

Full Length Research Paper

The effect of cooperative learning on students' approach to general gymnastics course and academic achievements

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The subjects of the present study are comprised of 50 university students who were enrolled in two classes of the general gymnastics course in the first year of Physical Education and Athletics Teaching during the 2009 to 2010 academic years. The purpose of this research, is to determine the effect of two different (cooperative and traditional) teaching methods over students' academic achievements and their general approach to gymnastics class and also to weigh students' opinions about the cooperative learning method. Thus, the experiment and control groups were created; the experiment group was exposed to the cooperative learning method while the control group was exposed to the traditional teaching (teacher-centered) method. In the research, the following instruments were used to collect data: learning style inventory, gymnastics academic achievement test, gymnastics practice and evaluation form, gymnastics attitude scale and student opinion scale. The result of the statistical evaluation showed that, usage of cooperative learning during gymnastics classes has a stronger link with students' academic success, lesson attitude and practicing skills. In addition, the data gathered through student's opinion scale suggest that, students liked cooperative learning.

Key words: Cooperative learning, gymnastics class, academic achievement.

INTRODUCTION

One of the biggest targets of today's education system which aims at development and change is to teach students how to reach information by way of research, instead of giving it to them directly. A research-dominated, rather than a memorizing and giving concrete information, type of education system has to be founded, so that students can consider scientific idea as a life style in all lessons, they are encouraged to do work on all science, they foster approaches to their lessons in a positive way, and they are active in the purpose of improving their skills and knowledge. In this period, students who are in their childhood and puberty; an age of gaining information, ability, skills, attitude and habit, should be considered entirely with regard to their physical, mental and psychological aspects and education. They should be rearranged regarding that type of attention according to the conception of our era.

Otherwise plenty of educated, employed and rich but emotionally unsatisfied people will exist. These successful looking people may in actuality have unhappy and unstable life styles and thus cannot meet societal demands (Öztürk, 1998; Güneş, 2007); because of this, we see an increase in the importance of Physical Education (P.E.), as an activity plan encouraging personal, psychological, physical health to people. P.E is one of the means of education, possibly the most enjoyable and most effective when used properly to reach its objectives (Öztürk, 1998; Güneş, 2007). Thus, physical, mental and psychological education is supplementary to general education and P.E. Athletics adopts multiple development. Consider this, the teaching of gymnastics, which is one of the branches of P.E and described as a physical activity performed on athletic equipments or on the floor with the aim of making people

gain strength, power, coordination, body control and flexibility, is vital in all P.E. classes. However, it has been revealed by researches about field applications at schools that P.E lesson, which have much importance at the individual's development, has been far away from expected efficiency (Yaylaci, 1998; Sungur, 2000; Güray, 2002; Kangalgil and Dönmez, 2003; Karakuş, 2005; Tasmektepligil et al., 2006; Solmaz, 2006). So far, research shows us that, the most important reason why P.E has not been as efficient as expected in students' development, is the teacher-centered techniques (Dyson, 1997; Mirzeoğlu et al., 2004; Goudas and Magotsiou, 2009). Furthermore, students cannot do the required activities due to the facts that classes are crowded, and materials are insufficient and they spend most of their time waiting for feedback from instructors. For this reason, students feel bored, lose attention and they rarely experience the feelings of belonging and pride (Dunn and Wilson, 1991). Following this conclusion, researchers were faced with the fact that, different approaches should be used to teach P.E. So, in addition to using the teacher-centered techniques, Mosston and Ashworth's (2002) "Teaching Styles Range" technique, which shows a transition from teacher-centered to student-centered education, including command, practice, pair work, self-control, participation, direct invitation, problem solving, student's design and individual programmes, student-initiated activity, self-learning, have been in use. Besides that, recent techniques in use, created exclusively for P.E. instruction, were designed using student-centered and positive approaches, and peculiar to Metzler's definition of P.E they include the following: "Direct", "Individualized" "Sports Education" (Siedentop et al., 2004), "Peer", "Thinking" and "Tactics Game Approach" (Mitchell, Oslin and Griffin, 2003), "Individual and Social Responsibility" (Hellison, 2003) and "Cooperative Learning" (Grenier et al., 2005). Cooperative learning, which is one of these techniques, keeps catching the attention of teachers, principals and education-scientists (Slavin, 1990; Dyson and Grineski, 2001; Doymuş et al., 2007). Also, this theory is one of the approaches which is used in the educational and research practice field (Graham, 2005; Maloof and White, 2005; Johnson and Johnson, 1999).

Likewise, the usage of the cooperative learning method, which is more successful than other techniques, increases day by day (Slavin et al., 1995; Webb et al., 2002; Siegel, 2005; Şimşek, 2009). With its basic hallmarks, the cooperative learning method developed by Johnson and Johnson, in which each student is responsible for his own task at the stage of learning and is based upon positive mutual cooperation, cooperation skills, observing and methodology, (Nesbit, 1997) engages students in the teaching process actively. Also, it can be defined as a technique which helps students in and out of the class. This method fosters academic achievement and also gives self-esteem to pupils by

creating small working groups, in which students help each other, improve their communication, problem solving and critical thinking skills. (Bolling, 1994; Gardener and Korth, 1996; Bowen, 2000; Levine, 2001; McHale, 2002; Prince, 2004; Eilks, 2005; Lin, 2006; Gillies, 2006; Hennessy and Evans, 2006; Prichard et al., 2006). The basic aim of the cooperative learning group is to form a social relationship and improve learning techniques in all lessons, by using to a high degree, the effect of this social link (Sharan et al., 1980). Students help each other to enhance their academic success and practice their skills as a result. Therefore, the cooperative learning method is an effective teaching method in motivating low-skilled students and especially in helping them develop (Graham, 2001). In other words, students at all levels are able to learn with the cooperative learning method (Johnson and Johnson, 2000). In the cooperative learning environment, the success of the cooperative learning method depends on having aspects, such as positive cooperation, individual responsibility, face to face interaction, use of social skills and the self evaluation of the group (Johnson et al., 1998). Having a group goal, sharing ideas and materials, work sharing and group reward are the most important features of cooperative learning (Johnson et al., 1992). In cooperative learning, the instructor has the role of environment organizer, supporter and assistant in necessary situations (Gömlüksiz, 1997: 2-3). The Instructor determines the goals of the lesson, prepares the appropriate materials, explains the structure of cooperative goals, organizes student groups, reinforces students in necessary situations, and awards a prize to groups and active group members at the end of the activity.

In P.E, cooperation based teaching is also called "Pair Work" since students work as matched pairs. Each member of the group has to take care of one duty in P.E activities that are directed by cooperative learning. One member of the group performs the skill and makes decisions about it, while another one informs the other group members about the teacher's evaluation of the performance by watching him. During the process, the duties of the members change constantly. They all make decisions together. But during the evaluation, they only can vote for correction and giving motivating treats. The social relationship between pairs is one of the most important parts of the collaboration (Güneş, 2007). When members are selected, their weight, height and abilities have to be taken into consideration, so that groups will be heterogeneous in their own, while they are homogenous when compared to each other (treatment and control groups). If a group is too crowded, one member performs the act, another one contributes by assisting the one who performs the act, and one notes the results of the act. In the test of performance, performance criteria charts are used. While in communication with the observer and the performer, the instructor asks questions to the observer about the observation process and remembers him/her

for giving the correct feedbacks. As long as roles change during the group performance, students who are tired will get a chance to rest. Since students have a strong friendship when learning, it is possible for a positive social environment to develop in the classroom. Despite the fact that classrooms are crowded and lack materials; there is an increase in feedbacks given to students as they are attributed the role of a teacher, thanks to the nature of the programme. The first recognizable hallmarks are: patience, respect, tolerance, communication, responsibility and constructive criticism. Since students have an active role, it is possible to gain further mental development (Demirhan, 2002).

In light of this information, the primary purpose of this research is to determine the effect of traditional and cooperative learning methods on academic achievement and lesson approach of freshman P.E. and sports department university students. The secondary purpose is to weigh the opinions of students who were exposed to the cooperative learning. Intentionally, we tried to find an answer for these questions:

1. Is there a learning style difference between experimental and control groups who took part in this research?
2. Is there a significant difference between the academic pre-test and post-test marks of the experimental group students, who were exposed to the cooperative learning method and the control group students, who were exposed to the traditional teaching method in this gymnastics class?
3. What are the opinions of students who were exposed to the cooperative learning method?

METHODS

Model

In this research, we have the learning together technique used in implementing cooperative learning method and the traditional teaching method for determining the activity of general gymnastics classes. The teaching is widely used within the objective of the experimental research models "experiment-control group pretest-posttest".

Sample

The subjects of the present study is comprised of 50 university students who were enrolled in two classes of the general gymnastic course in the first year of the physical education and sports teaching during the 2009 to 2010 academic years. One of the classes was defined as the experimental group (n=25), in which the learning together technique was applied; the second was defined as the control group (n=25), in which the traditional teaching method was applied. Treatment groups were selected randomly.

Instruments

In the research, the following instruments were used for data collection: the Learning Style Inventory (LSI), the Gymnastics

Academic Achievement Test (GAAT), Gymnastics Practicing Evaluation Forms (GPEF), the Gymnastics Attitude Scale (GAS) and the Student Opinion Scale (SOS).

Learning style inventory (LSI)

The Learning Style Inventory, designed by Klob (1985), was used to examine the difference in learning styles between the experiment and control group students, since it is thought that, this difference may affect the learning process positively or negatively. Klob's teaching style inventory states which learning style is more effective individually. Also, 4 learning styles (concrete experience, reflective observation, abstract conceptualization, and active experimentation) are described in this inventory. To decide which learning style is best suited for each student, students' responses to questions from the 4 dimensions of the inventory was evaluated.

In Klob's learning style inventory, there are 12 items with 4 alternatives requesting students to describe the most effective learning style for them. According to the validity and reliability analyses done by Aksar and Akkoyunlu (1993), reliability coefficients of the inventory's 4 dimensions (Cronbach) were between 0.73 and 0.83. As a result, it was decided that the validity of the coefficients were satisfactory and Klob's inventory was appropriate for use in Turkey.

Gymnastics academic achievement test (GAAT)

To determine the academic achievement of students in the general gymnastics class, questions were prepared under 6 sub-topics. These 6 sub-topics are: (a) forward roll (b) backward roll (c) piked roll (d) armstand (e) cartwheel (f) reach. The gymnastic academic achievement test, which includes 20 multiple choice questions with 5 answer choices was prepared, to evaluate whether or not students gained theoretical information that they were expected to gain in the general gymnastic class. Questions prepared for this test were analyzed and corrected by 3 professors who conduct research about gymnastics classes for the P.E. and sports teaching department. Afterwards, in order to weigh the trustworthiness of the test, an experiment was conducted involving senior-year students who did not partake in the research but had taken the gymnastics class before and a 0.72 (Cronbach Alpha) was concluded as a valid coefficient.

Gymnastic practicing evaluation forms (GPEF)

Individual GPEF (Gymnastic Practicing Evaluation Forms) were prepared for individual actions to evaluate pre-lesson and post-lesson performance of the experiment and the control group students who took part in this research experiment. The action-specific forms are: 'Forward Roll Evaluation Form (FREF), Backward roll Evaluation Form (BREF), Piked Roll Evaluation Form (PREF), Armstand Evaluation Form (AEF), Cartwheel Evaluation Form (CEF) and Reaching Evaluation Form (REF)'. Each form has 8 evaluation parameters specifically related to that action. Visual recording equipment (camera and video) were used to evaluate students' aesthetic performances. The performances of each student were recorded and afterwards were graded by 3 gymnastics experts who were not involved in the research experiment. Very strong performances received a 5 point score, good performances received a 4 point score, average performances received a 3 point score, poor performances received a 2 point score, and unsuccessful performances received a 1 point score, thus overall scores that students received from each activity evaluation were counted. The maximum and minimum scores that students could receive overall on the GPEF were 240 and 48, respectively.

Gymnastic attitude scale (GAS)

The Gymnastic Attitude Scale which is designed to evaluate students' lesson approach was adapted from Demirhan's P.E and Sport Attitude Scale which has a Cronbach Alpha reliability coefficient of 0.93, a classroom correlation coefficient of 0.85, and a criterion validity correlation coefficient of 0.83. During the adaptation process, in order to evaluate students' lesson approach, P.E and sports attitude scale expressions were arranged by 3 university teachers who conduct research about gymnastics classes. Afterwards, an experiment was conducted with a group of students completely unrelated to this research experiment and the scale was found to be reliable and valid with a Cronbach Alpha trustworthiness of 0.84, a classroom correlation of 0.79, and a criterion validity correlation of 0.73.

This Likert type scale has 24 items, 12 of which are positive and 12 of which are negative. The minimum and maximum points that can be scored on this scale are 24 and 120, respectively. On this scale, a score of 5 points indicates "definitely agree", a score of 4 points indicates "agree", a score of 3 points indicates "indecisive", a score of 2 points indicates "disagree", and a score of 1 point indicates "completely disagree".

Student opinion scale (SOS)

The student group exposed to the cooperative learning method, evaluated it by using this scale. The purpose of using this scale was to determine the negative and positive opinions of students about the cooperative learning method in the gymnastics class. To designate deficiencies of the scale when in use, the opinions of researchers who conduct research about the cooperative learning method were taken into consideration. This scale consists of 3 open-ended questions. Answers given to the questions by students were recorded and their percentage values were counted. These questions are useful to determine the opinions of the students about the cooperative learning method. What can you tell about the useful aspects of this method? What can you tell about the harmful aspects of this method? Is there any change in your attitude to reach information in the application of this method? Findings of questions from this scale are provided in the "inventions and comments" part.

Procedure

This chapter includes the cooperative and the traditional teaching methods, theory and practicing process activities which are related to forward roll, backward roll, piked roll, armstand, cartwheel and reach. 3 h a week, a general gymnastics lesson was taught by the researcher using the related methods over a 6-week period. The LSI was used to determine the learning differences of students who took part in this research. Students also completed pre-tests which included the GAAT, in order to designate their academic achievement level when learning theoretical information. Pretests also included the GPEF to evaluate their performance of the actions, and the GAS to evaluate student approach. After giving information to groups about working methods, the process of performing began.

Experimental group (cooperative learning group) applications

After GAAT and GPEF evaluations, the 25-students of the group exposed to the cooperative learning method was divided into 5 heterogeneous groups with 5 students in each. Each group had the same number of male and female students and the same number of high, average, low performing students. After that, each group was asked to choose one group leader and a group name.

Students are directed to do group work after they are given basic information by the researcher. Later, the general gymnastics lesson topics, which are the front somersault, reverse somersault, dolphin somersault, hand-head perpendicular, circle and reaching, were divided evenly between students by the group leader. For the next step, each member of the group was asked to research, find, study and teach theoretical information about his or her topics to group members when he or she is in the class. During this period, feedback was taken from each group at the end of each class to evaluate students' learning levels and to observe their research and also to guide and help them if needed.

If there was any detection of wrong, insufficient or incomplete information being taught, groups were asked to fix them and be ready for the next lesson. In the first two weeks, for 6 h, theoretical information about all topics was taught in this way. After that, practice began for front somersault, reverse somersault, dolphin somersault, hand-head perpendicular, circle and reaching. Once a week, for 2 h over a 4 week period, each of these 6 actions was practiced. During this period, students were asked to watch demonstrations of the day's action on the internet, and competitions and television shows before they attend class. After students came to class, observation forms were handed out. A scale table and criterion points for the action were written on the forms which were handed out by the teacher. According to the observation forms, some duties were given to the students. In groups, one student was the performer and the others were observers. While the performer was performing the skill, observers evaluated their friend's performance according to the observation form criterion and praised the performer. Unsuccessful performers were motivated mentally and physically by group fellow and group members and kept trying over and over without demoralizing himself or herself. After that, roles between team members changed and each student performed his or her designated skill. All performances were recorded by the researcher and the researcher only intervened in the performance if needed, so that the experiment was complete.

Control group (traditional learning group) applications

In the class that was exposed to the traditional teaching technique, theoretical information about all topics was taught by the teacher for 6 h, in the first 2 weeks. The traditional learning method with daily plans developed by the researcher included the target behaviors that students were expected to gain. Necessary materials were prepared before class. In theoretical lessons, information about the day's topic was instructed and criterion points about the skill were directly explained by the researcher. At the end of the lesson, the topic of the day was summarized. Students were asked to study the next topic before coming to class and preparations were checked right before the lesson began. At the end of the theoretical lessons, the researcher took feedback and explained uncertain points again. After the teaching process was completed, the performance process began. By following the rules of the traditional teaching method, this process, as in the experiment group, was conducted by a researcher too, in 12 h of class time during 4 weeks. First, the researcher performed all the skills to show students and afterwards that he or she trained the students. For the next step, students performed the skills individually. Feedback and positive reinforcement praise were given by the researcher. After the actions were performed by the experiment and the control group, the teaching process was completed. All participants took the GAAT, GAS and GPEF tests once the performance process was complete. Also, to determine students' opinions of the cooperative learning method, a SOS test was given to them to complete.

FINDINGS AND COMMENTS

This part consists of findings and comments about these

Table 1. Chi-square analysis results of categories which belong to TSI.

Groups		Concrete experience	Reflective observation	Abstract conceptualization	Active experimentation	Total
Experiment	N	4	3	9	9	25
	%	16	12	36	36	100
Control	N	4	4	9	8	25
	%	16	16	36	32	100

$$\chi^2=0.202; sd=3; p=0.977$$

Table 2. Descriptive statistics for GAAT and GPEF.

Process	Tests	Groups	X	SS	N
Pre	GAAT	Experiment	32.80	14,367	25
		Control	34.80	12,457	25
	GPEF	Experiment	49.64	11,951	25
		Control	51.24	19,044	25
Post	GAAT	Experiment	78.60	10,658	25
		Control	69.40	8,332	25
	GPEF	Experiment	153.92	22,102	25
		Control	138.92	26,067	25

Maximum score: for GAAT 100; for GPEF 240.

Table 3. Wilks' Lambda results of the GAAT and GPEF pre-test and post-test grades received by one-way MANOVA.

Group	Wilks' Lambda	Value	F	Hypothesis df	Error df	p
		0.749	3.777	4.000	45.000	0.01

findings. In this study, we used Chi-Square analysis for data sets from the LSI test; descriptive statistics and one-way MANOVA for pre-test and post-test data from the GAAT and GPEF tests; and independent sample t-test for data sets from GAS's Likert type questions. Also, percentages of the student answers for the SOS's open-ended questions were used. In the research, frequencies taken from categories (concrete experience, reflective observation, abstract conceptualization, and active experimentation) in LSI were analyzed by using the Chi-Square analysis; results are shown in Table 1.

When we look at the table, we can see that 32 to 36% of the control and the experiment group students have abstract conceptualization and active experimentation learning styles and 16% of both groups have a concrete experience learning style. Besides this, while 12% of the experiment group students have a reflective observation learning style, this rate is 16% in the control group. When this table is reviewed, similarity between the experiment and the control group students' learning styles can be

seen easily. Also, there is no consistency between the experiment and the control groups students' answers about learning styles [$\chi^2(3)=0.202$; $p>0.05$]. In Table 2, the descriptive statistics for the GAAT and GPEF tests are given, and in Tables 3 and 4, the MANOVA results are shown. According to Table 2, the average GAAT and GPEF pre-test grades of the control group students are higher than the experiment group students' average. After all activities were completed, we can see that the average of the GAAT and GPEF post-test grades of the experiment group students, who were exposed to the cooperative learning method, is higher than control group students' average, who were exposed to the traditional learning method.

According to Table 3, there is a statistical difference between the GAAT and GPEF grades of the groups [Wilks Lambda= 0,749 and $F(4,45) = 3.777$, $p<0,05$]. When Table 4 was reviewed, it was seen that there is a large statistical difference between the GAAT and GPEF pre-test grades of the experiment and the control group

Table 4. One-way MANOVA results of GAAT and GPEF grades.

Dependent Var.	Test	Groups	Mean square	X	F	p
GAAT	Pre-test	Control	50.000	34.80	0.277	0.601
		Experimental		32.80		
	Post-test	Control	1058.000	69.40	11.563	0.01
		Experimental		78.60		
GPEF	Pre-test	Control	32.000	51.24	0.127	0.724
		Experimental		49.64		
	Post-test	Control	2812.500	138.92	4.814	0.033
		Experimental		153.92		

Table 5. Independent sample t-test results of GAS.

Tests	Groups	n	Xa	ss	t	p
Pre-test	Experiment	25	41.92	5.415	0.433	0.667
	Control	25	42.64	6.297		
Post-test	Experiment	25	69.32	4.090	3.005	0.004
	Control	25	61.84	11.753		

a Maximum score =120.

[for GAAT $F(1,50) = 0.277$, $p = 0.601$; for GPEF $F(1,50) = 0.127$, $p = 0.724$]. These results indicate that, the experiment and the control group students have the same level of knowledge of theoretical information and performance ability for the forward roll, backward roll, piked roll, armstand, cartwheel and reach, in the general gymnastics class. Also, according to the GAAT and GPEF post-test grades on the same table, there is a statistical difference between the experiment and the control group students [for GAAT $F(1,50) = 11.563$, $p = 0.01$; for GPEF $F(1,50) = 4.814$, $p = 0.033$]. According to these post-test results, when GAAT and GPEF grades are compared, it can be seen that the experiment group is more successful than the control group [for GAAT $X_{\text{experiment}}=78.60$, $X_{\text{Control}}=69.40$; for GPEF $X_{\text{experiment}}=153.92$, $X_{\text{Control}}=138.92$].

Shown in Table 5 is the independent sample t-test analysis results of the GAS pre-test and post-test grades, which students took in order for the researcher to assess their approaches to the general gymnastics class before and after they were exposed to either the cooperative or the traditional teaching method. When Table 5 is examined, we can see that there is no great difference between the average GAS grades for ($t=0.433$; $p= 0.667$) the experiment and the control group students. But, when the post-test average grades are examined, it is seen that there is a great statistical difference ($t= 3.005$; $p= 0.004$) between the experiment group who was exposed to the

cooperative learning method (learning together technique) and the control group which was exposed to the traditional learning method. Students were interviewed to determine their positive and negative opinions about the cooperative learning method; those interviews and the answers given by students were recorded. Afterwards, the answers were classified. The results are shown in Tables 6, 7 and 8.

Question 1: What are the advantages of this method for you? Answers of students to this question are given in Table 6. Conclusions that we can draw from Table 6 are that, most of the students think this method is really effective for teaching, makes students enjoy the topic, supplies cooperation between friends, keeps student active during the lesson, and removes the memorization element.

Question 2: What are the disadvantages of this method for you? Answers of students to this question are given in Table 7. When we look at Table 7, we can see that students think that this method takes a long time, makes groups jealous of each other, and successful group members were sometimes inconvenienced by less successful group members. Also, 6% of the students think that this method is not good for them at all.

Question 3: Is there any change in your approach to learn information? Answers of students for this question are given at Table 8. According to this table, most of the

Table 6. What are the advantages of this method for you?

Opinions	Percentage (%)
Increases both practical and theoretical achievement	76
This method increased my self-esteem	80
Relationships with my friends improved	79
I realized that this method removes memorization	75
Strengthens informational and research skills	90
To learn the same topic from different teachers is effective	82

Note: since students reported opinions for more than one question, the sum of the percentages is higher than 100%.

Table 7. What are the disadvantages of this method for you?

Opinions	Percentage (%)
Takes a long time	53
Others get jealous of successful groups	35
Less successful friends made me tired	10
I do not think that this method is good for me	6

Note: Since students reported opinions for more than one question, the sum of the percentages is higher than 100%.

Table 8. Is there any change in your approach to learn information?

Opinions	Percentage (%)
Thanks to this technique, I conducted more research at the library.	83
I started to use the internet frequently to receive information.	79
This method led me to conduct more research.	95
I learned how to be receptive to information.	75
I started to like conducting research.	84
There is no change in my approach to research.	7
I realized that conducting research is not boring or hard.	86

Note: Since students reported opinions for more than one question, the sum of the percentages is higher than 100%.

students think that they gained positive skills in how to be more receptive to information. Only 7% of them stated that there is not any change in how they now approach research. Also, according to the positive answers of students displayed in this table, we deduce that, not only did this method change students' opinions about how "information is hard to understand", but students also obtained the positive habits of using the internet, the library, and magazines with more frequency and comfort in order to conduct their research.

RESULTS AND SUGGESTIONS

According to the results of this research, which was

conducted to determine the learning styles of the P.E. and athletics department first-year students, most students' learning styles bore a resemblance to the abstract "resolving-internalizing" learning styles. The source of this evaluation can be that, students learn with the same programme and the same methods and techniques. Also, the results of this research are congruent with previous research results conducted by the P.E and athletics department (Koç, 2007; Denizoğlu, 2008).

As a result of the research which was conducted to determine the effect of the cooperative learning and the traditional learning methods on both theoretical and practical skill obtainment in the gymnastics class, we can say that the theoretical and practical skills of students who were exposed to the cooperative learning improved

greater than those of the students who were exposed to the traditional learning. The reason why the cooperative learning group's average grade was better than that of the control group is that, as a necessity of cooperative learning, learning depends on both the cooperation of students and their self-learning for which they are responsible, and as a low score of a member of the group reduces the whole groups' score, they also make an effort to teach their topics to other group members, while being active in the learning process. These research results have similarities with previous research results (Wilson, 1998; Ernst and Byra, 1998; Mirzeoğlu, 2000; Johnson and Ward, 2001; Huang, 2000; Cadopi et al., 2002; Barrett, 2005; Ward and Lee, 2005; Tuncel, 2006).

Reasons why the cooperative learning group was more successful than the control group could be that, the cooperative learning group students helped each other to learn better, motivated each other during action performances, and also worked as a group outside of the class meetings, in order to be able to better perform the actions. These conclusions bear a resemblance with previously completed research (Dyson, 2001; Dyson and Grineski, 2001, McHale, 2002; Güneş, 2007; Goudas and Magotsiou, 2009). All results show us that, the cooperative learning method is definitely more advantageous than the traditional learning method, so that students will have a positive lesson approach for a general gymnastics class. This was the very first time that these students were exposed to the cooperative learning method and as such provided them the ability to raise self-confidence and develop interpersonal relations, enjoy the teaching process as they also struggle for their friends' learning and the fact that, they do not wait like in the command method brings them more enjoyment and an increase in academic success. All of these benefits positively affect the student's attitude towards the lesson. As a result, students helped each other willingly. These facts should also be counted as reasons why the cooperative learning method is better than the traditional learning method. The outcome of the research has similarities with previous research outcomes which were conducted to prove a positive effect of the cooperative learning method on students' approach and sensory skills (Saritaş, 1997; Cai, 1997; Ernst and Byra, 1998; Dyson, 2001; 2002). This research does however differ with that of Mirzeoğlu's (2000) and Güneş's (2007); since neither could find any attitude point difference, between the experiment and the control group students.

According to the answers given by students about the advantages of the learning process, it appears that most of the students think that this method helps them to learn fast, makes the lesson enjoyable, builds cooperation between friends, keeps students active, diminishes the need to memorize information, and leads students to search and find information. The reasons of these positive opinions are as follows: the raise in students' self confidence, as a result of their success thanks to

cooperative learning; and the raise in friends' relations as they regard each other supplemental instead of rival.

The fact that cooperative learning enables the student to be active prevents them from evading responsibility, and prompts students to searching can also be regarded as reasons for their positive opinion, and students who teach other students tend to learn more efficiently. Student opinions in this research experiment are similar to student opinions from previous research experiments (Bourner et al., 2001; Mills, 2003; Ulmer and Grammer, 2005). These results are also similar to the study done by Panitz (1999) who researched about the advantages of the method. Panitz touched on 67 advantages of cooperative learning in his research, including these results.

It can be understood from findings that are achieved from students' opinions about the harms of cooperative learning that, they think cooperative learning takes too much time; more successful groups are envied and unsuccessful students tire out the others. The reason for their opinion can be that, the students work with the cooperative method the first time, thus they are not completely adapted to the method, they are not accustomed to such a method, and the time for research is not enough. Moreover, additional reasons for these opinions include the need for long-time performance for students to help each other, to feel obliged to cooperate, and to be patient and indulgent. It has been understood from students' opinions about the change in attaining information, and from the performing of the method that many students' opinions have been changed thanks to this method. Such opinions include "the difficulty for attaining information", and "staying away from the internet, library and scientific journals as they do not like researching". According to this result, it can be said that, the cooperative learning method teaches the students to attain necessary information to be successful and provides them researching skills by prompting them to multiple research methods.

Finally, it can be declared that usage of the cooperative learning method in the general gymnastics class has a positive effect on students' academic knowledge, performing skills and approach to the lesson and it is more effective than the traditional command method in terms of active attendance, cooperating, sharing and social attendance which scales their social skills up, improving interpersonal communication skills, increasing performance and having more academic success.

According to this result, the cooperative learning method is the most appropriate method, since it makes sports teaching more enjoyable and attractive and this study shows that, it is imperative to apply cooperative learning method in P.E lessons and to contribute to the spreading of this method. Through the proof of academic knowledge, performing skills, lesson approach and opinions of students, the following can be suggested:

1. Research experiments which are conducted to

determine the effect of the cooperative learning method can be conducted in different sports classes with different students and outcomes can be examined.

2. P.E. classes can be studied with the cooperative learning method and we can research in which units it is effective.

3. The cooperative learning method has to be planned well and necessary materials have to be prepared in advance.

4. For classes in which the cooperative learning method will be used for the very first time, the aims and requirements of the method should be taught to students.

5. Students who do not want to have any responsibility within the group should be identified and motivated to take on a responsibility.

6. While using the cooperative learning method to teach performance skills, students have to be informed about the group roles which they are going to take on.

7. While using the cooperative learning method to teach performance skills, time and the number of performances have to be designed appropriately. Also, enough time has to be given to students to allow them to improve their abilities and to provide feedback and constructive criticism to other group members.

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