

The Effects of Group Activities on Social Studies Education via Constructivist Approach

Sosyal Bilgiler Dersinde Oluşturmacılık Yaklaşımına Dayalı Grup Aktivitelerinin Etkileri

Tuğba Yanpar
Mersin University

Abstract

The aim of this study is to investigate the effect of different group activities, based on the constructivist approach, on the social studies course of fifth grade students in an elementary school. This study was carried out with 54 students participating in social studies course. The experimental group was exposed to the constructivist approach with traditional methods being used on the other group. Achievement test and attitude toward social studies scale, academic self concept scale, observations and interviews were used with both groups. Quantitative data were analyzed through a Multivariate Analysis of Covariance (MANCOVA). As a result of the MANCOVA, there was a significant mean difference between students' achievement and attitude toward social studies after the treatment when pre-achievement and academic self-concepts scores were statistically controlled. The result of the MANCOVA analyses is supported by classroom observations and interviews with the teacher and the students.

Key Words: Constructivism, social studies education, group works in education.

Öz

Bu çalışmanın amacı, bir ilköğretim okulunda beşinci sınıf sosyal bilgiler dersinde oluşturmacı yaklaşıma dayalı çok yönlü grup aktivitelerinin öğrenciler üzerindeki etkisini belirlemektir. 54 öğrencinin katıldığı bu çalışmada, deney grubunda oluşturmacı yaklaşıma dayalı ders işlenirken, diğer grupta etkinlikler önceki gibi devam etmiştir. Hem niceliksel hem de niteliksel verilerin yer aldığı çalışmada başarı testi, tutum ölçeği, akademik benlik kavramı, gözlem ve görüşme sonuçlarından yararlanılmıştır. Niceliksel veriler MANCOVA analizi yapılarak analiz edilmiştir. Ön test ve akademik benlik kavramı puanları istatistiksel olarak kontrol edildiğinde, öğrencilerin son test ve tutumlarında deney grubu lehine anlamlı farklar meydana gelmiştir. Gözlem ve görüşme sonuçları bu sonuçları desteklemektedir.

Anahtar Sözcükler: Oluşturmacılık, sosyal bilgiler eğitimi, eğitimde grup çalışmaları.

Introduction

Social studies deal with the human experience on the earth, the analysis of major events, trends and problems of humanity, and an assessment of the critical choices we must make now and in the future (Pahl, 2000, 42). Educators of social studies have become aware of the new process of learning over the past decade.

Many teachers are working hard to provide elementary students with high quality, meaningful social studies instruction. At the same time, they would like to improve their teaching practice and ensure that students learn important social studies content, concepts and skills (Haas and Laughlin, 2001).

Haas and Laughlin (2001) carried out a survey with elementary social studies teachers and little has changed over the years. Social studies does not appear to be considered as an important content area in elementary schools; many elementary school teachers give priority to reading and mathematics instead of social studies,

Assoc. Prof. Tuğba Yanpar, Mersin University, Faculty of Education, Mersin. E-mail: tyanpar@yahoo.com.

since these content areas have a priority in local and state testing programs; and teachers of elementary social studies may not be well grounded in social science disciplines. In elementary schools in Turkey, teachers usually give priority to mathematics and Turkish courses over other lessons as indicated by Haas and Laughlin. They generally use lecturing and question-answer techniques. However, social studies at school are very important in educating active, creative and productive people in recent years. The teachers must ask how they can design a lesson in which they facilitate student learning. The teacher can implement a constructivist approach on social studies course for active learning.

The familiar comment "Sounds good in theory but does not work in practice" in constructivism is used to label almost any hands on activity that involves students' prior knowledge. Indeed, the way as educators interpret and translate those phrases into curriculum and instructional practices has to be grounded in a sound understanding of constructivist principles and ideas (Jadallah, 2000). Constructivist learning is based on students' active participation in problem solving and critical thinking regarding a learning activity which they find relevant and engaging. They are "constructing" their own knowledge by testing ideas and approaches based on their prior knowledge and experience, applying these to a new situation, and integrating the new knowledge gained with pre-existing intellectual constructs (Gagnon and Collay, 1996; Doolittle, 1999). Students are active participants in the process of learning by multiple learning styles, group activities, brain storming and interpretative discussion etc. The teacher is the guider and the provider of the active process of the students. Also, the teacher is a co-learner with the students. The constructivist teacher encourages students to connect and summarize concepts by analyzing, predicting, justifying, and defending their ideas. The teacher provides opportunities for students to test their hypotheses, especially through group discussion of concrete experiences. The constructivist approach involves students in real-world possibilities, then helps them to generate the abstractions that bind phenomena together. In a Constructivist Classroom, student autonomy and initiative are accepted and

encouraged. The teacher asks open-ended questions and allows waiting time for responses. Higher-level thinking is encouraged. Students are engaged in dialogue with the teacher and with each other. Students are engaged in experiences that challenge hypotheses and encourage discussion. The class uses raw data, primary sources, manipulatives, physical, and interactive materials (J. G. Brooks and M. G. Brooks, 1993).

Doolittle (1999) has emphasized eight pedagogical recommendations for constructivism: Learning should take place in authentic and real-world environments, involve social negotiation and mediation. Content and skills should be made relevant to the learner and understood within the framework of the learner's prior knowledge. Students should be assessed formatively, serving to inform future learning experiences, encouraged to become self-regulatory, self-mediated, and self-aware. Teachers serve primarily as guides and facilitators of learning, not instructors, and should provide for and encourage multiple perspectives and representations of content. Roblyer, Edwards and Havriluk, (1997) emphasize a number of principles: 1) Provide experience of the knowledge construction process; 2) Provide experience in and appreciation for multiple perspectives; 3) Embed learning in realistic and relevant contexts; 4) Experience learning in "rich" environments; 5) Encourage learning as a part of social experience; 6) Encourage self awareness or reflective practice of the knowledge construction process. Ediger (1999) emphasizes sequencing pupil learning in constructivism. Constructivism emphasizes pupils' sequencing their own experiences with their teacher's guidance. The sequence does not reside within the mind of the teacher nor in the materials of instruction used. The learner needs to be empowered and reflect upon what is being learned as well as what has been learned. It is important for each pupil to be accountable and consider the consequences of his/her acts.

Chung (1991) has described a constructivist learning environment which is characterized by (1) shared knowledge among teachers and students; (2) shared authority and responsibility among teachers and students; (3) the teacher's new role as guide in instruction; and (4) heterogeneous and small groupings of students. With respect to instruction, students should

participate in experiences that accommodate these ways of learning including include problem-based learning, inquiry activities, dialogues with peers and teachers, exposure to multiple sources of information, and opportunities for students to demonstrate their understanding in diverse ways (Windschitl, 1999). Also, assessment within constructivism in education is based on a view of process rather than product. Authentic assessment indicates student's performance. When teacher uses authentic assessment, students gain an understanding of the tasks they are to perform and assess their efforts against the criteria for an acceptable performance. With authentic assessment procedures, teachers strive to make an evaluation realistic, relevant, and reliable (Morris, 2001). Authentic assessment depends on evidence of students' accomplishments, which students provide with their products, portfolios, and performance assessments (Schurr, 1998 cited in Morris, 2001). Students construct their portfolios. Here, pupil work is selected and placed into his/her portfolio. These items might include: 1. Written products of pupils; 2. Artistic endeavors; 3. Construction projects; 4. Videotapes of committee work; 5. Diary entries and journals written by the pupil (Ediger, 1999). Evaluation in the constructivist culture is rigorous and multidimensional. It is focused on the quality of the learner's understanding its depth, and its flexible application to related contexts (Lindschitl, 1999).

Constructivist instructional approaches in general are being criticized in three ways: (1) They are costly to develop (because of the lack of efficiency), (2) They require technology for implementation (for different activities and materials); and (3) They are very difficult to evaluate (ibid). However, these issues can be rectified by practitioners who are creative and innovative enough to introduce ways of measuring student learning and assessing individual progress. Constructivism can provide unique and exciting learning environments in which the challenge for practitioners is to engage the learners in authentic and meaningful tasks, and to evaluate learning using assessment methods that reflect the constructionist methods embedded in the learning environments (Tam, 2000).

Social studies teachers point out that students have trouble in applying and transferring knowledge, that

they do not have enough problem-solving skills, or that they do not understand the importance of what they are asked to learn (Bevevino, 1999). Social studies research is based on new learning approaches. More traditional methods such as inquiry with current cognitive theory may well provide an even more powerful approach to social studies teaching and learning for the 21st century (Olsen, 1998). Rice and Wilson (1999) emphasize how technology aids constructivism in the social studies classroom. Major benefits to social studies teachers who integrate technology to support constructivism in the social studies include the ability to obtain relevant information in the form of documents, photographs, transcripts, video, and audio clips. Windschitl (1999) also refers to the teaching of constructivist social studies. Educators struggle with how specific instructional techniques fit into the constructivist model of instruction. Regardless of the particular techniques used in instruction, students will always construct and reorganise knowledge rather than assimilate information from teachers or textbooks.

The Turkish educational system consists mainly of three components, namely primary, secondary and higher education. Primary education is eight years, compulsory and free of charge in public schools. Primary education has great significance. Social studies are one of the courses in primary education. Social studies courses in this education process contain citizenship, responsibilities, democracy, social rules and behaviours, our countries' cultural, social and economic characteristics, and also look at Turkey's geographic and historical characteristics Teaching of the social studies in Turkish Educational System generally relies on teacher talk, questions and answer techniques, textbook and map. But it has to be changed. In this work, group activities based on constructivism for social studies are formed in order to improve this education area. This study constructs an experience and its effects for social studies in Turkey. In this study, group activities based on the constructivist approach and lecturing (traditional) method have been compared. A comparison has been made for fifth grade students on social studies courses in the elementary education.

The purpose of the present research is two fold:

- (a) To examine the significant differences between a group exposed to the group activities based on constructivist approach and a group exposed to lecturing method in terms of achievement and attitudes of students in an elementary social studies course.
- (b) To investigate the teacher and the students comments.

Method

The experimental method was used in this study. Observations and interviews were used as qualitative and MANCOVA analyses were used to analyse the data.

Subjects

This study was conducted on 54 fifth grade students of a social studies course in an elementary school which is located at the west part of the Black Sea Region in Turkey. This study was applied to students of two groups from the same school. The groups were randomly selected. One of the groups, consisting of 30 students used group activities based on constructivist approach while the other group consisted of 24 students who were given traditional instruction.

Design and Procedure

The course was scheduled as 2 hours a day. The study was conducted over 25 days during the unit called "Our Country". Both of the teachers were women who had similar levels of education (graduated from a faculty of education) and who had more than 20 years of experience in teaching social studies courses and who both had taught in heterogeneous classrooms.

First, observations were carried out on two groups using a digital video camera. Students drew pictures about the social studies lesson process, and wrote essays about the unit. In addition, a pre-achievement test and a scale testing attitude toward social studies were given to both groups as pre-test to control the possible differences before the beginning of the study. The data show that both of the groups were the same before the treatment ($p>0,05$) for pre-test result and attitude toward social studies. Then, the teacher in the experimental

group was given a week's training on the constructivist approach using Brooks and Brooks' principles (1993). Additionally, some directions on the constructivist process were given. Brooks and Brooks (1993) suggested twelve strategies for constructivist teachers.

Lesson plans based on constructivism were explained and given. However, it was emphasized that these plans can be changed by the students in the lesson process. A range of different group activities and materials based on a constructivist approach were developed for social studies education in the elementary school in this study. The objectives, topics of units, and activities were determined. The teacher gave direction about topics and activities, and facilitated students. Students constructed contents of topics. They prepared their materials and activities. So, content was changed according to students. While students were constructing their learning aids, the teacher helped the students. The teacher guided the students, stimulating and provoking the student's critical thinking, analysis and synthesis throughout the learning process. The students set up a balance between their prior knowledge and the new experience. After the new experience, students constructed new knowledge and affective characteristics. Students constructed activities and materials according to their existing cultural characteristics and school environment. Parents often helped their students as teachers. In the family the child and family members shared contexts that can be regarded as shared social constructs, which is also a critical context for determining individual constructs. This was also extremely powerful within the peer group (Marsh, <http://www.bamaed.ua.edu/ail601/const.htm>). There was interaction among the teacher, students, their parents and peers for constructivist learning process. In addition, students related with all of environments (TV, radio, news, friends, different aids and materials etc.). In constructivism it is assumed that learning occurs in whole experiences. The teachers guided different activities for students. They carried out interviews with other people in their city, wrote essays or articles about the given topic, developed their projects or experiments, and played CD about their subject on their computers. Also, they wrote poems, sang songs or danced. They developed hands-on activities and drew pictures. The

students having pre-existing knowledge and experiences were able to construct these activities and materials. After preparing the activities, they applied them in the classroom environment. They usually studied as groups. Learning was then assessed through performance-based projects rather than through traditional paper and pencil testing (SEDL, 1994). Students constructed portfolios themselves. Real factual examples were investigated by the students in this group. And then, concept maps were made by students in experimental group. Students groups learned the same subject using different activities. Student portfolios, concept maps, observations and interviews were used for assessment. The learning process also contained its assessment process. Therefore, the students both evaluated themselves and the teacher evaluated their performance in many ways.

The teacher was active in the control group whose lectures took a traditional form. Students' participation was mainly in the form of taking notes and sporadic questions. The textbook was the main material for this group. Sometimes maps and globes were used for the lesson. In the process of treatment, the researcher used digital video-camera for observations to both groups. After the learning process an interview was carried out with students, teacher and parents.

After the treatment, the students wrote an essay, made a picture in the process of social studies course for both of the groups for qualitative analyses. In addition, achievement tests and attitude toward social studies scales were implemented as post-tests to both groups for quantitative analyses. These observations with both groups were recorded by digital video camera.

Instruments

Multiple-Choice Achievement Test: In order to investigate students' achievement about the unit, a 30-item multiple choice achievement test was developed by the researchers. In developing this test, the instructional objectives for the unit in different cognitive levels (knowledge, comprehension and application) were stated by the researcher. Each item of the test had one correct answer and four distractors. The items of the test were investigated by an expert in social studies (geography), a social studies educator and a curriculum developer for face and content validity. The test was

given to both groups as a pre-test (APRA) to examine students' prior knowledge before the treatment. Moreover, the same test was administered to both groups as post-test (APOST). The KR-20 reliability of the test was found to be 0.70

Attitude Scale Toward Social Studies: The scale was developed by B. Şahin, Çakır and T. Şahin (2000) to measure students' attitudes toward social studies. This scale contains 27 likert type items (strongly agree, agree, undecided, disagree and strongly disagree). The reliability (Cronbach Alpha) was found to be 0.94 in 1998. This scale was given to both groups as pre-test (ATPRET) and post-test (ATPOST).

Academic Self-Concept Scale: In order to assess students' perceptions of their academic abilities, the academic self-concept scale developed by Brookover et al (1964) was used in this study. Senemoglu (1989) adopted this test into Turkish and found the reliability coefficient as 0.80, 0.84. and 0.89. Sahin-Yanpar (1997) used the scale in mathematics and social sciences and found the reliability as 0.79 for mathematics and 0.91 for social sciences. The scale consists of 8 items. This scale was administered as a pre-test (ASCPRET) and post-test (ASCPOST) to both groups.

Observations and interviews: The observations and interviews were recorded by digital camera in two groups. The records were written and analysed through coding.

Analysis: The quantitative data were analysed using an independent t test. Moreover, means and standard deviations were given for all independent and dependent variables.

Results

Descriptive Statistics

The means and standard deviations are given in Table 1 for achievement and attitudes of the students in both groups. Means of achievement and attitudes in experimental group are higher than means of achievement and attitudes in control group.

Multivariate Analysis of Covariance (MANCOVA)

In social studies most of the variables are related to each other so differences between the groups caused by confounding variables should be statistically controlled

The purpose of the present research is two fold:

- (a) To examine the significant differences between a group exposed to the group activities based on constructivist approach and a group exposed to lecturing method in terms of achievement and attitudes of students in an elementary social studies course.
- (b) To investigate the teacher and the students comments.

Method

The experimental method was used in this study. Observations and interviews were used as qualitative and MANCOVA analyses were used to analyse the data.

Subjects

This study was conducted on 54 fifth grade students of a social studies course in an elementary school which is located at the west part of the Black Sea Region in Turkey. This study was applied to students of two groups from the same school. The groups were randomly selected. One of the groups, consisting of 30 students used group activities based on constructivist approach while the other group consisted of 24 students who were given traditional instruction.

Design and Procedure

The course was scheduled as 2 hours a day. The study was conducted over 25 days during the unit called "Our Country". Both of the teachers were women who had similar levels of education (graduated from a faculty of education) and who had more than 20 years of experience in teaching social studies courses and who both had taught in heterogeneous classrooms.

First, observations were carried out on two groups using a digital video camera. Students drew pictures about the social studies lesson process, and wrote essays about the unit. In addition, a pre-achievement test and a scale testing attitude toward social studies were given to both groups as pre-test to control the possible differences before the beginning of the study. The data show that both of the groups were the same before the treatment ($p > 0,05$) for pre-test result and attitude toward social studies. Then, the teacher in the experimental

group was given a week's training on the constructivist approach using Brooks and Brooks' principles (1993). Additionally, some directions on the constructivist process were given. Brooks and Brooks (1993) suggested twelve strategies for constructivist teachers.

Lesson plans based on constructivism were explained and given. However, it was emphasized that these plans can be changed by the students in the lesson process. A range of different group activities and materials based on a constructivist approach were developed for social studies education in the elementary school in this study. The objectives, topics of units, and activities were determined. The teacher gave direction about topics and activities, and facilitated students. Students constructed contents of topics. They prepared their materials and activities. So, content was changed according to students. While students were constructing their learning aids, the teacher helped the students. The teacher guided the students, stimulating and provoking the student's critical thinking, analysis and synthesis throughout the learning process. The students set up a balance between their prior knowledge and the new experience. After the new experience, students constructed new knowledge and affective characteristics. Students constructed activities and materials according to their existing cultural characteristics and school environment. Parents often helped their students as teachers. In the family the child and family members shared contexts that can be regarded as shared social constructs, which is also a critical context for determining individual constructs. This was also extremely powerful within the peer group (Marsh, <http://www.bamaed.ua.edu/ail601/const.htm>). There was interaction among the teacher, students, their parents and peers for constructivist learning process. In addition, students related with all of environments (TV, radio, news, friends, different aids and materials etc.). In constructivism it is assumed that learning occurs in whole experiences. The teachers guided different activities for students. They carried out interviews with other people in their city, wrote essays or articles about the given topic, developed their projects or experiments, and played CD about their subject on their computers. Also, they wrote poems, sang songs or danced. They developed hands-on activities and drew pictures. The

students having pre-existing knowledge and experiences were able to construct these activities and materials. After preparing the activities, they applied them in the classroom environment. They usually studied as groups. Learning was then assessed through performance-based projects rather than through traditional paper and pencil testing (SEDL, 1994). Students constructed portfolios themselves. Real factual examples were investigated by the students in this group. And then, concept maps were made by students in experimental group. Students groups learned the same subject using different activities. Student portfolios, concept maps, observations and interviews were used for assessment. The learning process also contained its assessment process. Therefore, the students both evaluated themselves and the teacher evaluated their performance in many ways.

The teacher was active in the control group whose lectures took a traditional form. Students' participation was mainly in the form of taking notes and sporadic questions. The textbook was the main material for this group. Sometimes maps and globes were used for the lesson. In the process of treatment, the researcher used digital video-camera for observations to both groups. After the learning process an interview was carried out with students, teacher and parents.

After the treatment, the students wrote an essay, made a picture in the process of social studies course for both of the groups for qualitative analyses. In addition, achievement tests and attitude toward social studies scales were implemented as post-tests to both groups for quantitative analyses. These observations with both groups were recorded by digital video camera.

Instruments

Multiple-Choice Achievement Test: In order to investigate students' achievement about the unit, a 30-item multiple choice achievement test was developed by the researchers. In developing this test, the instructional objectives for the unit in different cognitive levels (knowledge, comprehension and application) were stated by the researcher. Each item of the test had one correct answer and four distractors. The items of the test were investigated by an expert in social studies (geography), a social studies educator and a curriculum developer for face and content validity. The test was

given to both groups as a pre-test (APRA) to examine students' prior knowledge before the treatment. Moreover, the same test was administrated to both groups as post-test (APOST). The KR- 20 reliability of the test was found to be 0.70

Attitude Scale Toward Social Studies: The scale was developed by B. Şahin, Çakır and T. Şahin (2000) to measure students' attitudes toward social studies. This scale contains 27 likert type items (strongly agree, agree, undecided, disagree and strongly disagree). The reliability (Cronbach Alpha) was found to be 0.94 in 1998. This scale was given to both groups as pre-test (ATPRET) and post-test (ATPOST).

Academic Self-Concept Scale: In order to assess students' perceptions of their academic abilities, the academic self-concept scale developed by Brookover et al (1964) was used in this study. Senemoglu (1989) adopted this test into Turkish and found the reliability coefficient as 0.80, 0.84. and 0.89. Sahin-Yanpar (1997) used the scale in mathematics and social sciences and found the reliability as 0.79 for mathematics and 0.91 for social sciences. The scale consists of 8 items. This scale was administered as a pre-test (ASCPRET) and post-test (ASCPOST) to both groups.

Observations and interviews: The observations and interviews were recorded by digital camera in two groups. The records were written and analysed through coding.

Analysis: The quantitative data were analysed using an independent t test. Moreover, means and standard deviations were given for all independent and dependent variables.

Results

Descriptive Statistics

The means and standard deviations are given in Table 1 for achievement and attitudes of the students in both groups. Means of achievement and attitudes in experimental group are higher than means of achievement and attitudes in control group.

Multivariate Analysis of Covariance (MANCOVA)

In social studies most of the variables are related to each other so differences between the groups caused by confounding variables should be statistically controlled

Table 1.
Means and St. Deviations for Variables Across Groups

	Group	Mean	St.Deviation	N
Achievement	Experimental	17,033	3,011	30
	Control	14,342	4,283	24
Attitude	Experimental	123,93	10,573	30
	Control	98,667	17,397	24

Achievement Score out of 30, Attitude Score out of 135

for. Since the covariates should be linearly related to the dependent variables and shouldn't be correlated with each other by themselves, a correlation analysis is performed. The results of the correlation analysis are presented in Table 2.

Table 2.
Correlations between Dependent Variables and Covariates

Variabes	APRET	ATPRET	ASCPRET	APOST	ATPOST	ASCPST
APRET	1	0,376**	0,249**	0,578**	0,389**	0.185
ATPRET	0,76**	1	0,436**	0,334*	0,538**	0.205
ASCPRET	0,249	0.436**	1	0,385**	0,468**	0.501**

*p<0.05, **p<0.01

As shown in Table 2; because of the fact that APRET&ATPRET and ATPRET&ASCPRET are significantly correlated with each other, APRET and ASCPRET were used as covariates in the MANCOVA model. The MANCOVA model for the study consisted of 2 dependent variables being the students' multiple choice post-test achievement and their attitudes towards social studies, an independent variable, group, and two covariates, APRET and ASCPRET. Table 3 presents the Box of covariance matrices.

Table 3.
Box's Test of Equality of Covariance Matrices

Box M	F	df1	df2	Sig.
8.115	2.590	3	689047	0.051

As seen in table 3 non-significancy (p: 0.051) shows that two of the dependent variables are equal across the independent variable group. Thus, the data satisfy the homogeneity of covariance matrices assumption of

MANCOVA. On the other hand, it was assumed that no subjects' score on dependent variable is influenced by other subjects in both of the groups. The other assumption of MANCOVA is all the individual dependent variables (APOST and ATPOST) were normally distributed. Table 4 shows the multivariate test of this MANCOVA model.

Table 4.
Multivariate Tests of MANCOVA

Source of Variance	Wilks' Lambda	Hypothesis df	Error df	Multivariate F	P
APRET	0,640	2	49	13.757	0,000*
ASCPRET	0,855	2	49	4.140	0,022*
GROUP	0,524	2	49	22.225	0,000*

N= 54, *: p < 0,05

As seen in Table 4, group resulted in significant multivariate F. This means that there was a significant mean difference between students' exposed to constructivist approach (experimental group) and the students' exposed to a traditional approach (control group) on the collective dependent variables of their multiple choice post-test achievement and their attitudes towards social studies after the treatment. In order to decide which dependent variables were responsible for this significance the follow up ANCOVA was conducted. The results of the follow up univariate ANCOVA for two of the dependent variables are given in Table 5.

As can be seen from Table 5, the group resulted in significant univariate F for APOST and ATPOST (Post-achievement and Post-attitude). When the significance of the covariates for the dependent variables is examined, APRET (pre-achievement) resulted in a significant portion of the variance in APOST and ATPOST. Moreover, ACSPRET resulted in significant portion of the variance on ATPOST (Academic self-concept before the treatment resulted in a significant univariate F for only attitude toward social studies after the treatment). Therefore, the variance caused by these covariates on the stated dependent variables could be adequately parted out from the variance caused by these dependent variables. As seen in Table 5, eta-square of

Table 5.
Results of Univariate ANCOVA

Source	Dependent Variable	df	MS	F	P	Eta Squared (Effect Size)	Power
APRET	APOST	1	190.862	22.746	0,000	0.313	0.997
	ATPOST	1	1508.874	10,875	0,002	0.179	0.899
ASCPRET	APOST	1	25.313	3.017	0,089	0.057	0.399
	ATPOST	1	977,791	7.047	0,011	0.124	0.740
Group	APOST	1	44.329	5.283	0.026	0.096	0.616
	ATPOST	1	6191.498	44.625	0,000	0.476	1

APOST (0.096) shows the low magnitude of the mean difference between two groups and observed power is medium (0.616). Effect size of ATPOST (0.476) shows the medium mean difference between the two groups. Since the power is high (1), the probability of detecting a significant effect when the effect thoroughly exists in nature is also high. The direction of the effect of treatment can be examined through the adjusted means of dependent variables across groups. Table 6 shows the adjusted means of the dependent variables for constructivist and traditional groups.

Table 6.
Adjusted Means of Dependent Variable Among Group

Dependent Variable	Group	Adjusted Mean
APOST	Experiment	16.764
	Control	14.878
ATPOST	Experiment	122,609
	Control	100.322

As can be understood from the adjusted means for the dependent variables, the group exposed to the constructivist approach achieved better results on the two dependent variables than the group exposed to a traditional approach. According to the adjusted means of the dependent variable between groups (Table 6), students exposed to the constructivist approach achieved

better results than the students exposed to the traditional approach ($x=16.764$, $x=14.878$, respectively). Moreover, students in the towards social studies than the ones in control group ($x=122.609$, $x=100.322$, respectively). These results show that mean difference of attitude is higher than the mean difference of achievement in both groups. So the effect size and power of attitudes are higher than achievement.

Interview Results

At the end of this study, the teacher who used constructivist group activities was interviewed. In experimental group had better attitudes addition, interviews were conducted with the students who had covered a unit of social studies course via the constructivist approach. The results are as follows:

Results of the Interview with the Teacher (Asiye Ozen) of the Experimental Group

Seven questions were asked to the teacher.

Interviewer: *What are the differences between this unit process and the other unit process?*

The Teacher: *I was anxious at the beginning of this study. I have been teaching for 26 years. During this study, I had to use a different teaching method. My students started to study. They undertook research, they prepared transparencies. They enjoyed all the activities they did themselves. In other units, I often gave exams. But after this unit, the students took only one exam and*

Table 1.
Means and St. Deviations for Variables Across Groups

	Group	Mean	St.Deviation	N
Achievement	Experimental	17,033	3,011	30
	Control	14,342	4,283	24
Attitude	Experimental	123,93	10,573	30
	Control	98,667	17,397	24

Achievement Score out of 30, Attitude Score out of 135

for. Since the covariates should be linearly related to the dependent variables and shouldn't be correlated with each other by themselves, a correlation analysis is performed. The results of the correlation analysis are presented in Table 2.

Table 2.
Correlations between Dependent Variables and Covariates

Variables	APRET	ATPRET	ASCPRET	APOST	ATPOST	ASCPST
APRET	1	0,376**	0,249**	0,578**	0,389**	0,185
ATPRET	0,76**	1	0,436**	0,334*	0,538**	0,205
ASCPRET	0,249	0,436**	1	0,385**	0,468**	0,501**

* $p < 0.05$, ** $p < 0.01$

As shown in Table 2; because of the fact that APRET&ATPRET and ATPRET&ASCPRET are significantly correlated with each other, APRET and ASCPRET were used as covariates in the MANCOVA model. The MANCOVA model for the study consisted of 2 dependent variables being the students' multiple choice post-test achievement and their attitudes towards social studies, an independent variable, group, and two covariates, APRET and ASCPRET. Table 3 presents the Box of covariance matrices.

Table 3.
Box's Test of Equality of Covariance Matrices

Box M	F	df1	df2	Sig.
8.115	2.590	3	689047	0.051

As seen in table 3 non-significance ($p: 0.051$) shows that two of the dependent variables are equal across the independent variable group. Thus, the data satisfy the homogeneity of covariance matrices assumption of

MANCOVA. On the other hand, it was assumed that no subjects' score on dependent variable is influenced by other subjects in both of the groups. The other assumption of MANCOVA is all the individual dependent variables (APOST and ATPOST) were normally distributed. Table 4 shows the multivariate test of this MANCOVA model.

Table 4.
Multivariate Tests of MANCOVA

Source of Variance	Wilks' Lambda	Hypothesis df	Error df	Multivariate F	P
APRET	0,640	2	49	13.757	0,000*
ASCPRET	0,855	2	49	4.140	0,022*
GROUP	0,524	2	49	22.225	0,000*

N= 54, *: $p < 0,05$

As seen in Table 4, group resulted in significant multivariate F. This means that there was a significant mean difference between students' exposed to constructivist approach (experimental group) and the students' exposed to a traditional approach (control group) on the collective dependent variables of their multiple choice post-test achievement and their attitudes towards social studies after the treatment. In order to decide which dependent variables were responsible for this significance the follow up ANCOVA was conducted. The results of the follow up univariate ANCOVA for two of the dependent variables are given in Table 5.

As can be seen from Table 5, the group resulted in significant univariate F for APOST and ATPOST (Post-achievement and Post-attitude). When the significance of the covariates for the dependent variables is examined, APRET (pre-achievement) resulted in a significant portion of the variance in APOST and ATPOST. Moreover, ACSPRET resulted in significant portion of the variance on ATPOST (Academic self-concept before the treatment resulted in a significant univariate F for only attitude toward social studies after the treatment). Therefore, the variance caused by these covariates on the stated dependent variables could be adequately parted out from the variance caused by these dependent variables. As seen in Table 5, eta-square of

Table 5.
Results of Univariate ANCOVA

Source	Dependent Variable	df	MS	F	P	Eta Squared (Effect Size)	Power
APRET	APOST	1	190.862	22.746	0,000	0.313	0.997
	ATPOST	1	1508.874	10,875	0,002	0.179	0.899
ASCPRET	APOST	1	25.313	3.017	0,089	0.057	0.399
	ATPOST	1	977,791	7.047	0,011	0.124	0.740
Group	APOST	1	44.329	5.283	0.026	0.096	0.616
	ATPOST	1	6191.498	44.625	0,000	0.476	1

APOST (0.096) shows the low magnitude of the mean difference between two groups and observed power is medium (0.616). Effect size of ATPOST (0.476) shows the medium mean difference between the two groups. Since the power is high (1), the probability of detecting a significant effect when the effect thoroughly exists in nature is also high. The direction of the effect of treatment can be examined through the adjusted means of dependent variables across groups. Table 6 shows the adjusted means of the dependent variables for constructivist and traditional groups.

Table 6.
Adjusted Means of Dependent Variable Among Group

Dependent Variable	Group	Adjusted Mean
APOST	Experiment	16.764
	Control	14.878
ATPOST	Experiment	122,609
	Control	100.322

As can be understood from the adjusted means for the dependent variables, the group exposed to the constructivist approach achieved better results on the two dependent variables than the group exposed to a traditional approach. According to the adjusted means of the dependent variable between groups (Table 6), students exposed to the constructivist approach achieved

better results than the students exposed to the traditional approach ($x=16.764$, $x=14.878$, respectively). Moreover, students in the towards social studies than the ones in control group ($x=122.609$, $x=100.322$; respectively). These results show that mean difference of attitude is higher than the mean difference of achievement in both groups. So the effect size and power of attitudes are higher than achievement.

Interview Results

At the end of this study, the teacher who used constructivist group activities was interviewed. In experimental group had better attitudes addition, interviews were conducted with the students who had covered a unit of social studies course via the constructivist approach. The results are as follows:

Results of the Interview with the Teacher (Asiye Ozen) of the Experimental Group

Seven questions were asked to the teacher.

Interviewer: *What are the differences between this unit process and the other unit process?*

The Teacher: *I was anxious at the beginning of this study. I have been teaching for 26 years. During this study, I had to use a different teaching method. My students started to study. They undertook research, they prepared transparencies. They enjoyed all the activities they did themselves. In other units, I often gave exams. But after this unit, the students took only one exam and*

they were successful. Moreover, they were evaluated by a different method. They constructed their files. Some students who did not enjoy homework before the unit prepared different materials. According to the teacher the students were active during the process.

Interviewer: *What are the differences between high, medium and low achievement students in this unit?*

The Teacher: *Good students were good, medium students began to develop, but I enjoyed low students. They were active. They said "we prepared plays on the subject". I was a guide. They prepared their activities. A student hating lecture, started to enjoy the lecture with different activities. He was active. At the beginning of the study, they did not want to construct the group. Then, they constructed their groups. All of them were active. There was no passive student in this unit. All of the teachers should learn this process. She noticed that all of the students were highly active.*

Interviewer: *What do you think about the other teachers' way of teaching?*

The Teacher: *They use traditional method in which they lecture, ask questions and use the, maps and textbooks.*

Interviewer: *What were parents' thoughts about their children after the application of this process unit? Some parents said their children had changed. For example a student's parent said my child was shy before this unit. But after this unit, she went everywhere without being shy".*

The teacher said that parents noticed their children began to gain different characteristics. The teacher's answer is a wonderful example for changing.

Interviewer: *How was the evaluation of this process for you? What is the role of the teacher?*

The teacher: *Student-centered methods were used in this study. The teacher's role is that of a guide at the beginning of the study and turns into being a co-learner and monitor during the process of the study.*

The Interviewer: *What do you think about students' files? Are they useful?*

The Teacher: *All of the students want to prepare good files. They want to have every piece of work in their files. So, they struggled for preparation. The teacher thought that these assessment methods were useful for student development and different from the other assessment methods.*

The Interviewer: *What are your proposals on this process?*

The Teacher: *Assessment is important. Assessment should be made from time to time during the unit process. I did not conduct any assessment during the unit. However, the students learned. This surprised me. In addition, the students evaluated themselves. According to the teacher, exams should be conducted frequently. She thought the assessments in the study were insufficient as she was used to traditional tests. As a result of the interview it can be understood that the teacher wanted to use constructivist approach and that the teacher can learn this approach.*

Results of the Interview with the Students

The students thought that they took different courses. They outlined their teacher's previous approach. They liked this approach.

The Interviewer: *What are the differences between this unit process and the other unit process?*

Student 1: *I want to talk about my teacher's teaching of social studies. Our teacher wrote a summary on the subject. She explained its meaning. We wrote down what she said. Then she asked questions. We answered them. She gave (+,-) for answers. Sometimes, we went on a picnic or excursion. But in this unit, we took special courses. Computers, transparencies, pictures, poems etc. We enjoyed this unit.*

Student 2: *In this unit some friends who did not want to explain things before the unit explained some information and prepared materials, played the games. We enjoyed this method.*

Student 3: *All of us were active and we liked the lessons in this unit.*

Student 4: *We did not like social studies before. But this lesson is like a game. Now I like social studies.*

Student 5: *I did not participate in this lesson before the method. But I like this process and my friends do, too.*

Student 6: *I rarely participate in this lesson. But in this unit, I participated in the lesson. The use of computer, transparencies, playing the games, reading of poems and songs were in this unit. We enjoyed them.*

Student 7: *I did not use to like social studies. I did not use to stand up to explain anything. Sometimes I used to explain something about the topic, for I was afraid of*

getting a poor grade. But I am not afraid of this lesson. I like research.

Student 8: *This unit was different from the other units. In the other unit, we did not use different materials. We had our files on this unit. I made an effort for this file. I studied my products with my friends. And then I enjoyed our works.*

The Interviewer: *What are the differences between this unit process and the other unit process?*

Student 1: *I want to talk about my teachers' teaching of the social studies. Our teacher wrote summary on the subject. She explained its meaning. We wrote what she said. Then she asked questions. We answered them. She gave + or - for answers. Sometimes, we went to picnic or excursion. But in this unit, we took special courses. Computers, transparencies, pictures, poems etc. We enjoyed this unit.*

Student 2: *In this unit some friends who did not want to explain things before the unit explained some information and prepared materials, played the games. We enjoyed this method.*

Student 3: *All of us were active and we liked this lesson in this unit.*

Student 4: *We did not like social studies before. But this lesson is like a game. Now I like social studies.*

Student 5: *I did not participate in this lesson before the method. But I like this process and so do my friends.*

Student 6: *I rarely participate in this lesson. But in this unit, I participated in the lesson. The use of computer, transparencies, playing the games, reading of poems and songs were in this unit. We enjoyed them.*

Student 7: *I did not use to like social studies. I did not use to stand up to explain anything. Sometimes I used to explain something about the topic, for I was afraid of taking poor grade. But I am not afraid of this lesson. I like research.*

Student 8: *This unit was different from the other units. In the other unit, we did not use different materials. We had our files on this unit. I made an effort for this file. I studied my products with my friends. And then I enjoyed our works.*

The Interviewer: *What do you think about your files?*

Student 1: *My file consisted of my work and my groups' work. So, my file is not enough for me. But sometimes I made a picture, I wrote an article and essay*

on various subjects. But I was not able to write a song. Some friends put a lot of material in their files. I made an effort to put different material in my files.

Student 2: *I do not like writing stories. But I liked it in this unit. I wrote some questions. I made everything beautifully.*

Student 3: *My file is enough for me. I liked art and music. In this unit, we used pictures and music for social studies. I will remember my files in the future.*

Student 4: *My file is enough for me. Everything on this unit is in my file. I made different materials. I enjoyed my file.*

Students enjoyed their work. They thought that their files were enough for themselves. Different materials were put into the files by the students. Materials were made by the groups.

The Interviewer: *What do you think about your learning and the use of different lessons in this process?*

The student: *We learned how to prepare and use different materials. We enjoyed it. I want to use this method. We will study more. But we are not tired. This method should be used in different lessons. We used it in mathematics lessons and the lesson was enjoyable.*

The students prepared group activities for mathematics. It was interesting. When students were asked why this method was used for mathematics, they said they had wanted to use it themselves. They constructed some activities such as dramatization. The teacher enjoyed them. The students thus changed their teacher's method for mathematics. They wanted to be active and productive.

The results of interviews with the students and the teacher show that the classroom environment was chiefly teacher-centred before the treatment. Therefore, group activities based on constructivist approach requiring all the students' active participation were very different for the students.

Conclusion and Implications

Group activities based on a constructivist approach have been studied in social studies course by comparing two groups. As an active learner, I observed that the students liked this approach. The group activities based on the constructivist approach have affected student's

attitudes and achievement. They have also enriched their learning strategies and taught each other. There were a great variety of teaching methods changing from group to group. Although the topic of the unit or the problem was given by the teacher; the contents of the topic were enriched by the students. Because they learned to learn from themselves, their interest and attitudes have improved towards social studies course. Content and skills should be made relevant to the learner, so there should be a link between the classroom and real life, even the learning process in classrooms is the part of real life. Although applying constructivist principles in teaching is not an easy task, there will be no problem if both, teachers and students are willing and show effort. Furthermore, since the students construct their knowledge themselves, sufficient time is required. However, the constructivist approach has affected the students positively in social studies. Social studies courses should also be given using the constructivist approach and activities for qualitative educational development in Turkey. In this process, curriculum developers study active methods such as the constructivist approach and multiple intelligences, and use technology on different kinds of course. The social studies course is very important for citizenship, responsibilities, democracy, freedom, cultural and the social properties of a country. This course is given the students as the basic course during the primary education. Each course must be changed and enriched year by year because globalism and technology affect all countries. Therefore, the learning processes used in social studies need new methods and technologies. Teaching in social studies does not rely on lecturing, memorization of facts, passive learning, and a textbook now. In group activities, the students share each other's different ideas and they construct new solutions for social problems. The findings contain some implications for constructing group activities to foster desired outcomes. Carefully planned group activities based on the constructivist approach can encourage students to take more responsibility for their learning.

Our teachers often have some prejudices. For example: "the constructivist approach is very difficult, much time is required, and theory and practices are not easily applied according to theory". They also believe

that the students were not capable of doing these group activities and materials product. But this prejudice should be challenged. Elementary school education rules in our country already characterise learners as productive, active, problem solving and decision-making people, a description very close to the constructivist approach. So, addiction to passive teaching methods should be changed by the teacher for social studies course. This study was carried out in an elementary school in Turkey. This study can throw a light on high quality learning education in this field in Turkey.

In conclusion, the findings of this study suggest some principles in social studies education: The knowledge should be interpreted and transferred instead of memorisation. The teacher should provide student centered active learning methods. Group interaction is very important in the learning process. Students should be involved in the assessment of themselves based on constructivism.

References

- Bevevino, M.M., Dengel J. & Adams, K. (1999). Constructivist theory in the classroom. *Clearing House*, 72 (5), 275-279.
- Brooks, J.G. & Brooks, M. G. (1993). *In search of understanding: The case for constructivist classrooms*. Alexandria, VA: Association for the Supervision and Curriculum Development.
- Chung, J. (1991). Collaborative learning strategies: The design of instructional environment for the emerging new school. *Educational Technology*, 31(6), 15-22.
- Doolittle, P.E. (1999). *Constructivism and online education*. Downloaded from the World Wide Web, <http://as1.ipfw.edu/99tohe/presentation/doolittle2.htm>
- Ediger, M. (1999). Who should select objectives? *Journal of Instructional Psychology*, 26 (3), 149-151.
- Ediger, M. (1999). Sequencing pupil learning. *Collage Student Journal*, 33 (3), 330-332.
- Gagnon, G. W. & Collay, M. (1996). *Constructivist learning design*. Downloaded from the World Wide Web, <http://www.Prainbpw.com/cld/cldp.html>
- Haas, M. E. & Laughlin M. A. (2001). A profile of elementary social studies teachers and their classrooms. *Social Education*, 65 (2), 122-126.
- Jadallah, E. (2000). Constructivist learning experiences for social studies education. *The Social Studies*, 91 (5), 225.
- Lindschilt, M. (1999). A vision educators can put into practice: Portraying the constructivist classroom as a cultural system. *School Science & Mathematics*, 99 (4), 189-197.

- Marsh, G. E. (2001). *Constructivism*. Downloaded from the World Wide Web, <http://www.bamaed.ua.edu/ail601/const.htm>
- Morris, R. V. (2001). Drama and authentic assessment in a social studies classroom. *The Social Studies*, 92 (1), 41-44.
- Olsen, D. G. (1998). *Alternative perspectives and research in constructivist theory: Research and practice*. Downloaded from the World Wide Web, <http://www.uwp.edu/academic/teacher.education/olsen/aeral.html>
- Pahl R. H. (2000). Social studies and the new physics. *The Social Studies*, 91 (1).
- Rice, M. L. & Wilson, E. K. (1999). How technology aids constructivism in the social studies classroom. *Social Studies*, 90 (1), 28-94.
- Roblyer, E. & Havriluk, E. (1997). *Integrating educational technology into teaching*. Columbus, Ohio: Prentice-hall.
- Sahin (Yanpar), T., Çakır, Ö. S. & Sahin, B. (2000). *The sixth grade students' cognitive learning levels, attitudes and academic self concept on social studies and science courses of primary education*. A project of The Ministry of Education in Turkey.
- Sahin (Yanpar), T. (1997). *The effects of equal teacher-student interaction on students learning level and academic self concept in the elementary social studies and mathematics*. Unpublished doctoral dissertation, Hacettepe University, Social Sciences Institute, Ankara, Turkey.
- SEDL (Southeast Educational Development Laboratory). (1994). Downloaded from the World Wide Web, <http://www.Sedl.org/scimath/compass/v01n03/>
- Senemoglu, N. (1989). *The predict of learning level of students' entry characteristics and teaching and learning process on mathematics course*. Unpublished Research Study, Hacettepe University, Ankara, Turkey.
- Windschitl, M. (1999). The challenges of sustaining a constructivist classroom culture. *Phi Delta Kappan*, June 1999, 751-755.
- Tani, M. (2000). Constructivism, instructional design and technology: Implications for transforming distance learning. *Educational Technology & Society*, 3 (2).

Geliş	15 Temmuz 2003
İnceleme	23 Eylül 2003
Düzeltime	12 Kasım 2004
Kabul	5 Ocak 2005