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Increasing university students' awareness about winter sports

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Abstract

The aim of this study is to determine awareness levels of university students attending School of Physical Education and Sports about winter sports and to examine the effects of the training program applied within the scope of the study on their cognitive, affective, psychomotor and overall awareness. The study used single-group pre-test and post-test experimental design, which is a quantitative research approach. The participants of the study were 21 students studying Kastamonu University School of Physical Education and Sports. The data collection tools used in the study were 'Personal Information Form', which includes questions to obtain data about their demographic information, and 'Winter Sports Awareness Scale'. The data collected was analysed by using SPSS 20 software. According to the results of the analysis, the changes in cognitive awareness, psychomotor awareness and overall awareness levels according to pre-test and post-test scores were found to be significant while affective awareness levels were not significant.

Keywords: Awareness, physical education, Skiing, sports, winter sports.

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1. Introduction

Educational activities designed and prepared at schools, according to the needs of individuals and societies, aim to result in targeted changes in learners' behaviors. Not only mental development but also physical development are necessary to achieve educational goals that are in harmony with modern education philosophy. In fact, physical education is an indispensable component of general education (Gokmen, 1988), which means sport is an important activity as both in-class and out-of-class practice. Sport activities are, especially important in general education since it allows learners to build up a bridge between theoretical and practical content (Fidan & Erden, 1996).

Almost all behaviors individuals develop throughout their lives are acquired through the education. Learning is a lifelong process that starts first in family environment. Psychologically speaking, learning always causes behavioral changes in an individual (Tavacioglu, 1999).

Today, all countries give importance to sports and try their best to be successful in international sports organisations, which is considered as a sign of international prestige. However, losers often outweigh winners in number in such events. It is observed that sport is an important part of people's lives in countries which are successful in sports (Ozturk, 1998). Several factors, such as income level, educational background, geographical region, transportation opportunities, the nature of pastime activities, climate and weather conditions, largely affect societies' attitudes towards sports. Equipping societies and individuals with a sort of sports mentality as well as facilities is an indication of modernism (Yetim, 2000).

What differentiate great athletes from ordinary ones is high levels of awareness. The ultimate goal of psychological support activities is to equip athletes with self-awareness skill. Due to this skill, athletes have higher level of awareness and are better at problem solving skills (Karagozoglu, 2005).

An expanding consciousness level of individuals about themselves, environment and universe is possible only through awareness. There are two conditions for a stimulus so that it can be noticed: being strong enough to exceed a certain threshold and reach sense organs. However, not everything that reaches sense organs is noticed. Therefore, awareness is the combination of three conditions: associating this new stimulus with existing mental schemes and define it; feeling excitement about it (having emotional experience); and being eager to communicate with new stimulus (Dokmen, 2002).

Awareness is about an individual's knowing certain truths about himself. It is such an experience that it shows us how something has happened. Awareness is the basic element for the realisation of experience cycle or individual-environment relationship (Akkoyun, 2005). The presence of various relationships with environment positively or negatively affects individual's awareness (Davis, 1990). An increase in awareness level means an increase in individuals' reactions against their experiences—i.e., their discovery of new ways in their lives and relationships (Dokmen, 2002).

Individuals' attitudes towards sports and their life styles are closely related to their nearby environment and the educational backgrounds. Therefore, physical education and sports activities can be considered the most convenient and significant educational tools to train and improve children's and teenagers' physical and mental structure (Yetim, 2006). The objectives of physical education should be directly or indirectly related to cognitive, affective and psychomotor areas (Tamer & Pulur, 2001). Therefore, predetermined behavioral changes should be observed in these three areas.

The aim of the study is to determine to what extent the participants' awareness levels increase when they are provided theoretical education enriched with practical activities. In addition, the current study is important because there are not similar studies in the literature.

In this study, the participants were given 5-month theoretical and practical education in Skiing. At the end of these training sessions, School of Physical education and Sports students' awareness levels were determined to see whether they increased or not. The study, which also includes theoretical and practical training sessions, will try to answer the following questions:

- What are cognitive awareness levels of students for winter sports?
- What are affective awareness levels of students for winter sports?
- What are psychomotor awareness levels of students for winter sports?
- What are overall awareness levels of students for winter sports?

2. Methodology

2.1. Research design

This study used single group pre-test—post-test experimental design, which was preferred to test cause–effect relationship among variables. Researchers tried to find out the effects of at least one independent variable on one or more dependent variables. There were different types of experimental design. In single group pre-test–post-test experimental design, an independent variable was applied to a particular group and certain measurements were done before and after the experiment. The difference in scores obtained from these two measurements showed the effect of independent variable on dependent variable.

2.2. Participants

The participants of the study were 21 students attending at Kastamonu University School of Physical Education and Sports in 2018–2019 academic year; 13 students from Physical Education and Sports Teaching Department who took elective course *Skiing I* and 8 students from Coaching Training Department who took Expertise in Sports Branches and Theories I (Skiing) course. The criterion for the selection of the participants was their willingness to be teachers or coaches in the future.

Table 1. Distribution of frequency and percentage for demographic information

Variables	Sub Categories	Frequency	Percentage
Gender	Female	10	47.6
	Male	11	52.4
Department	Physical Education and Sports Teaching	13	61.9
	Coaching Training	8	38.1
Class Level	2nd Class	13	61.9
	3rd Class	8	38.1

According to the data presented in Table 1, 47.6% of the participants are female and 52.4% male. As for their departments, 61.9% attend Physical Education and Sports Teaching Department and 38.1% Coaching Training Department. Finally, 61.9% are second year students and 38.1% are third year.

2.3. Data collection tools

The participation in the study was on a voluntary basis. The study used two data collection tools; 'Personal Information Form', which includes questions to obtain demographic information about the participants and 'Winter Sports Awareness Scale' Winter Sports Awareness Scale: The scale, which was developed and whose reliability and validity studies were conducted by Eski (2010), consists of 35 items and three dimensions. Of these 5-point Likert type items, 13 items measure cognitive awareness, 13 affective awareness, and 9 psychomotor awareness. Scores for positive items range between 1 and 5: 1 = I do not agree at all, 2 = I agree a little, 3. I agree to some extent, 4=I agree to a great extent, 5= I totally agree. Scores for negative items, on the other hand, range between 5 and 1. Assuming that the range between items in the scale is equal ($N - 1 / N = 4 / 5 = 0.80$), the following ranges were determined (Table 2). The scale was administered to 656 students during the development phase, and reliability coefficient was calculated as 0.908.

Table 2. Ranges for 5-point scale options for items

Score codes	Ranges	Description
1	1.00–1.80	Lack of awareness
2	1.81–2.60	Low level of awareness
3	2.61–3.40	Medium level of awareness
4	3.41–4.20	High level of awareness
5	4.21–5.00	Complete awareness

The data collection tool was administered to the participants as pretest on December 1st 2018. Practical education, which did not originally exist, was integrated into curriculum. This practical education involved 10 days training in total at different times of the semester. They took place in Ilgaz Mountain Winter Sports Center and covered trainings in the following courses 'Alpine Discipline Skiing, Skii Running and Snowboard'. When winter season was over, Natural Sled training was provided by using special skiing equipment designed for summer training on skiing. Theoretical education was also provided on some issues, such as teaching methods in winter sports, safety procedures and practical applications. The post-test was administered on April 26th 2019.

2.4. Data analysis

The data obtained in this study were analysed by using SPSS 20 Software. The data regarding quantitative variables were presented as mean and standard deviation scores. Shapiro–Wilk test was used to test whether the data obtained displayed normal distribution or not. Later, cognitive and overall awareness pre- and post-test scores, which displayed normal distribution, were analysed by using paired-samples *t*-test and affective awareness and psychomotor awareness scores, which did not display normal distribution, were analyzed by applying Wilcoxon Signed Ranks Test. The level of significance was set at $p < 0.05$.

3. Findings

This section presents findings regarding research problem. First of all, the participants' pre-test and post-test mean scores were calculated. Table 3 shows their awareness levels.

Table 3. Pre-test–Post-test awareness mean scores and levels of awareness according to dimensions

Sub categories	Measurement	$\bar{X}$	SD	Level of awareness
Cognitive Dimension	Pre-test	2.56	0.71	Low
	Post-test	2.87	0.62	Medium
Affective Dimension	Pre-test	4.13	0.76	High
	Post-test	4.30	0.54	Complete
Psychomotor Dimension	Pre-test	2.52	0.60	Low
	Post-test	3.16	0.45	Medium
Overall Awareness	Pre-test	3.14	0.52	Medium
	Post-test	3.47	0.48	High

According to pre-test scores displayed in Table 2, awareness levels were calculated for the following dimensions as follows: cognitive dimension 'low level of awareness' ($\bar{X}$ = 2.56); affective dimension 'high level of awareness' ($\bar{X}$ = 4.13); psychomotor awareness 'low level of awareness' ($\bar{X}$= 2.52); and overall awareness 'medium level of awareness' ($\bar{X}$ = 3.14). As for the post-test scores, the results were as follows: cognitive dimension 'medium level of awareness' ($\bar{X}$ = 2.87); affective dimension 'complete awareness' ($\bar{X}$ = 4.30); psychomotor awareness 'medium level of awareness' ($\bar{X}$ = 3.16); and overall awareness 'high level of awareness' ($\bar{X}$ = 3.47). The results show that there is one level increase in all the awareness dimensions and overall dimension. In order to examine whether there are significant

differences between pre- and post-test scores, dependent groups *t*-test and Wilcoxon Signed Ranks Test were done. The data obtained were presented in the Table 4.

Table 4. Dependent groups *t*-test results for cognitive dimension pre-test / post-test mean scores

	Measurement	*N*	$\bar{X}$	SD	*t*-test		
					df	*t*	*p*
Cognitive Awareness	Pre-test	21	2.56	0.71	20	−2.827	0.010*
	Post-test	21	2.87	0.62			

*$p < 0.05$.

The *t*-test for paired sample was done to determine whether there was a difference between the scores of pre and post-tests in terms of the participants' cognitive awareness. According to the results displayed in Table 4, there was a significant difference between the mean score of awareness before the practice ($\bar{X}_{pretest}$ = 2,56) and after the practice ($\bar{X}_{posttest}$ = 2.87) [$t_{(21)} = -2.827$, $p < 0.05$]. The effect size calculated ($d = 0.616$) reveals a medium level difference, which implies a significant effect of the educational program on students' overall awareness levels.

Table 5. Dependent groups Wilcoxon signed ranks test results for affective dimension pre-test–Post-test mean scores

	Post-test–Pre-test	*N*	Mean rank	Sum of ranks	*z*	*p*
Affective Awareness	Negative Ranks	9	7.22	65	−0.894	0.371
	Positive Ranks	9	11.78	106		
	Ties	3				
	Total	21				

As shown in Table 5, the pre-test–post-test mean scores of 21 students for Affective Awareness were compared by using Wilcoxon Signed Test. The analysis did not reveal a statistically significant difference between the scores. Although the difference was not significant, it implies positive effects of the education program on affective awareness levels.

Table 6. Dependent groups Wilcoxon signed ranks test results for psychomotor dimension pre-test–post-test mean scores

	Post-test—Pre-test	*N*	Mean rank	Sum of ranks	*z*	*p*
Psychomotor Awareness	Negative Ranks	3	9.67	29	−2.841	0.005*
	Pozitive Ranks	17	10.65	181		
	Ties	1				
	Total	21				

*$p < 0.05$.

As shown by the Table 6, pre-test–post-test scores of 21 students for Psychomotor Awareness were analysed and the results showed a statistically significant difference [$z = -2.841$, $p < 0.05$]. In other words, practical and theoretical education had positive effects on students' psychomotor awareness.

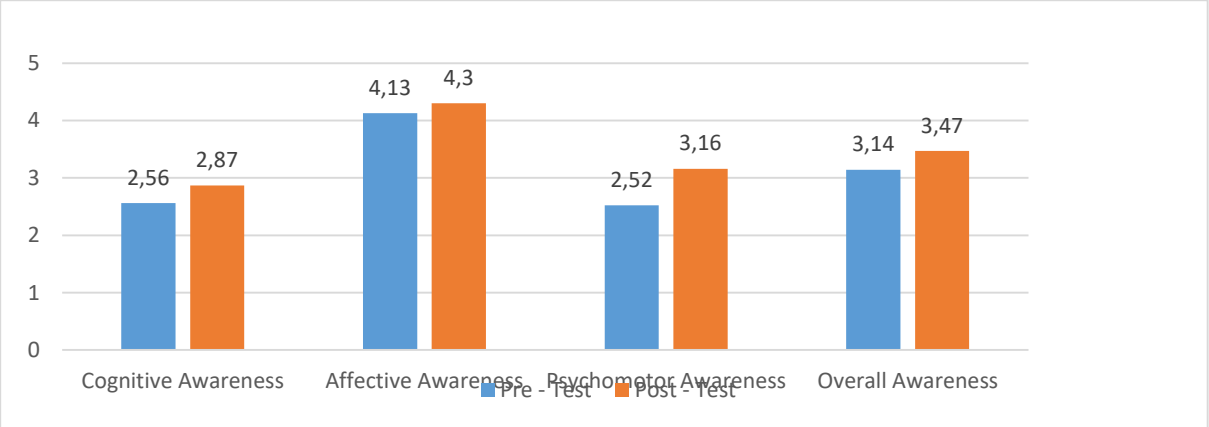
Table 7. Dependent groups *t*-test results for overall awareness pre-test / post-test mean scores

Score	Measurement	*N*	$\bar{X}$	SD	*t*-test		
					SD	*t*	*p*
Overall awareness	Pre-test	21	3.14	0.52	20	−3.515	0.002*
	Post-test	21	3.47	0.48			

*$p < 0.05$.

The *t*-test for paired sample was done to determine whether there is a difference between the scores of pre- and post-tests in terms of the participants' overall awareness. According to the results displayed in Table 7, there is a significant difference between the mean score of awareness before the

practice ($\bar{X}_{pretest}$ = 3.14) and after the practice ($\bar{X}_{posttest}$ = 3.47) [$t_{(21)}$ = −3.515, p < 0.05]. The effect size calculated (d = 0.766) reveals a medium level difference, which implies a significant effect of the educational program on students' overall awareness levels.



Graphics 1. The distribution of scores for winter sports awareness scale according to the dimensions

4. Discussion

This study was conducted at Kastamonu University School of Physical Education and Sports to determine to what extent the training program provided for students taking Skiing Course increased their awareness about winter sports. The awareness levels of university students were analysed in terms of cognitive, affective, psychomotor and overall dimensions. There are some studies in the literature conducted with students at different educational levels. For instance, Unal (2017), in his study conducted with seventh and eighth grade secondary school students in Erzurum, examined their winter sports awareness levels. Similarly, Eski (2010) conducted a study in which he dealt with high school students' awareness about winter sports in Kastamonu. Finally, Eski (2019) examined winter sports awareness levels of university students in four different universities. However, the literature did not reveal any studies in which a training session was implemented to increase winter sports awareness.

According to pre-test results, cognitive awareness levels of university students were quite low. Eski (2010), in his study conducted with high school students, found low level of cognitive awareness, which is consistent with the results of the current study. Unal (2017), however, found medium level of cognitive awareness in his study conducted with high school students. The educational program provided in the current study consists of two parts: theoretical and practical. The program started with theoretical part and later both theoretical and practical sessions were carried out for 5 months in Ilgaz Mountain Ski Center, which can be considered as a natural learning environment. According to posttest results, their cognitive awareness levels were found to be at medium level. Therefore; we can conclude that theoretical and practical training sessions positively affected their cognitive awareness levels.

As for affective awareness levels of the participants, the study found quite high levels of affective awareness. Similar studies also found parallel results for affective dimension (Eski, 2010; Unal, 2017), which implies that students are interested in winter sports and already have positive attitudes towards them. The participants stated that they had never participated in any training and practices regarding winter sports before. In addition, the participants took this course as an elective course, which implies that they already had a positive attitude and interest in these sports. According to the data obtained, there was not a significant difference at affective dimension; however, it was seen that their affective awareness levels increased following the education program as post-test results showed.

The study revealed low level psychomotor awareness, which is in parallel with the results of the studies conducted with secondary school and high school students (Eski, 2010; Unal, 2017). Behaviours change according to learning process; therefore, the increase in the participants' cognitive awareness might have positively affected their psychomotor awareness levels. Winter sports do not include sport disciplines that can be done every time and everywhere, so it seems normal that these 5-month practical training sessions increased their awareness levels. The results of post-tests also support this claim since they showed an increase in psychomotor awareness levels from low to medium level.

According to pre-test results in this study, overall awareness levels of university students were at medium level, which were in parallel with the results of similar studies conducted with secondary school and high school students (Eski, 2019; Unal, 2017). Unlike other similar studies, Eski (2010) found low levels of overall awareness in his study conducted with high school students. According to the post-test scores in this current study, the overall awareness levels of the participants increased to 'high level awareness' when they were provided training sessions, and this difference was statistically significant. In other words, training sessions focusing on winter sports positively increased their awareness levels. It is quite normal that overall awareness increases as other awareness dimensions increase, which shows that training programs are important factors in increasing students' awareness levels.

5. Conclusions and recommendations

This study, the participants of which were pre-service teachers and coach candidates, aimed to determine how their awareness levels change according to the theoretical and practical educational activities they were provided.

Following the 5-month application process, the participants' awareness levels were examined in terms of three dimensions—cognitive, affective and psychomotor— and later, their overall awareness levels were determined according to their overall scores from the scale.

The study used single group pre-test—post-test design. First, it was tested whether the data obtained displayed normal distribution, and later dependent *t*-test was applied since some of them showed normal distribution.

When the mean scores of all three dimensions and overall awareness, it was found that there was an increase in the post-test scores. The analysis showed a significant difference for cognitive and psychomotor awareness; however, there was no significant difference for affective awareness dimension.

Accordingly, we can conclude that 5-month theoretical and practical training sessions on winter sports had positive effects on the participants' awareness about these sports.

Therefore, it might be recommended that the implementation of different methods and learning environments in elective courses might positively contribute to learning outcomes by allowing various educational activities and increasing their awareness levels.

In addition, when we consider that the participants are students in a vocational educational institution, it is important to associate observed changes in awareness levels with practical applications. This situation clearly supports the idea that the number of practical applications should be increased in teacher training educational institutions. Similarly, it can be concluded that such educational activities might be implemented in teacher and coaching training programs since they can increase their awareness levels.

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