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Impact of Sport-related Games on High School Students' Communication Skills

Authors' contribution:
A) conception and design of the study
B) acquisition of data
C) analysis and interpretation of data
D) manuscript preparation
E) obtaining funding

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ABSTRACT

In Recent studies underline the fact that adolescents are, at many times, likely to experience serious communication problems with their families and close environments. So, the aim of this study is to determine positive impact of sport-related games, which are performed as extracurricular activities, on high school students' communication skills. In the study, pre, & post-tests was utilized with the control group's experimental patterns. Two participant groups were made up of totally 30 high school students, 15 of whom would be in the experimental group and the rest of whom were in the control group. The former group was given sport- related 20 applications for 10 weeks during which the latter group would not deal with any extracurricular activities. Meanwhile, before and after the applications, data was collected by means of "The Communication Skills Scale" which was developed by Korkut (1996) and then analysed through "two-way ANCOVA" test techniques. Results clarify that the considerable gap in scores of the students' pre, & post-tests perception concerning their communication skills are clearly attributed to sport-related games and it was also established that scores of the students in the experimental group were meaningfully higher than ones in the control group. However, perception of communication skills in the both groups was not significantly different by sex of the students. Moreover, the common effect of sex and participation on sport- related games was not found statistically meaningful in terms of communication skills. Consequently, it could be said that sport-related games impact positively communication skills.

KEYWORDS

extracurricular activities, communication skills, sport-related games, high school students

Introduction

Communication has traditionally been considered one of the most crucial factors allowing individual to adapt himself to his environment because his social point of view and satisfaction with him in his social environment could mostly be directly related to his communication skills. Moreover, it is undeniable that effective and proper communication is the major step almost every relationship in all societies (Greennockle, 2010). On the contrary, miscommunication and incapability to express himself properly or being

misunderstood will invariably lead to loneliness or unhappiness as well as considerable emotional and psychological problems (Jones et al., 1981; Korkut, 2004, p. 121). In this context, it has been underlined that an educated individual is supposed to have academic knowledge along with awareness of with whom, what, how and why to communicate in interpersonal communication. So, efficient relationship level of a person with others is largely linked to his communication skills, as well (Devito, 2004, p. 2).

Research also indicates that communication patterns of the individual are strongly related to behaviour problems with him such as aggression. Thus, according to these studies, in the event that children and couples could not build up effective and proper communication, their aggression level will essentially rise over time (Dumas et al., 1994; Gordis et al., 2005). In addition, it is often stated that individuals who tend to communicate inadequately and negatively are more likely to experience family conflicts and correspondingly as well and even suffer from eating disorders mostly caused by behaviour disorder (Broucke et al., 1994; Felker, & Stivers, 1994; Kim, & Yang, 2008). Judging from these studies, it could be concluded that family conflict also plays an active role in such health risks as unbalanced diet, malnutrition or alcohol consumption in addition to smoking and inadequate sleep (Kalavana et al., 2011). In addition, it is also seen that depressed adolescents often exhibit lower levels of communication skills (O'Shea et al., 2014). In this respect, considering negative state mostly brought about by lack of effective communication, it also seems true to deduce that certain factors contributing to improve communication skills in children and youth should be more frequently emphasized.

Concerning interpersonal communication in adolescence, it seems more critical to them because adolescents assume serious struggle is a good opportunity by which they will define themselves more remarkably in such matters as who they/are and what they/ expect from life (Brooks, & Emmert, 1976, p. 5). However, adolescence should also be seen as a process during which the individual excessively endeavour to be successful in interpersonal relationships (Giffin, & Patton, 1997; cited: Erozkan, 2009). Parallel to this point of view, adolescents often experiences various communication problems with their families and close environment due to their periodic characteristics (Basut, 2006; Razi et al., 2009). Therefore, it is considered that various leisure activities should be planned consistent with requirement of the adolescent and which is why, regular attendance of them to these activities is considered crucial. Because it would be possible to establish pre-determined changes in behaviours, attitude and expectations of the adolescent should be taken into consideration in terms of correct and efficient planning (Tekin et al., 2009).

Meanwhile, extracurricular leisure activities, as in schools, are traditionally considered remarkable credibility of the Ministry of Education or the Ministry of Sport in Europe (Marques et al., 2014). Parallel to this situation, Turkish Educational System is also largely driven by laws concerning proper evaluation of leisure time in children and young people because extracurricular activities play a vital role in children and adolescents in terms of academic performance, problem behaviour and advancement in social skills in addition to dropout, delinquency, cognitive performance, alcohol and drug use. In this context, studies particularly, refer to participating in such well-established activities which are associated with enhanced academic school performance (Fredricks, & Eccles, 2006; Fredricks, & Eccles, 2010; Fredricks, 2012; Knifsend, & Graham, 2012; Metsapelto, & Pulkkinen, 2012, Jones et al., 2014), lesser problematic behaviours (Simoncini, & Caltabiono, 2012), relatively more remarkable social skills (Howie et al., 2010) and various socioemotional outcomes (Metsapelto, & Pulkkinen, 2012; Shiah, 2012; Guèvremont, 2014), developmental assets and school engagement (Forneris et al., 2015), high stress tolerance (Bland et al., 2014), lower dropout rates (Mahoney, & Cairns, 1997; Mahoney, 2000), more considerable cognitive performance (Cornejoet al., 2014) less school-related delinquencies (Himelfarb, 2014) and lowered alcohol and drug use (Fredricks, & Eccles, 2010; Guèvremont, 2014).

On the other hand, it seems inevitable that extracurricular activities should comprise various activities that are external to the main curriculum (Shulruf, 2010). More, these activities are supposed to refer to well-planned and regular activities that are readily available to conduct under the supervision of the instructor out of normal classroom time and to focus on skill-building. Also, it should be noted that voluntariness would generally be the key factor to such extracurricular activities (Mahoney et al., 2005, p. 4) if the planning of

these extracurricular and sport activities are to be consistent with the actual environment and individual skills, as well as his interests and requirements, which is why proper application of these activities are supposed to be consider equal opportunity for each individual, so that all students could evaluate their leisure time more efficiently and effectively and mostly that's why imposing this habit essentially constitutes the essence of common point in extracurricular and sport activities. Nevertheless, it is still partly regarded that extracurricular sport activities are merely a period in which school teams prepare competitions. In fact, this is not the case since this period does not exactly meet the aims of such extracurricular sport activities as well as the expectations of the students participating in these activities. In fact, competition is not a concept focusing merely on process itself but rather it centers on result, the student is essentially exposed to a selection process in terms of his/ her sportive skills for school teams. Thus, while students who are already proficient in terms of their sportive skills could attend various extracurricular sport activities, inadequate ones or students whose interest and needs are not in this way could not take part in these activities. In this respect, studies also underline the fact that a great many of students could not attend extracurricular activities (Pehlivan, 2005; Cohen et al., 2007; Sarı, 2012). In this case, while the students attending extracurricular sport activities are taking the advantage of psychological, physical, and social benefits of these activities, the ones not attending don't. However, sport-related game activities rebuilt or modified parallel to requirements as well as problems in development period of students are expected to allow a considerable opportunity for every student to attend as it should be seen as a must to enhance their communication skills.

In this process, sport-related games are made up in the form of varied sport branches not only by means of such key elements as coaching style, how you score/ win, branch, numbers, games and rules, required equipment, attendance and time, prior to and/ or during applications to maximise participations, but also by providing an enjoyable, comfortable and interesting atmosphere regardless of students' abilities or background (ASC, 2007). By means of this, during application period of working group, students who are seen as incompetent or inadequate in their social environment or who are in need of interest could be provided regular attendance to these social activities by various sport branches which are programmed coherent with needs and actual expectations.

Objectives

The aim of this study is to examine considerable impacts of sport-related games, which are performed as extracurricular activities, on high school students' communication skills. And to determine whether communication skills of those students who participate in sport related game applications vary by sex.

Method

Research Design and Participants

In the study, pre, & post-tests were utilized with the control group's experimental patterns after the participant in both groups were randomly chosen among voluntary students within the sampling frame. 11^{th} and 12^{th} grade students did not want to participate in the study because they were preparing for the university entrance exams. Initially, 28 students were determined as the experimental group and the other 28 students as the control group. However, 4 students taking part in the experimental applications in less than 9 weeks have been exempted from the study, assuming that their perception of communication skills would not be affected due to not attending the test for more than one week. Meanwhile, 5 students left the study on their own wills due to various problems such as lack of time, increased burden of tuition related to their academic skills and due to unavailable time-table at school hours. On the other hand, because 1 student was included in the athletic team, 1 student in the volleyball team, and the other 2 students were added to the folk dance team by their physical education teachers during the applications, they were removed from the study. Thus, 15 students participating in sport-related game applications were studied in the experimental group for a period of minimum 9 weeks. In the meantime, the same number of students in the control group were

exempted from the study based on sex variable, which means this study was participated by 30 high school students, 15 of whom were in the control group and the rest 15 of whom consisted the experimental group.

Moreover, students attending one of the extracurricular activities, as an athlete on school team or a club out of school or doing sports regularly as a leisure time activity were not included in the study, assuming that they would invariably affect the current rate of communication skill as an independent variable of the study.

The age average of the students participating in the study is $\bar{x}$ age=15.40±0.498 and distribution of participants by sex and class is indicated on Table 1.

Table 1. Distribution of participants by sex and class

Group	Class	Sex		
		Girls	Boys	**Total**
Experiment	9	-	2	**2**
	10	10	3	**13**
	Total	**10**	**5**	**15**
Control	9	-	-	**-**
	10	10	5	**15**
	Total	**10**	**5**	**15**

Source: own study.

Pilot Study

A pilot study was performed in 2009-2010 spring-term on 20 applications from another school of similar characteristics for 9 weeks to test the convenience of sport-related games to prevent potential problems. The pilot study was performed in the same way as in the main study beginning with 24 students but over time the number of students participating all applications for 9 weeks declined to 11 because of the similar or the same reasons as in the main study.

Ethical Authorization and Informed Consent Form

Out of characteristics of participants, measures, and convenience of experimental variables. The protocol followed in the study was proved by Celal Bayar University Scientific Research Ethical Committee, Turkey. Besides, other official permissions were granted by The City Education Agency and Denizli Governorship for the pilot and the main study, so that the study was applied on high school students.

In the meantime, prior to the study, the participants in the experimental and their parents were obliged to sign “Informed Consent Form” in addition to a “Health Certificate” from the students.

Procedures

In the wake of necessary permissions obtained from official institutions, the school’s physical education teacher, manager and the assistant manager were interviewed and got approval from them. Then, sport-related game application plan was formed considering the school’s physical conditions and equipment facilities. For the last step, the experiment group of voluntary students to attend the study was made up, and then an information meeting was held with these students. And various pretest measures were studied on the experimental group and the control group to complete instruments. And the students who are not suitable for the study criteria (for instance: students attending one of the extracurricular activities, as an athlete on school team or a club out of school or doing sports regularly as a leisure time activity) were exempt from the study.

During the study, the experimental group participated in sport-related game applications for 10 weeks, 2 days a week and at least 2 academic hours (40 min. x 2=80 min.). The applications were performed as extracurricular. At the end of the 10 week period of measurements, both groups were evaluated in posttest by means of "The Communication Skills Scale".

Table 2. The application process

Activity	Period
Warming-Up	15 min.
Starting Out the Game	20 min.
Getting into the Game	35 min.
Cool Down	10 min.

Source: own study.

Measures

To measure perception of communication skills of the participants, "The Communication Skills Scale (CSS)" developed by Korkut (1996) was employed and in order to obtain demographic information of the participants "Personal Information Form" was utilised.

- **Personal Information Form:**It is a form created by the researcher himself so as to get personal information as to participants and to detect undesired variables which could affect perception of communication skills. There are varied questions in "Personal Information Form" such as sex, age and class whether they take up regular sport as a leisure time activity or they attend extracurricular activities or they are an athlete out of school team.
- **The Communication Skills Scale (CSS):**"CSS" which was used in the study to collect data was the Likert type scale with 5 choices consisting of 25 positive statements. High scores obtained from the scale indicate that the individuals have positive point of view regarding their communication skills. The validity and credibility scale of the study was tested by the Communication Skills Scale (CSS)" developed by Korkut (1996) on 126 students ages between 14 and 17. Based on the values, it was concluded that the scale consisted of the only factor. For the validity of a similar scale study of CSS by Gorur (2001), Interpersonal Relationship Style Scale was conducted on 50 high school students and the validity coefficient was found .89. The reliability coefficient of the study performed on 58 university students by means of a retest, was determined as .78 (Korkut, 1997). The internal consistency coefficient of the scale was calculated as 0.78 (Korkut, 1996).
- **Experimental Variable (Sport-related Games):**Sport-related games and experimental variables in the study are the form of varied sport branches prior to and/ or during the actual application by employing such key elements as coaching style, how you score/ win, area, numbers, games rules, equipment, inclusion and time to maximise the participation thanks to an enjoyable, safe and interesting atmosphere regardless of the students' ability level or background (ASC, 2007). This application was configured as coherent with "Playing for Life - A Guide to Help Coaches and Teachers Improve Sport-related Games" improved as consistent with "Australian Sports Commission's Active After-school Communities" and "School Network" and content of the application was designed parallel to this aspect. While sport-related games were generally based on this aspect in the study, the games were also created by means of varied resources while some of the games were designed by the researcher under supervision of an expert.

Statistical Analysis

Concerning the experimental pattern, during pre, & posttests with control group, "two-way ANCOVA" analysis technique was employed to test effectiveness of experimental process and to determine

whether the difference is statistically meaningful in terms of communication skills of experimental and control groups by sex.

While pre-conditions were obtained from "two-way ANCOVA" analysis technique, based on this factor, homogeneity condition of the group variance was realized through logarithmic transformation [F(3, 26)=2.733 p>05] and the two-way ANCOVA was performed by means of transformed data. In addition, regression gradient of dependent and co-variable are coequal [$F_{experiment/control*pretest}$(1, 23)=036, p>05; $F_{sex*pretest}$(1, 23)=2.069, p>05; $F_{experiment/control*\ sex*pretest}$(1, 23)=744, p>05]. In Shapiro-Wilks Test employed to determine normal distribution, it was found that dependent variable was distributed normal or close to normal when each groups were based ($Z_{experiment-girl}$=837, p=041; $Z_{experiment-boy}$=919, p>05; $Z_{control-girl}$=911, p>05; $Z_{control-boy}$=880, p>05).

Eta-square (η2) coefficient as one of the coefficients employed toward intergroup comparison was calculated to determine the impact of sport-related game applications on communication skills.

Findings

Table 3. CSS means of pre, & posttest in experimental and control groups and their pre, & posttest means by sex

	Pretest		**Posttest**	
	Experiment	Control	Experiment	Control
Sex	$\overline{X}$ SS	$\overline{X}$ SS	$\overline{X}$ SS	$\overline{X}$ SS
Girls	4.22 .36	4.24 .37	4.51 .48	4.17 .29
Boys	3.68 .65	3.82 .31	4.20 .51	3.71 .29
Total	**4.04** **.52**	**4.10** **.40**	**4.41** **.49**	**4.02** **.36**

Source: own study.

Table 4. CSS pre, & posttest means of experimental and control groups and adjusted posttest means according to pretest and their pre, & posttest means and adjusted posttest means according to pretest by sex

	Pretest (Log_{10})		**Posttest (Log_{10})**			
	Experiment	Control	Experiment	Experiment Adj.	Control	Control Adj.
Sex	$\overline{X}$ SS	$\overline{X}$ SS	$\overline{X}$ SS	$\overline{X}$	$\overline{X}$ SS	$\overline{X}$
Girls	.62 .03	.62 .03	.65 .04	.64	.61 .03	.60
Boys	.55 .08	.58 .03	.62 .05	.64	.56 .03	.58
Total	**.60** **.06**	**.61** **.04**	**.64** **.05**	**.64**	**.60** **.03**	**.59**

Source: own study.

Judging from the figures above, it could be concluded that there is a difference by sex and girls' mean is higher when transformed means are examined. However, when protest means are determined as co-variable, it is noticeable that CSS means vary to some extent. Based on this variation, while adjusted posttest means according to the pretest are $\overline{x}$=64 for experimental group girls and $\overline{x}$=64 for experimental group boys, they are $\overline{x}$=60 for control group girls and $\overline{x}$=58 for control group boys. When experimental and control groups means are examined regardless of sex discrimination, it could be seen that transformed means of the experimental group increase from $\overline{x}$=60 to $\overline{x}$=64 while the ones of the control group decreases from $\overline{x}$=61 to $\overline{x}$=59.

Table 5. Results of the two-way ANCOVA concerning the comparison of adjusted posttest scores based on pretest of the experimental and control groups and CSS scores by sex

Source	Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Model	.041	4	.010	9.192	.000	.595
Pre-test	.018	1	.018	15.795	.001	.387
Experiment/Control(e/c)	.016	1	.016	13.890	.001	.357
Sex	.001	1	.001	.571	.457	.022
e/c*Sex	.002	1	.002	1.349	.256	.051
Error	.028	25	.001			
Total	**11.685**	**30**				

Source: own study.

On Table 5, it could be concluded that, in terms of adjusted posttest means, there is a statistically meaningful difference according to pretest of both experimental and control groups. When their means are examined (as seen on Table 4) it is understood that perception of communication skills of the students participating sport-related game applications is higher than the ones who didn't. This finding indicates that the variation observed on communication skills of the students could be associated with experimental process.

As for how much sport-related games affect perception of communication skills, Eta-square (η2) coefficient was calculated as .357 and, judging from this finding, sport-related games are obvious to have common impact on communication skills of students.

On the other hand, there is not meaningful difference among CSS scores of participants by sexF(1, 25)=571, p>05. Common impact of participation in sport-related games and sex on communication skills is also not meaningfully difference, which means that CSS score of the participants doesn't vary by sex.

Discussion

According to findings of the study, there is a statistically meaningful difference in posttest score of the experimental and control group (Table 5). When their means are examined on Table 4, it could be deduced that perception of communication skills of the students participating sport-related game applications is higher compared to the ones who did not. In a qualitative research performed on a university student by Jones and Lavellee (2009), the conclusion that specific talents such as communication skills are learned in an organized sport environment and moreover these skills are transferred to another lifelong area (Jones, & Lavellee, 2009). Parallel to this conclusion, Lindsey (2012) also states that, in terms of communication skills, almost 80% of university students take the advantage of recreational sport facilities and other varied programs within the campus (Lindsey, 2012). And, Haines, & Fortman (2008) also indicate that students attending university sport clubs could relatively enhance their communication skills (Haines, & Fortman, 2008). It is also stated that communication skills of university and high school students who are into sports on school teams for an extracurricular activity are higher compared to the ones who don't (Yuksel, & Tepekoylu, 2010; Tepekoylu et al., 2011). According to their study performed on Physical Education and Sport School students, sampling in high level of communication skills is considerably based on the fact that 88.9% of them do sports as athletes or for leisure time activities (Tepekoylu et al., 2009). Besides, Howie et al. (2010) stated that social suffices of the students attending to after school sport activities and other school clubs are higher compared to the ones who don't (Howie et al., 2010). Communication skills are one of social skills (Deniz, 2003). Besides, characteristics of effective communication skills are nearly totally matching with characteristics of social skills (Cetin, & Kuru, 2009).

Thus, a well-designed program built on varied sport-related games will essentially improve communication skills by allowing students to think about what to do and why to do it thanks to self-discovery, personal characteristics, varied specific and different aspects related to the activity as well as different skills in appropriate practices for the game itself, and being capable of finding solution to different problematic situations, and making use of various games activities rather than merely classical

drills. According to Perkins, & Noam (2007), organized sport programs allow youth to improve positive relationships by means of intentional development in getting experience (Perkins, & Noam, 2007). Camlıyer, & Camlıyer (2001) asserted that the individuals doing sports are more willing and prone to communicate than ones who don't (Camlıyer, & Camlıyer, 2001, p. 31). In addition, Cratty (1973) states that communication style and quality of personal communication are very close terms social groups (Cratty, 1973). Because experimental variables in sport-related games in this study are the form of modified sport branches prior to and/ or during the application by using a number of particular key elements (coaching style, how you score/ win, area, numbers, games rules, equipment, inclusion and time), it bears characteristics of sport apart from doing in professional sense.

One of the considerable aims of sport-related games is to allow active attendance of all players by considering probable personal difference. This aim could be realized by taking one or several of the key elements into consideration and making up varied options among alternatives created with the students themselves. In other words, solutions to discovered problem cases and recognition of different aspects of situations are cited as crucial and in games, this process continues in a circular way. In certain conditions, the game could go on in a way that everybody could be included at the very beginning but new problems are likely to occur and new solutions are found. During the process, awareness of personal differences and looking to cases from varied aspects are a must to communicate with environment (Ozer, 2006, p. 65, 162). In their study, Camlıyer, & Camlıyer (2001) stated that recognition of personal differences and respect for such differences could also improve technical proficiency as a result of physical motion in sport-related activities (Camlıyer, & Camlıyer, 2001, p. 31). Besides, because of common characteristic of sport, it is expressed to enhance skill of looking at facts from various aspects. Because, in matches during the competition or training period, game tactics should be established for struggle conditions, appropriate location, body and throw positions and techniques are supposed to be chosen by the player so as to pass and get pass, motion alternatives of opponent player/players are reviewed to drop the ball in opponent field and defence. In other words, evaluation processes of cases are experienced continuously from a different point of view.

When it comes to body contact (touch communication), it is an absolute element of nonverbal communication (Devito, 2004, p. 189). Thus, it is regarded as a vital means in communication in that it enhances the effect of verbal communication (Tabak, 1999, p. 55). Moreover, as certain emotions and thoughts are almost only conveyed by means of touch (Cuceloglu, 2006, p. 46), it is traditionally considered an important element in effective communication. In this respect, sports, games and sport-related activity environments are fields where tactile touches are also frequently experienced. In this context, it is observed that same team players with each other and trainers with athletes will invariably experience touch communication to motivate and/ or to share sadness or happiness. Similarly, messages are also mostly conveyed in sport-related games such as winning, losing or making mistakes. In addition to this, because certain activities are performed with closed eyes, the necessity to reach conclusion by touching could improve this skill.

As for another element of the nonverbal communication, it is appearance related to posture, height, weight, skin and health. First interaction among individuals who communicate with each other and perceived characteristics related to individuals are an important determinative factor (Baltas, & Baltas, 1999, p. 19). This is a vital point in that communication starts in him/ herself firstly. It is also seen that breast centre is on horizontal and vertical axes intersecting on breast of individuals who attend sports and sport-related activities with muscular strengthening. Baltas, & Baltas (1999) highlighted that individuals who optimally exhibit their body center to world establish healthy relationships with others (Baltas, & Baltas, 1999). Within this study, the experimental group students were physically active for 10 weeks, 2 days a week and minimum 80 min. a day. For this reason, appearances of the students may have changed in a positive way.

On the other hand, communication obstacles could impede original meaning in messages and which is why they are known to restrict clear and correct communication as well (Schwartz, 2006, p. 15). In this respect, a proper solution of problematic conditions causing communication obstacles is taken seriously as a

vital headline. Within this study, communication obstacles are generated during sport-related game activities and the creation of achievement opportunities is expected from the experimental group. Thus, such a condition is closely related to putting the rule "you don't use verbal or/ and beyond verbal messages" into effect, which means students are capable of discovering various communication ways, in which their communication skills could improve.

Judging from the explanation mentioned above, it is supposed that positive variations in communication skills of the experimental group are heavily caused by sport-related games including experimental variables. In addition, research indicates that skills gained through sports and sport-related activities could be ascribed to lifelong skills (Camlıyer, & Camlıyer, 2001, p. 46; Camire et al., 2009; Jones, & Lavellee, 2009).

CSS scores of the students in experimental and control groups don't vary based on sex. Thus, it could be inferred that girls and boys are affected to a similar extent by sport-related game applications. According to the study performed by Kohlstedt (2011) on university students, their communication skills don't indicate a significant difference by sex. In addition, common impact of sex and sportive statue (such as doing sport on school team or for recreation at school) on communication skills is not meaningful, either (Kohlstedt, 2011). In studies on high school students by Ilaslan (2001) and on university students by Bingol, & Demir (2011), their communication skills do not vary by sex (Ilaslan 2001; Bingol, & Demir, 2011). However, there are also certain contradicting studies with this finding in literature. In these studies, it is indicated that, compared to boys, girls' communication skills are higher (Korkut, 1997; Gorur, 2001; Tepekoylu et al., 2009). According to Korkut (1997), this difference based on sex is closely related to approved behaviours of women and men during socializing (Korkut, 1997). It could be inferred that the students in the experimental group experience in socializing process during sport-related games applications. However, in this process active participation is realised by similar challenges for each individual rather than supporting different behaviours for different individuals. Because sport-related games focus on keeping maximum level of participation of students having different characteristics and skills in an interesting, entertaining and safety sport atmosphere regardless of sport-related skills and background. Therefore, in different challenges, similar achievement opportunities are expected for students having different characteristics. In this context, it could be concluded that all students, whether girls or boys, could be equally affected by sport-related games in terms of communication skills, which is why this process could be the major reason for similarly affected of both sexes in terms of communication skills. But, this finding could still be resulting from the small number of participants.

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