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THE INFLUENCES of USING VARIOUS SPECIAL TEACHING METHODS in PHYSICAL EDUCATION CLASSES on STUDENT'S COGNITIVE AFFECTING and PSYCHOMOTOR BEHAVIOURS

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ABSTRACT

The purpose of this study was to investigate the effect of using various special teaching methods for the teaching basic volleyball techniques in physical education class on the cognitive, affective and psychomotor behaviors of students. This study was conducted using the empirical method. The study group consisted of a total of 137 students attending 7th grade in six different branches of the Türkiyem and Vakıfbank secondary schools affiliated with the Malatya Provincial Directorate of National Education. The data collection tools of this study included the overarm pass and bump pass performance test, developed by the researcher, an observation form and a volleyball attitude scale.With regards to the students' psychomotor behaviors, the study results indicated that the student group that followed the prctice method had a higher posttest overarm pass technique score (x=33.10) and a higher posttest bump pass technique score (x=32.89) than the other group. With regard to the students' cognitive behaviors, it was observed that the guided discovery method group had a higher posttest overarm pass performance score (x=7.65) and a higher posttest bump pass performance score (x=7.17) than the other groups. With regard to the students' affective behaviors, it was observed that the inclusion method group had the highest posttest volleyball attitude score (x=61.54).The study indicated that in the physical education classes the most effective method for psychomotor development was the practice method, while the most effective method for cognitive development were the guidance methods and for affective development was the inclusion method.[1]

Keywords: *Physical education class, special teaching methods, secondary school, volleyball*

*This article was derived from the master's thesis prepared at the Health Sciences Institute at Inonu University.

INTRODUCTION

While education is defined as the process of teaching and teaching, it is also defined as the change of a person's behavior pattern. (Parker, 2006; Tyler, 2013). In line with the needs of the countries, it develops educational programs consistent with the policy of the country and the curriculum of each course related to this situation.

Countries are constantly changing due to the social, economic, cultural structure of their communities and the interests of the powers that are superior to their political decisions. In some periods, these changes occurred in our country as well. Beginning program of the Republican period In 1924, different educational programs were adopted and implemented since the first school curriculum. Beginning program of the Republican period In 1924, different educational programs were adopted and implemented since the first school curriculum (Gülüm and Bilir, 2011).

Physical education which is a part of general education; children's physical development, movement-skill development, nerve muscle coordination development, personal and social harmony highly important (Bucher ve Koening, 1983). The main objective of the physical education course is to contribute to maximizing the physical, mental, social and emotional development of children. In order for the physical education course to fulfill this function, there must be a healthy and harmonious relationship between students, teachers and curriculum (Gülüm and Bilir, 2011).

Since 2006, the Ministry of National Education (MoNE) has gradually introduced new physical education curriculum (MoNE) 2007, 2009, 2013, 2018). Secondary School Physical Education and Sports Lesson Curriculum was last implemented in 2018. Taking into account the developmental needs and priorities of secondary school students, such as “Mobility Competence” with “Active and Healthy Life” designed on two main areas of learning and development.. The curriculum also includes competencies such as “self-management and supervision, socializing and effective thinking skills acquisition (MoNE, 2018).

It is particularly important that teachers have the necessary teaching skills and professional competencies in achieving the goal of the education system (Vural, 2004). Teaching skills are the ability to use “teaching methods (Cengiz and Serbes, 2014).

According to the results of many studies in Turkey and abroad that teachers mostly use teacher-centered methods such as “command” and “practice”, it is determined that they enough not use student-centered methods such as learner-initiated and self – teaching (Aktop and Karahan, 2012; Cengiz and Serbes, 2014; Cothran et.al., 2005; Demirhan et. al., 2008; Ertan and Çiçek, 2003; Ince and Hünük, 2010; Jaakkola and Watt, 2011; P. H. Kulinna and Cothran, 2003; Saraç and Muştu, 2013; Yıldız and Kangalgil, 2014). In a study conducted

with physical education teachers working in the USA, Korea, Australia, France, England and Canada, Cothran at all (2005) found that teachers strongly preferred teacher-centered methods. Similar findings have been reported in the United States (Kulinna and Cothran, 2003), Finland (Jaakkola and Watt, 2011) and in 5 different European countries (Hein et al., 2012).

Similar findings have been reported in the United States (Kulinna and Cothran, 2003), Finland (Jaakkola and Watt, 2011) and in 5 different European countries (Hein et. al, 2012). In our country according to the results of a limited number of research on the value perceptions of physical education and sports teacher candidates about methods and their preferred teaching methods, it is seen that teacher-centered methods are preferred most of the time (Cengiz and Serbes, 2014; Muştu and Saraç, 2013).

It is known that there are teaching models and methods used in physical education and sports. Among these, there are eight teaching models which are used as direct teaching (Metzler, 2001; Schug, Tarver and Westren, 2001), individualized teaching (Cregger and Metzler, 1992; Metzler, 2001; Pritchard, Penix, Colquitt and McCollum, 2012), cooperative learning (Grineski, 1996; Slavin, 2005; Watson, 1992), reciprocal teaching (Loke and Chow, 2007; Metzler, 2001), tactical game approach (Bunker and Thorpe 1982; Metzler 2001; Mitchell et. al. 2013), sports education (Araújo, Mesquita and Hastie, 2014; Siedentop, 1994; Vidoni and Ward, 2009; T. L. Wallhead and Ntoumanis, 2004; T. Wallhead ve O'sullivan, 2005), research-based teaching (Metzler, 2001; Mosston ve Ashworth, 2008; Siedentop, D. Tannehill, 1983), individual and social responsibility model (Hellison, 1973, 1995, 2010).

On the other hand, special teaching methods developed by Mosston and Ashworth (2001) in the field of physical education and sports are frequently used during the course.. These methods: command (a), practice (b), reciprocal (c), self-check (d), ınclusion (e), guided discovery (f), convergent discovery (g), divergent discovery (h), learner designed (ı), learner initiated (j) and self teach (k).

In the literature, the effects and effectiveness of these methods with different dimensions have been tried to be determined in the studies directed to these methods (Byra and Marks, 2016; Cai, 1998; Chang and Chen, 2005; Ernst and Byra, 1998; Kahila, 1986; P. Kulinna, McCaughtry, Martin, Cothran and Anderson, 2005; Silverman, 1991; Wilson, 1997). Some of the studies have been applied on students' psychomotor development area. In the studies, it was determined that there is no difference between the command and practice method in the teaching of hoop skill in gymnastics (Karakaya, Demirhan ve Dursun, 2001), between the command and guided discovery in golf teaching (Silverman, 1991), between the practice and reciprocal method in volleyball skill teaching (Moore, 1996; Wilson, 1997) and the command, practice and guided discovery method in volleyball skill teaching (Sunay, Gündüz and Dolaşır, 2004; Tosun, 2003).

When the studies on the cognitive development area of the students are examined, it is seen that the research is focused on the problem solving (convergent and divergent discovery) method. Based on the studies of

Kiremitçi (2012), Yurdakul ve Demirel (2011), it is concluded that problem solving method positively contributes to students' cognitive development processes.

There are also some studies on the affective development area of the students. (Cai, 1998) conducted an experimental study on the affective behaviors of college students in classes where physical education courses were taught by command, reciprocal study and inclusion method. He showed that the students liked the command, reciprocal and inclusion methods respectively.

When the literature is examined, it is seen that there is a need to compare teacher-centered and student-centered methods (command, practice, reciprocal, self-check, ınclusion and guided discovery) and to examine their effectiveness. In addition, it is wondered what kind of impact these methods have on different development areas (cognitive, affective, psychomotor). These teacher-student-centered methods which are the subject of research and examination in our country and in the world need to be explained in various aspects. In this study, bump and overarm pass techniques were used in 7th grade physical education classes.

METHOD

Research Design

In this research, an experimental model was adopted. (Karasar, 2005). In the research, “pretest-posttest empirical model was used. The model was conducted in central secondary schools of Malatya Provincial Directorate of National Education. The study implemented in “Türkiyem and Vakıfbank Secondary School” in all includes 7th grade students in 6 different branches. All students were included in the study without any selection in order not to disturb the natural environment in the classroom. In the study, since the existing classes in the schools were used, no special effort was made to match the students using the random selection method and the unpaired grouped model was used.

Study Group

Since six different physical education special teaching methods will be used, 6 (six) different branches were included in the study. It was determined by power analysis that at least how many students should be in the selection of these six branches (Power Analysis; alpha = 0.05, 1-beta (power) = 0.80 were taken). It was concluded that at least 20 subjects from each group should be taken in order for the average change in behavioral areas to be 20 points.

Table 1. Distribution of Students Participating in the Study by Gender and Class-Branches

School	Branch	Special Teaching Methods Groups	Female	Male	Total
Vakıfbank Secondary School	7-A	Command Method Group	12	10	22
Turkıyem Secondary School	7-C	Practice Method Group	11	9	20
Vakıfbank Secondary School	7-D	Reciprocal Method Group	14	14	28
Turkıyem Secondary School	7-E	Self-Check Method Group	10	13	23
Turkıyem Secondary School	7-G	Inclusion Method Group	11	10	21
Turkıyem Secondary School	7-H	Guided Discovery Method Group	16	7	23
Total			74	63	137

Preparation of Lesson Plans and Application Plan

Physical education classes of the classes with 2 lessons per week were conducted under the supervision of physical education teachers and with the permission of Malatya Provincial Directorate of National Education. The lesson plans prepared by the researcher were applied for 6 weeks in accordance with the tables given in Table 2 and 3. The lesson plans of the researcher are prepared for each class separately and designed according to the specific teaching method. Lesson plans have been checked by 3 instructor who are experts in their field, deficiencies have been completed and approval has been given afterwards.

Data Collection Tools

The aim of the study is to determine the changes in the cognitive, affective and psychomotor behaviors of the students as a result of teaching different special teaching methods in the 7th grade physical education lessons for 6 weeks. In order to achieve this aim, the cognitive, affective and psychomotor behaviors of the students were determined by the first and last test method. The measurement tools developed by the researcher were applied for each field of behavior. These measuring tools are listed below.

- Overarm and bump pass achievement test (Cognitive behavior area measurement tools): The achievement tests were applied to 104 students attending 7th grade in 4 different secondary schools in Malatya for validity and reliability study. Overarm and bump pass success tests were found to be of medium difficulty (0.58-0.52) and good distinguishing (0.42-0.48). As a result, overarm and bump pass tests are of medium difficulty for 7th grade students and have a good distinguishing feature (Atılgan, Kan and Doğan, 2007; Çepni et. al., 2008).
- Overarm and bump pass structured observation forms (Psychomotor behavior area measurement tool): Correlation scores between three different observers and the total scores made by the overarm pass to the same students were over 0.70 and the results ($p < 0.01$) were significant. Correlation scores between three different observers and the total scores made by the same students with the bump pass observation form were over 0.70 and the results were significant ($p < 0.01$). According to the correlation, the correlation scores between the overarm and bump pass observation form and the total scores of 3 different observers to the same students were over 0.70 and the results were

significant (p <0.01). Therefore, "overarm and bump pass observation forms is a reliable form (H. Yurdakul, 2005).

- Volleyball attitude scale (Affective behavior area measurement tool): 30 secondary school students have written a composition about volleyball. Considering these compositions and references in the literature (Tavşancıl, 2002; Tezbaşaran, 1997) a pool of substances was created. The questions in the item pool were arranged as affective, cognitive and behavioral and a 60-item scale was drafted. The scale of 60 items was shown to 8 faculty members who were experts in the field and arrangements were made in line with the views of the instructors. With the latest regulations, the 36-item scale, 10 negative and 26 positive, took the final form as a Likert-type scale. As a result of the scale draft application, a total of 528 students (277 female and 251 male) who filled in the scale form completely and without error were uploaded to the computer program. First, negative questions were reversed and recorded in the statistics program. Explanatory factor analysis (EFA) and confirmatory factor analysis (CFA) methods were used to test the recorded data. Kaiser-Meyer-Olkin (KMO) value of 0.96 and Bartlett Test results were found to be significant (p <0,01) and it was found that the data were suitable for AFA. In the analysis, items were collected in a single factor and 18 items with a factor load value of 0.50 and above were selected. The factor load values of the selected items ranged between 0.54 and 0.74. The variance explained by the single factor was found to be 44.97%. When the item total correlation is examined, it is seen that the items have correlation coefficients between 0.48 and 0.69. As a result of the analysis, items 21 and 31, which have the effect of lowering the indices of fit, were removed as a result of the analyzes. Lastly 16 items remained in the scale The scale, which consists of 16 items, is a validated scale as a result of AFA and DFA. In addition, the internal consistency coefficient (Cronbach's Alpha) of the scale was 0.92; building reliability coefficient 0.92; It is a reliable scale with the described variance 0.43. The lowest score on the scale is 16 and the highest score is 80.

Data Analysis

The raw data obtained from the research were loaded into the statistical package program. The dependent variables were tested by Kolmogorov-Smirnov Test. It was found that the data did not show normal distribution. In this case, Kruskal Wallis Test, one of the nonparametric tests, was used for multiple comparisons of independent groups and if the test result is significant, Bonferroni corrected Mann-Whitney U Test was applied. Comparisons between dependent binary groups were made by Wilcoxon Test. Significance level was $\alpha = 0,05$.

Warrants

Plagiarism was found in 17 percent of the study after the application. Research Ethics Committee Approval required for the study was obtained from the ethics committee of Inonu University. Furthermore, National education directorate warrant required for the research was obtained from Malatya Provincial Directorate of National Education.

FINDINGS (RESULTS)

B **Findings about Overarm and Bump Pass Observation (Psychomotor Development Area) Forms**

Table 2. First and Last Test Results of Overarm Pass Observation form by Methods

Groups	Tests	N	X	Sd	Last-First Test Difference	Wilcoxon Test	p
Command Method Group	First test	21	24,80	4,74	2,00	-3,315	0,001*
	Last test	21	26,80	5,02			
Practice Method Group	First test	28	23,92	6,13	9,17	-4,352	0,000*
	Last test	28	33,10	6,57			
Reciprocal Method Group	First test	23	25,30	6,48	6,95	-4,112	0,00*
	Last test	23	32,26	6,66			
Self-Check Method Group	First test	23	23,52	7,43	3,47	-3030	0,002*
	Last test	23	27,00	6,73			
Inclusion Method Group	First test	22	24,27	3,11	4,27	-4,024	0,000*
	Last test	22	28,54	4,19			
Guided Discovery Method Group	First test	20	23,90	3,65	3,45	-3,595	0,000*
	Last test	20	27,35	3,40			

*p<0,05

Table 3. First and Last Test Results of Bump Pass Observation form by Methods

Groups	Tests	N	X	Sd	Last-First Test Difference	Wilcoxon Test	p
Command Method Group	First test	21	24,23	2,75	0,57	-2,389	0,017*
	Last test	21	24,80	3,04			
Practice Method Group	First test	28	24,39	5,44	8,50	-4,548	0,000*
	Last test	28	32,89	8,15			
Reciprocal Method Group	First test	23	22,34	3,21	6,56	-4,202	0,000*
	Last test	23	28,91	4,54			
Self-Check Method Group	First test	23	25,21	5,23	4,56	-2,701	0,007*
	Last test	23	29,78	8,03			
Inclusion Method Group	First test	22	25,54	4,67	3,90	-3,912	0,000*
	Last test	22	29,45	4,83			
Guided Discovery Method Group	First test	20	23,20	4,96	6,00	-3,519	0,000*
	Last test	20	29,20	5,40			

*p<0,05

As shown in Tables 1 and 2, the differences between the last-first test scores according to the results of overarm-bump pass observation form of special teaching method groups were statistically significant. (p<0,05). As seen in Table 1, there is a significant difference between the post-test scores of the special teaching groups obtained from the overarm pass observation form. (p<0,05). Bonferroni corrected Mann-Whitney U test was used to determine which binary groups caused this difference. As 15 different binary comparisons will be made, it is determined as (0,05/15=0,0033) α=0,0033 the new alpha coefficient. As a result of binary comparison, between the command and practice method groups (MWU = 134,500 p = 0.001), command and reciprocal method groups (MWU = 116,500 p = 0,003) and the practice and guided discovery method groups (MWU = 135,500 p = 0.002) significant difference was found (p<0,0033).

İn Table 2, it is seen that there is a significant difference between the post-test scores taken by the special teaching groups obtained from the bump pass observation form (p<0,05). Bonferroni corrected Mann-Whitney U test was used to determine which binary groups caused this difference. As a result of binary comparison, between instruction and practice method groups (MWU = 109,500 p = 0,000), command and binary working method groups (MWU = 101,000 p = 0.001), command and self-assessment groups (MWU = 135,500 p = 0.003), command and inclusion method groups (MWU = 89,500 p = 0.001) significant difference was found (p <0,0033).

Findings about Overarm and Bump Pass Achievement Test (Cognitive Development Area) Forms

Table 4. First and Last Test Results of Overarm Pass Achievement Tests by Methods

Groups	Tests	N	X	Sd	Last-First Test Difference	Wilcoxon Test	p
Command Method Group	First test	21	5,95	1,35	0,42	-2,496	0,013*
	Last test	21	6,38	1,28			
Practice Method Group	First test	28	6,14	1,55	0,39	-1,833	0,067*
	Last test	28	6,53	1,68			
Reciprocal Method Group	First test	23	6,47	1,64	1,17	-3,502	0,000*
	Last test	23	7,65	1,112			
Self-Check Method Group	First test	23	5,91	1,90	1,26	-3,084	0,002*
	Last test	23	7,17	0,98			
Inclusion Method Group	First test	22	6,72	1,75	0,31	-2,121	0,034*
	Last test	22	7,04	1,36			
Guided Discovery Method Group	First test	20	5,45	1,19	1,75	-3,775	0,000*
	Last test	20	7,20	1,00			

p<0,05

Table 5. First and Last Test Results of Bump Pass Achievement Tests by Methods

Groups	Tests	N	X	Sd	Last-First Test Difference	Wilcoxon Test	p
Command Method Group	First test	21	5,52	1,12	0,43	-2,066	0,039*
	Last test	21	5,95	1,02			
Practice Method Group	First test	28	5,35	1,52	0,67	-2,173	0,030*
	Last test	28	6,03	1,26			
Reciprocal Method Group	First test	23	5,95	1,22	1,21	-3,938	0,000*
	Last test	23	7,17	1,46			
Self-Check Method Group	First test	23	4,60	2,33	1,52	-3,469	0,001*
	Last test	23	6,13	2,02			
Inclusion Method Group	First test	22	5,81	1,89	0,90	-2,358	0,018*
	Last test	22	6,72	1,35			
Guided Discovery Method Group	First test	20	5,20	1,93	1,65	-3,470	0,001*
	Last test	20	6,85	1,49			

p<0,05

As seen in Tables 3 and 4, the differences between the last-first test scores according to the results of overarm-bump pass achievement test of special teaching method groups were statistically significant (p<0,05).

When Table 3 is examined, it is seen that there is a significant difference between the post-test scores taken by the overarm pass achievement test of the special teaching groups (p <0.05). Bonferroni corrected Mann-Whitney U test was used to determine which binary groups caused this difference. As a result of the binary comparison, it was found that there was a significant difference between command and reciprocal method groups (MWU = 111,500 p = 0,002); (p <0,0033).

When Table 4 is examined, it is seen that there is a significant difference between the post-test scores taken by the bump pass achievement test of the special teaching groups (p <0.05). Bonferroni corrected Mann-Whitney U test was used to determine which binary groups caused this difference. As a result of binary comparison, it was found that there was a significant difference between command and reciprocal method groups (MWU = 116,500 p = 0,003); (p <0,0033).

Finding about Volleyball Attitude (Affective Development Area) Scale

Table 6. First and Last Test Results of Volleyball Attitude by Methods

Groups	Tests	N	X	Sd	Last-first Test Difference	Wilcoxon Test	p
Command Method Group	First test	21	49,95	16,29	-5,95	-2,175	0,030*
	Last test	21	44,00	12,36			
Practice Method Group	First test	28	54,42	11,59	6,89	-3,993	0,000*
	Last test	28	61,32	14,36			
Reciprocal Method Group	First test	23	51,91	12,42	7,56	-4,202	0,000*
	Last test	23	59,47	12,42			
Self-Check Method Group	First test	23	54,65	10,10	0,95	-0,912	0,362
	Last test	23	55,60	9,49			
Inclusion Method Group	First test	22	53,50	12,07	8,04	-4,039	0,000*
	Last test	22	61,54	11,89			
Guided Discovery Method Group	First test	20	51,45	14,83	-1,40	-1,233	0,217
	Last test	20	50,05	13,72			
			p <0,05				

As seen in Tables 5, the differences between the last-first test scores according to the results of overarm-bump pass volleyball attitude scale of special teaching method groups were statistically significant (p<0,05).
However, the difference between the scores according to the first test-post test results of the guided discovery group was not statistically significant (p <0.05). As seen in Table 5, the mean scores of the first test scores of the guided discovery method group students were found to be x = 51.45 and post-test mean x = 50.05.This difference between the first and last test scores of the students according to the volleyball attitude scale was not statistically significant (p> 0.05).

In Table 5, it is seen that there is a significant difference between the post-test scores of the special teaching groups on the volleyball attitude scale (p <0.05). Bonferroni corrected Mann-Whitney U test was used to determine which binary groups caused this difference. As a result of binary comparison, between command and practice method groups (MWU = 110,500 p = 0,000), command and reciprocal method groups (MWU = 90,000 p = 0,000), command and self-assessment groups (MWU = 109,000 p = 0.002) command and inclusion method groups (MWU) = 72,000 p = 0,000) was found to be significant difference (p <0.0033).

CONCLUSION and DISCUSSION

The Effect of Physical Education Special Teaching Methods on Psychomotor Skills of Students (Overarm and Bump Pass Techniques)

As seen in Table 1 and 2, the differences between the scores of the command, practice, reciprocal, self-check, inclusion, guided discovery method groups post-first test according to the overarm-bump pass observation form score results are statistically significant ($p<0,05$). In Table 1 and 2, when the total differences between students' scores obtained from the post-test test forms of finger and cuff pas skill observation forms were examined; it was found that the method that contributed the most to the development of psychomotor skills was alıştırma and respectively reciprocal, guided discovery, inclusion, self-check method, and the method that contributed the least was the command method.

Many studies tend to support the results of our research. Goldberger and Gerney (1986) found that the best teaching method is the practice method as a result of their study. In the same study, it was found that the reciprocal study method was more effective than the inclusion method in learning psychomotor skills Silverman (1991). Altınkök (2014) examined the effect of psychomotor and problem-solving skills of children aged 9-10 years based on the reciprocal study method, and revealed that the planned-long-term reciprocal teaching method could significantly improve the basic motor skills of children. Karavelioğlu (2012) examined the effect of reciprocal method and command method on football-specific skill learning. He concluded that the traditional method of dribbling of athletes was more effective than the method of shooting and bouncing. He concluded that the traditional method of dribbling of athletes was more effective than the method of shooting and ball bounce. Huang (2000) examined the effects of reciprocal work and demonstration methods on motor skill performance in video-based lessons and found that student performance in reciprocal was more impressive than individual employees. Parker (1997) examined the effectiveness of learning by reciprocal methods in institutions that train physical education teachers and concluded that this method had a positive effect on students. Johnson and Ward (2001) examined the effect of reciprocal method on the ability to attack correctly. They noted that there was a decrease in the total number of trials of the students compared to the pre-application and an increase in the number of correct trials and percentages. Barrett (2005) examined the effect of reciprocal study on handball skills on academic learning time, percentage of correct trials, total and number of correct trials. While no change was observed in the total number of trials, the percentage of correct trials increased statistically in favor of the students in the reciprocal study group.

Unlike our research results, there are some studies showing that special teaching methods do not make a difference in psychomotor skill teaching or have the same effect. Wilson (1997) compared practicee and reciprocal methods in psychomotor skill learning and found no significant difference between the two methods. Sunay et al. used command and guided discovery methods in their research applied to physical education and sports teacher candidates. There was no significant difference between these methods used in

volleyball basic technical education. Moore (1996) compared practice and reciprocal methods, found that the methods could not establish superiority to each other. Karakaya et all (2001) examined the effect of command and practice methods on gain score to teaching hoop skill in gymnastics. They did not find a statistically significant difference between the gain score of the groups that were taught by command and practice methods. Salter and Graham (1985) found no difference between command and guided discovery methods in golf teaching. Güneş and Çoknaz (2010) examined the effect of reciprocal method in gymnastics unit on students' gain score compared to traditional (command, practice) methods. They found no significant difference between the two methods on psychomotor development. Pehlivan and Alkan (2002) examined the effect of the reciprocal teaching method on the gain score of students' affective traits and psychomotor fields.

As a result of the data analysis conducted in the form of pre-post test, no statistically significant difference was found between the mean scores of post-test scores of the experimental and control groups. These results do not match the results of our research. It is thought that the sport branches chosen in psychomotor skill education are different, the measurement tools are not the same and the sampling of students from different age groups may cause this difference. It is expected that the practice method is one of the methods that contribute the most to the development of psychomotor skills. The continuation of the skill to be taught with different working groups and repetitions will provide development due to the nature and structure of psychomotor development. In contrast to the practice method, in the command method, students repeat psychomotor skills more limited in teacher control in larger study groups (Mosston ve Ashworth, 2001). Therefore, it can be said that the command method develops less psychomotor skills compared to other methods.

The Effect of Physical Education Special Teaching Methods on Cognitive Behavior of Students (Overarm and Bump Achievement Test)

As seen in Table 3 and 4, the differences between the scores of the command, practice, reciprocal, self-check, inclusion, guided discovery method groups post-first test according to the overarm-bump pass achievement test results are statistically significant ($p<0,05$). İt is seen that there is a significant difference between the students' posttest scores obtained from overarm and bump pass achievement test according to special teaching method groups ($p <0.05$).

It is seen that this difference is mainly caused by the score range between the command and reciprocal study method groups.

Mosston and Ashworth (2001) stated that the command method is not preferred for cognitive intensity activities such as comparison, classification, problem solving, hypothesis, and invention, while the contribution of this method to development is low. This situation revealed the fact that the command method cannot increase cognitive behavior skills to higher levels. When the difference scores of finger and cuff pass achievement test were examined, it was found that the most effective method that contributed positively to

the field of cognitive development was guided discovery method. The guided discovery has been the method that contributes the most to the field of cognitive development Then self-check, reciprocal, inclusion, practice method is followed. it is determined that the least contributing method is the command method. (Chang and Chen, 2005) examined the effect of the reciprocal method on cognitive learning in primary school students and found the post-test results significantly higher in favor of the reciprocal. This result is similar to our research results. Positive values such as keeping the sense of curiosity alive, developing the desire for problem solving, providing reasoning and discovery environment, indicate that the guided discovery method affects students' cognitive development area positively. In contrast to this situation, the teacher-centered lesson is conducted in the teaching-learning process in the command method. The immediate and desired behavior of the student to the stimulus limits the cognitive development. Moreover, the one-way learning activity between teacher and student is the result of this situation. (Mosston and Ashworth, 2001). Thus, it is expected that the method in which cognitive learning is least realized is the command method.

The Effects of Physical Education Special Teaching Methods on Students' Affective Behavior Area (Volleyball Attitude Scale)

As seen in Table 3 and 4, the differences between the scores of the command, practice, reciprocal, self-check, inclusion, guided discovery method groups post-first test according to voleyball attitude scale results are statistically significant ($p<0,05$). However, the difference between the scores according to the first test-post test results of the guided discovery method group was not statistically significant ($p <0.05$).

Overarm and bump pass technique was taught to 7th grade students for four weeks by using command, practice, reciprocal, self-check, inclusion and guided discovery methods. In this process, it was determined how the attitudes of students towards volleyball branch changed. As seen in Table 5, it is seen that there is a significant difference between the post-test scores of the students from the volleyball attitude scale according to the special teaching method groups ($p <0.05$). It is seen that this difference arises from the score ranges between command and practice, command and reciprocal, command and self-check, command and inclusion method groups. In the command method, the decision-maker in the lesson is the teacher and the students who have to follow the decisions directly. Even if the teacher is colorful and pleasurable in terms of personality, excessive use of the command method can negatively affect the student's attitude towards the lesson and the subject. In this context, the decline in the positive attitudes of the students using the command method subject to our research is significant. Therefore the decrease in the positive attitudes of the students who are subject to our research and implemented the command method on volleyball is significant.

In Table 5, the method that increases the students' positive attitudes most in 4 weeks is inclusion. Then comes the method of reciprocal, practice and self-check. It is seen that students' positive attitude scores related to volleyball decreased in guided discovery and command method groups. Cai (1998) used command, inclusion and reciprocal methods in karate and squash teaching. It was observed that the group learning karate by the

command method was more satisfied than the other groups. This situation is similar to our research results. Chang and Chen (2005) examined the effect of reciprocal method on affective learning in primary school students. They did not record a significant difference in the affective field scores of the reciprocal and control groups. This may depend on the duration of the activity, the readiness of the students, the selected exercises and the diversity of the measurement tools.

In the inclusion method, each student determines the level of difficulty and the diversity of the participation. In addition, students demonstrate their skills freely and using initiative. In this respect, it is expected that students' volleyball attitude scale scores will be high. In the research, command, practice, reciprocal, self-check, inclusion and guided discovery methods were applied. Cognitive and psychomotor development areas of students working with overarm and bump pass techniques were positively affected. It was found that the affective development of the group in which the method of command and guided discovery was applied was negatively affected.

RECOMMENDATIONS

- If psychomotor skill development is to be taken into consideration in physical education lesson, practice method and reciprocal method should be preferred.
- In physical education lesson, if the technical and tactical knowledge level of the students will be increased in the forefront, it is necessary to use self-check methods and guided discovery method from special teaching methods.
- In physical education lesson, if the students' attitudes, perceptions or values related to the sports branches are primarily targeted, inclusion method and reciprocal methods should be used.

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