation “BLM” stands for the talented students at the science and art center while “NRM” stands for normal students with normal development. The first number in the code stands for the achievement number and the second number stands for the student number.

## **FINDINGS and COMMENTS**

This part of the study seeks answers for three subproblems. Findings and comments related to the subproblems are as follows:

### **1. Findings and Comments Related to the First Subproblem**

The first subproblem of the research is *“According to the post-test scores, is there a significant difference between the academic achievement levels of talented students (experiment-1) who are taught with the cliffhanger technique designed with band caricatures and the students with normal development (control)?”*

Test scores of experimental and control groups from the social studies achievement test after experimental operations were tested with Shapiro-Wilk and it was concluded that the data did not show normal distribution since the p values (.041;.015) were less than .05. Due to this result, Mann-Whitney test was applied.

**Table 5.** Mann-Whitney Test Results Related to the Test Scores of Experimental and Control Groups from the Social Studies Achievement Test After Experimental Operations

Group	N	Mean Rank	Sum of Ranks	U	P
Experimental Group 1	13	26.69	347.00	160.000	.222
Control Group	32	21.50	688.00		

In Table 5, according to the posttest results of talented students (experiment 1) who were taught with cliffhanger technique designed with band caricatures and the students with normal with normal development there is no significant difference in their academical achievement level in social studies lesson [U=160.000; p>0.05]. Cliffhanger technique designed with the band caricatures did not cause a significant difference in social studies lesson academical achievement level of talented students and students with normal development.

### **2. Findings and Comments Related to the Second Subproblem**

The second subproblem of the research is; *“According to their pretest and posttest scores, is there a significant difference in the academic achievement level of talented students (experiment) who are taught with the cliffhanger technique designed with band caricatures?”*

The scores of the experiment group from social studies achievement test before and after the experimental activities were tested with Shapiro-Wilk and it was concluded that the data did not show normal distribution since one of the p values (.041; .270) was less than .05. Due to this result, Wilcoxon Signed-Rank test was applied.

**Table 6.** “Wilcoxon Signed-Rank Test” Results of Social Studies Lesson Pretest and Posttest Scores of Talented Students

Posttest Pretest	N	Mean Rank	Sum of Ranks	Z	P
Negative Order	0	0.00	0.00	-3.193	0.001
Positive Order	13	7.00	91.00		
Equal	0	-	-		

According to results of “Wilcoxon signed-rank test”, the pretest and post results of the talented students (experiment) who were taught cliffhanger technique designed with band caricatures show a significant difference ( $z=-3,193$ ,  $p<0.05$ ) in their social studies achievement level. According to the positive rank average, all students increased their posttest scores compared to the pretest. In this context, it is seen that the significant difference is in favor of the posttest. In other words, the use of cliffhanger technique with band caricatures increased the academical achievement level of talented students in social studies lesson.

### 3. Findings and Comments Related to the Third Subproblem

The third subproblem of the research is; “According to their pretest and posttest scores, is there a significant difference between the academic achievement level of the students with normal development (control) who were taught with the cliffhanger technique designed with band caricatures?”

The scores of the control group from social studies achievement test before and after the experimental activities were tested with Shapiro-Wilk and it was concluded that the data did not show normal distribution since one of the p values (.015; .070) was less than .05. Due to this result, Wilcoxon Signed-Rank test was applied.

**Table 7.** “Wilcoxon Signed-Rank Test” Results of Social Studies Lesson Pretest and Posttest Scores of Students with Normal Development

Posttest Pretest	N	Mean Rank	Sum of Ranks	Z	P
Negative Order	0	0.00	0.00	-4.944	0.000
Positive Order	32	16.50	528.00		
Equal	0	-	-		

According to results of “Wilcoxon signed-rank test”, the pretest and post results of the students with normal development who were taught with cliffhanger technique designed with band caricatures show a significant difference ( $z=-4,944$ ,  $p<0.05$ ) in their social studies achievement level. . According to the positive rank average, all students increased their posttest scores compared to the pretest. In this context, it is seen that the significant difference is in favor of the posttest. In other words, in social studies lesson the use of cliffhanger technique with band caricatures increased the academical achievement level of the students with normal development.

#### 4. Findings and Comments Related to the Fourth Subproblem

The fourth subproblem of the research is; *“According to their pretest and posttest scores, is there a significant difference between the academic achievement level of the students with normal development (control) who were taught with the cliffhanger technique designed with band caricatures?”*.

Completion state of both group of students, talented (experiment) and normal (control), who were taught with cliffhanger technique designed with band caricatures were researched under two topics. The first topic *“completing the event correctly”* and the second topic is *“understanding the plot”*.

**Table 8.** Completion State of Cliffhangers by the Talented Students

Achievement	Talented Students			
	Completing the Events Correctly		Understanding the Plot	
	Yes	No	Yes	No
1	12	1	13	0
2	6	7	13	0
3	5	8	12	1
4	7	6	11	2
5	0	13	13	0

The analysis of completion state of cliffhangers designed with the band caricatures by the talented the students shows that; in the first achievement all of the students, except one student, completed the event correctly, and in the second, third and fourth achievements 5 to 7 students completed the event correctly but in the fifth achievement no student could complete the achievements. However, when it was analyzed in all achievements all of the talented students were found to understand the plot.

Below are cliffhangers completed by the talented students:

The student who was coded as BLM-1-3 completed the cliffhanger as follows: *“Local officials came. They asked the man why he did it. The man said nothing. They punished him with a high fine. The man admitted he made a mistake, then he apologized to everyone. The local officials thanked the woman for being sensitive. After that, everybody left to return to their work.”* His narration shows that he completed it correctly and understood the plot.

Another student who was coded as BLM-5-5 completed the cliffhanger as follows: *“For example, we used to kiss the hands of elder family members on religious festivals, but now we go away for holidays. People used to serve everyone sweet drinks but now they don’t. They also used to offer people rose fragrances but now they give*

*cologne...*" This narration shows that he understood the plot and completed it correctly. The narration of the student who was coded as BLM-2-10 is as follows: "After seeing Pamukkale, Uludağ, Fırtına Deresi and the Blue Mosque he wanted to see another natural or historical place." This shows that he couldn't complete it correctly although he understood the plot. The narration "The child went his home after this." which was written by the student coded as BLM-4-2 shows that he neither understood the plot nor completed it correctly.

**Table 9.** Completion State of Cliffhangers by The Students with Normal Development

Achievement	Students with Normal Development			
	Completing the Events Correctly		Understanding the Plot	
	Yes	No	Yes	No
1	28	4	29	3
2	14	18	25	7
3	1	31	24	8
4	6	26	17	15
5	1	31	22	10

Analysis of completion state of the cliffhangers designed with band caricatures by the students with normal development shows that; in the first achievement all students, except four students, completed the cliffhanger correctly, in the second achievement more than half of the students could not complete it correctly, in the third and fifth achievements all students, except 1 student in each group, could not complete it correctly and in the fourth achievement only 4 students could complete it correctly. However, when the students with normal development were analyzed with respect to understanding the plot it was seen that in the first achievement it was the highest, in the fourth achievement nearly half of the students could not understand the plot, in the second, third and fifth achievements 7 to 10 students could not understand the plot.

Below are the examples of cliffhangers completed by the students with normal development:

The narration "The woman might be calling the police or the officials at the museum to report the man for damaging the historical things. Later, the arriving museum officials warns the man who damages the historical things. They tell him the history of the things. After that, the woman and her child happily go on their trip in the museum." which was written by the student coded as NRM-1-24 and the narration "She visited the Damlatas Cave and finished her Turkey trip." written by the student coded as NRM-2-27 shows that they completed the event correctly and understood the plot. The narration "They came to Kaman and ate walnuts" written by the student coded as NRM-3-17 and "They went for a walk after after breaking their fast" written by the student coded as NRM-4-32 shows that they could not complete the cliffhangers correctly and also could not understand

the plot. The narration of the the student coded as NRM-5-26 *“the child eats a hamburger/the child ate Adana kebab”* shows that he could not complete correctly and also could not understand the plot.

#### **CONCLUSION DISCUSSION and RECOMMENDATIONS**

The use of cliffhanger technique designed with band caricatures improved the social studies lesson academical achievement level of both talented students and students with normal development. However, the cliffhanger technique designed with band caricatures caused no significant difference in the social studies lesson achievement level regardless of being a talented student or a student with normal development.

Humor or laughter may not bring learning; however, humor creates a suitable environment for learning (Savage, Lujan, Thipparthi and DiCarlo, 2017). Humor, which can easily be used in every scope of education, can also be used in social studies lesson which deals with social events, individual differences and relations (Oruç, 2010). The caricatures which have a humor quality are appealing and motivating for teachers and students, additionally it is closely related with cognitive skills such as problem solving, creativity and language skills (Bayülgen, 2011). It is seen that band caricatures used in the cliffhanger technique improved the social studies lesson academical achievement level in both talented students and students with normal development. It can be said that this result is related with the benefits of using humor and caricatures in learning and teaching environments. In very different styles and approaches, caricatures creates humor by bringing people from different classes together or presenting a usual situation in an unusual scene in life. Increasing the availability of learning objects in the classroom or getting more students participated are great contributions for both teachers and students, specially the use of humor will improve individual communication of students (Savaş, 2014). In the same manner, when the literature of social studies is reviewed it is seen that the use of caricatures improve the academical achievement (Durualp, 2006; Koçoğlu, 2012). However, according to Akyürek Tay (2019) the use of caricatures also increases the academical achievement, ensures permanence of newly learned information and improves creative thinking skills. In this context, it is also mentioned that practices and works of humor improve the creativity, critical thinking, problem solving and attitude towards learning (Kılınc, 2008). Elements of humor are also found to improve academical achievement in History of Turkish Republic and Atatürk, geography courses and science lessons (Palaz, 2010; Ayyıldız, 2010; Başarmak, 2013; Demirci, 2013). When all these results are interpreted together, it can be said that the use of band caricatures improve the academical achievement in social studies lesson.

Analysis of the talented students in the qualitative part of this study with respect to completion state of events in cliffhanger technique designed with band caricatures shows that in the first achievement all students, except one student, completed the event correctly and all students also understood the plot.

It is seen that in second, third and fourth achievements 5 to 7 students completed correctly, in the third achievement except one student and in the fourth achievement except two students all students completed the plot correctly.

It is also seen that in the fifth achievement no student could complete correctly but all students understood the plot.

Since the completion of the event represents a prediction, if the data is evaluated according to the plot, it is seen that in completing the plot of events in cliffhanger technique designed with band caricatures all talented students, except one student in the third achievement and two students in the fourth achievement, completed correctly.

In the first achievement, correct completion and understanding the plot are equally high which may be due to the easy predictability of the event. In the fifth achievement, it is seen that since the event could be ended in different ways students could not predict the caricaturized end. In general, it is found that the talented students understood the plot in the cliffhanger technique which was presented through caricatures.

Analysis related to the students with normal development, with respect to completing the cliffhanger designed with band caricatures it is seen that; in the first achievement all students, except four, completed the event correctly and again in this achievement all students, except three, understood the plot.

In the second achievement, nearly half of the students with normal development completed the event correctly but in the same achievement all students, except 7, did not understand the plot.

In the third and fifth achievements, except 1 in each achievement, students could not complete the event. In the same achievements, 7 to 10 students understood the plot.

In the fourth achievement, only 6 students could complete correctly while nearly half of the students understood the plot.

In general, it is seen that in completing the example events designed with band caricatures the achievement level of the students with normal development were lower than the talented students.

When students with normal development and talented students were compared with respect to success in completing the events and understanding the plot, it is seen that talented students performed better at both completing the events correctly and understanding the plot.

It can be said that this is due to the fact that talented students have many distinctive features which make them different from the students with normal development. According to Davis (2013) talented students differ from the students with normal development with regards to features such as early and instant learning, efficient and



high memory capacity, multi skills, concentration, focusing on the task, being active, sharing knowledge, guiding, controlling, intriguing and asking inquisitive questions.

These features may explain why they understand the plot of events in cliffhanger technique designed with band caricatures better. However, individuals' different responses to the humors strongly show that they have a different sense of humor (Raskin, 1984). The humor-oriented characteristics of talented students may also explain their understanding the plot designed with band caricatures better compared to the students with normal development.

Based on the results obtained in the study, the following recommendations were made:

- In this study, it is concluded that the cliffhanger technique designed with band caricatures increases the academic achievement levels of both talented students and students with normal development in social studies lesson. Therefore, teachers of social studies lesson may be recommended to use cliffhanger technique designed with band caricatures. Again, depending on this result, both BİLSEM social studies modules and social studies teaching programs may include activities based on the use of humor, caricatures, band caricatures and the cliffhanger technique.
- This research is carried out on the basis of "Culture and Heritage" unit. In other studies both grade level and unit may be different.
- The qualitative part of the research deals with the students' completion state of cliffhangers. The future studies may focus on the teachers and students' opinions about the positive and negative aspects of using band caricatures.

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