

## Application of secondary education sports lessons with blended teaching method

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### Abstract

The aim of this study is to apply secondary education sports lessons with the blended teaching method. The quantitative research method was used in the study. The research was conducted in the fall semester of 2021–2022. 280 volunteer secondary school students continuing their education in Kazakhstan participated in the research. In the research, sports education was given to secondary school students with a 4-week blended education. In the research, the 'Sports and Blended Education' measurement tool developed by the researchers and compiled by experts in the field was used. The measurement tool was delivered to secondary school students via the online method and collected. The analysis of the data was made by using the SPSS programme, frequency analysis, *t*-test and the results were added to the research in the presence of tables. According to the results obtained from the research, it was concluded that there is a significant difference between the pre-test and post-test of the secondary school students and the blended education levels in sports lessons are high.

Keywords: Blended Education, Secondary Education, Distance Education, Education in Sports;

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## 1. Introduction

It is known that while technology continues to advance in education in the world, many areas such as social life and education are trying to adapt to the technological change process in education (Shagataeva et al., 2021), and some adapt to the information and communication technology of this time as soon as they are born. It is known that those who learn to use these technologies later are called 'digital immigrants' (Bakhtiyarova et al., 2021). It is known that the perspectives and thought patterns of today's secondary school students, i.e., digital natives, differ from those of digital immigrants (Elmira et al., 2021). It is seen that the increase in the use of applications where secondary education students can participate, interact and personalise, especially with blended education technologies, causes a change in communication styles (Markoska, 2021).

The student now prefers information and communication technologies to access information faster, instead of teachers and materials. Today, students' short in-class attention spans encourage teachers to use effective teaching techniques to keep students active in the classroom (Monica Cristina Garbin et al., 2021). There are many powerful methods that can be used at the time of learning technology, which is renewed every day. In this context, it is thought that teachers should prefer teaching methods suitable for the language of today's students, namely digital natives, in order to improve their knowledge and skills in education (Ghezir et al., 2021). It is known that blended education allows educators to provide distance education to students by using the technology learning strategy (Vernadakis et al., 2012). For this process, which is often called blended education, different terminologies have been used, such as e-learning, internet-based learning, distance education, virtual learning and computer-assisted learning, making it difficult to make a general definition (Ozdamli et al., 2015).

When we look at the common features of the definitions used for blended education and learning, it is seen that the educator, teacher or student are located in distant environments and technology is used to interact with students. In face-to-face teaching, it is known that education takes place in a traditional classroom environment (Dos Santos, 2022). Blended education learning is a method used in both face-to-face education and online education situations (Finlay et al., 2022). However, the teaching methods of blended education may have some inadequacies in their own way. At this point, the concept of blended learning, which is the combination of two methods, will reveal the strengths of the online and offline learning method, while minimising the weaknesses will enable us to achieve the learning results we want.

It is known that spending more time with technological tools in line with the interests of students taking technology courses supports permanent behaviour (Prevala Etemi et al., 2021). Considering that students spend most of their time at school, physical education and sports lessons in schools are of great importance for students to acquire sports habits and maintain this habit throughout their lives (Zhu et al., 2021). The use of smart devices may limit the aims of physical education and sports lessons by increasing inactivity; however, an effective learning environment can be created with blended education with an accurate technology-supported and action-oriented lesson plan (Abaci et al., 2021). In this context, it is seen that a part of blended learning emerges as an important model that can be applied in physical education and sports lessons. The research will continue on the implementation of secondary education sports lessons with the blended teaching method.

### *1.1. Related Studies*

Dwiyogo (2018) aimed to develop and study the application of the blended learning-based method for problem-solving, and as a result, they concluded that the application of the blended learning-based method in problem-solving and learning had a positive effect. On the other hand, it is seen that it benefits students.

Killian et al. (2018) in the year of the work they have conducted, in K–12 education with blended learning opportunities in physical education at the level of students that ran a review of advanced and result in online and blended instruction in physical education, design, student positively related to the adoption and implementation of research, concluded that they must be understood systematically. In this context, it is seen that this study has a positive effect on secondary school students in the field of physical education.

Webster at al. (2021) aimed to examine the application and effectiveness of the 15-week physical education secondary education methods course in their studies, and as a result, they concluded that there is a high level of application suitability of secondary education students in the physical education programme.

According to research at the secondary level of education between the years, blended learning appears to be having a positive influence on students; the first goal of this study benefits in addition to providing sports training students in the secondary level of education also suggests that the use of technology was adopted. Based on relevant research and in this context, blended training and sports training are beneficial.

### *1.2. Purpose of the Study*

The aim of this study is to implement secondary school sports courses with a blended teaching method. The answers to the following questions were sought for the general purpose of the study.:

1. What are the smart device usage times of secondary school students?
2. What is the usage time of blended education for secondary school students?
3. What is the purpose of using computers and the Internet of secondary school students?
4. How are the views of secondary school students on education blended according to the gender variable?
5. What are the opinions of secondary school students about blended learning before and after the study?

## **2. Method**

In this section, information about which method was used in the study, which groups of students participated in the study, the type and source of the data in the study, the data collection tool and the statistics used in the study are included and organised.

### *2.1. Research Model*

Within the study, many of the research methods were continued using the research method. A quantitative research method is a research method that aims to describe an action that cannot continue from the past to the present, as well as a large part of the universe, with a model in which it exists (Uzunboylu et al., 2021). In this research, through the quantitative research method, it is aimed to determine the application of secondary school sports courses with a blended teaching method, the conditions of use and how often they use smart devices, as well as the use of these applications to

determine the use cases; it is determined according to the variables of gender, class and duration of education.

### 2.2. Working Group/Participants

The participation group included in the study consisted of 280 voluntary secondary school students who continue their education in various secondary schools in Kazakhstan. In the research, the measurement tool was applied to the students with the help of an online questionnaire and it was accepted.

#### **Gender**

In this section, the differences of secondary school students according to their gender are given in Table 1.

**Table 1.** Distribution of Secondary School Students According to the Gender Variable

Gender	Boy		Girl	
	F	%	F	%
Variable	145	51.78	135	49.22

When Table 1 is considered, the distributions of the secondary school students participating in the study were determined according to the gender variable and the information was examined and added. In this context, 51.78% (145 people) were male secondary school students, while 49.22% (135 people) were female secondary school students. In the gender section, the findings reflect the actual gender distribution.

#### **Smart Device Usage Times of Secondary School Students**

In this section, in order to strengthen the blended education, the smart device usage times of secondary school students are discussed and examined, and the studied values are digitised and added to Table 2.

**Table 2.** The Distribution of Secondary School Students Regarding the Time of Use of Smart Devices

Smart Device	1-2 Time		3-4 Time		5 or more hours	
	F	%	F	%	F	%
Variable	34	12.15	125	44.64	121	43.21

When Table 2 is examined, it can be seen that 12.15% (34 people) use smart devices for 1–2 hours, 44.64% (125 people) use for 3–4 hours and finally 43.21% (121) use the devices for 5 hours and above. It is observed that the smart device usage time of secondary school students regarding the blended education process is mostly for 3–4 hours.

#### **Blended Learning Process Times of Secondary School Students**

In this section, the situations of blended education for secondary school students according to the time periods of daily use in the educational process are investigated and examined. Detailed information is given in Table 3.

**Table 3.** Blended Learning Process Times of Secondary School Students

Distance Education	1-2 Time		3-4 Time		5 or more hours	
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Usage	F	%	F	%	F	%
Variable	23	8.21	52	18.58	205	73.2
						1

When Table 3 is examined, blended training process of secondary students is examined and detailed information to time the conditions of use are given. In this context, 8.21% (23 people) use it for 1–2 hours, 18.58% (52 people) use it for 3–4 hours and 73.21% (205 people) use it for over 5 hours for blended training. In this context, it is seen that secondary school students prefer the blended education usage amounts of 5 hours and more within the research.

### **Class Status**

In this section, the class information of the study group secondary school students is examined and detailed information is given in Table 4.

Table 4. Distribution of Secondary School Students According to Their Class Status

Department	6th Class		7th Class		8th Class	
	F	%	F	%	F	%
Variable	59	21.07	105	37.50	116	41.43

When Table 4 is examined, the distribution of the working group secondary school students according to their class status is considered and the relevant information according to the class scale is added. In this context, 21.07% (59 people) were in the 6th grade, 37.50% (116 people) were in the 7th grade and finally 41.43% (116 people) were in the 8th grade. In the class distributions section, the findings reflect the actual distribution.

### *2.3. Data Collection Tools*

In this section, it is seen that there is a measurement tool developed by the creators of the problem sentence in the research within the research. The data collection tool was examined by experts in the field of blended education and sports education and the items that could not be suitable were removed from the study and corrected. A personal information form called the ‘Sports with Blended Education’ measurement tool was used, which was applied to secondary school students and developed by researchers. The validity of the scope of the measurement tool developed was examined by four professors and two associate professors who conducted studies on blended education platforms and sports education, and unnecessary items were removed from the measurement tool and re-arrangements were made.

1. Personal information form (demographic data): In the personal information form, information such as gender, smart device usage times, blended education usage times and class is provided.
2. Sports data collection tool with blended education: A 5-point Likert-type questionnaire was prepared to obtain information about the opinions of secondary school students about Sports with Blended Education. A total of 18 items of the measurement tool consisting of 20 items were used and 2 items were removed from the measurement tool, thanks to expert opinion. The opinions of secondary school students from two factorial dimensions, such as ‘With Blended Education’ and ‘Sports’, were applied to secondary school students. Cronbach’s alpha reliability coefficient of the measurement tool as a whole was calculated as 0.92. The measuring tool is rated as ‘I strongly disagree’ (1), ‘I disagree’ (2), ‘I am undecided’ (3), ‘I agree’ (4) and ‘I definitely agree’ (5). The

measurement tool was also collected from secondary school students in the form of an online environment.

#### *2.4. Application*

The application part of the study by researchers 280 volunteers in Kazakhstan at various secondary schools in the region who continue their education were identified with the help of live events, and planlatilm Adobe Connect video programme was the preparation of blended training courses on time and use cases. The training programme was prepared with the Adobe Connect application and this event is organised by showing people who are experts in the field of environment. When the activity part of the research is over, it is planned to show videos and content for education in the fields of blended education and sports education for secondary education students. A 4-week sports training on blended with middle school students with training in education merge conditions, the terms of use and use various learning techniques and blended courses in physical education lessons education applications of determining how often does live 'blended training', 'sports' etc. Such information was provided to secondary school students in the form of a blended education and it was expected that secondary school students would participate in the event held every week on this topic. After 4 weeks of training, the measurement tool and the information form were applied to the secondary school students with the help of an online questionnaire, and the data were given in the form of tables in the findings section. Parents of the students were asked to help with the online survey. Distributed education programme through the Adobe application used by most universities and designated in Section 3 of Section 95 of the week each will be restricted to secondary education students are set up so distributed. 55 minutes was training programme and the form of question and answer was for 15 minutes, totalling 70 minutes of online education that has been processed if a student is in secondary education. Smartphone, tablet and laptop image were expected while attending training with a microphone. The measurement tool applied to secondary school students was collected through an online questionnaire and transferred to the SPSS programme by coding them in the environment of calculation programmes.

#### *2.5. Analysis of the Data*

In the analysis part of the data, statistical data obtained from university students were analysed in the statistics programme using frequency (f), percentage (%), mean (M), standard deviation (SS) and *t*-test, with IRAI. The data obtained from the programme are given in tables accompanied by numerical values, findings and comments.

### **3. Results**

In this section, the findings related to the learning status of sports lessons of secondary school students with a blended learning method are given, each data of the study is given in tables and presented in this section accompanied by comments.

#### *3.1 What is the purpose of using computers and the Internet for secondary school students?*

The computer and Internet usage purposes of secondary school students related to blended education have been investigated and detailed information are given in Table 5.

Table 5. The Purposes of Computer and Internet Use of Secondary School Students

Department	Blended Training		Sports Training		Other	
	F	%	F	%	F	%
Variables	160	57.14	102	36.43	18	6.43

When Table 5 is examined, the computer and internet usage purposes of secondary school students in blended education are investigated according to the problem of the study and the relevant information is added. In this context, 57.14% (160 people) chose blended education when choosing education, 36.43% (102 people) chose sports education and 6.43% (18 people) chose the other field. In this context, it can be said based on Table 5 that most of the research is directed to blended education according to the problem situation, according to the problem situation.

### 3.2 Education Status of Secondary School Students Blended According to the Gender Variable

In this section, a blended education comparison of secondary school students with the data obtained from the study is made according to the gender variable and detailed information is given in Table 6.

Table 6. Blended Education According to the Gender Variable of Secondary School Students

	Gende	N	M	SD	Df	t	p
Blended Training	Boy	14	4.3	0.17	28	0.342	.73
		5	8				
	Girl	13	4.3	0.16	0		
		5	6				

When Table 6 is examined, the education status of secondary school students blended into the gender variable is examined and it was found that there was no significant difference according to the gender criterion [t280]= 0.342, p<.05]. When the blended education status of secondary school students is examined, it is seen that the average score of male students in this field is M= 4.38, while the average score of female students in terms of blended education status is M=4.36. In this context, it can be said that there is no difference between the blended education scores of male secondary school students and female students in this study, and that the findings of the study are also high.

### 3.3 Blended education opinions of Secondary School Students before and after the study

In this section, a measurement tool was applied per education to secondary school students and the same test was applied again after the end of the education and their views on blended education are included; detailed information is given in Table 7.

Table 7. Blended education opinions of Secondary School Students before and after the study (pre-test and final test)

No	Variables	Pre-test 1		Final test 2		df	t	p
		M	SS	M	SS			
1	Thanks to the blended training, I got a better understanding of sports training	3.67	0.74	4.34	0.61	280	-3.847	.000
2	Thanks to the blended training, my interest in the field has increased	3.62	0.72	4.46	0.63	280	-3.377	.001

3	I am happy to combine my classes with blended learning	3.72	0.81	4.33	0.75	280	-3.388	.001
4	I could easily understand the sports application area with blended training	3.60	0.77	4.38	0.65	280	-3.887	.000
5	Fitness classes with blended training give me pleasure	3.60	0.74	4.26	0.74	280	-4.046	.000
6	I can easily demonstrate sports movements in blended training	3.82	0.81	4.34	0.72	280	-3.013	.003
7	I have never had any difficulty in blended training	3.50	0.72	4.42	0.62	280	-2.389	.019
8	I can watch sports movements that are repeated in the lesson many times with blended training	3.60	0.70	4.43	0.70	280	-2.998	.004
9	I would like to see blended learning models in different courses	3.80	0.96	4.34	0.72	280	-2.853	.006
10	I can connect to blended learning from any smart device	3.80	0.82	4.36	0.69	280	-3.203	.002
11	Blended learning gives me the opportunity to do it again	3.50	0.70	4.32	0.74	280	-2.436	.017
12	With blended education, I know myself to create different areas	3.77	0.73	4.34	0.61	280	-3.766	.000
13	With blended training, your interest in sports has increased	3.67	0.73	4.39	0.70	280	-3.739	.000
14	Blended learning I take more responsibility for being more successful in classrooms	3.57	0.81	4.31	0.64	280	-3.544	.000
15	I can express myself better with blended education	3.55	0.78	4.53	0.59	280	-6.393	.000
16	I believe that there is a positive connection between educations, thanks to blended education	3.62	0.74	4.26	0.59	280	-4.323	.000
17	With blended learning and training, I can easily get used to any idea	3.60	0.74	4.53	0.59	280	-6.393	.000
18	I believe that I have achieved success in sports classes with blended education	3.65	0.80	4.26	0.59	280	-4.323	.000
Overall Average		3,64	0,76	4,36	0,66	280	-3,77	002

As shown in Table 7, haramanlanmi about training and sports pre-test and post-test results are among the pre-test and post-test scores on the last test between pre-test and final test according to high risk. A significant difference observed ( $P < 0.005$ ). Although there was a significant difference in all statements, according to the results of the last test, it is seen that the average score of  $M = 4.53$  'I can express myself better with blended education' from the statements of secondary school students was  $M = 3.55$  on the preliminary test, while the evaluation result was  $M = 3.55$ . However, from the most obvious statements of secondary school students in the last test, 'I can watch sports movements that are repeated in the lesson many times with blended learning' was  $M = 4.43$ , while the preliminary test evaluation result was  $M = 3.60$ . In addition, it is seen that the average score of the final test is  $M = 4.53$ , while the average score of the pre-test is  $M = 3.60$

Although it is seen as positive results in each item of the survey, the opinions of students from secondary education 'Blended training has increased my interest in the field through' the last test points, an average of  $M = 4.46$ , while pre-test  $M = 3.62$ , the blended training and sports training-

secondary education is a difference in students seen to occur. In addition, among the opinions of secondary school students, 'I have never had any difficulty in blended education', the average score of the final test was  $M= 4.42$ , while the average score of the preliminary test was  $M=3.50$ . In addition, it is seen that the average pre-test score is  $M=3.80$ , while the final test score of 'I can connect to blended education from any smart device I want' is  $M=4.36$  in the opinions of secondary school students. Finally, it is seen that the final test average of secondary school students is  $M= 4.36$ , while the pre-test average is  $M=3.64$ , and it is seen in Table 7 that the ideas of secondary school students about blended education and sports education have developed positively.

#### **4. Discussion**

George and Spyros (2016), in their study, aimed to design the effect of the application of the course on the cognitive levels of students in physical education courses of primary and secondary education for a number of sports lessons using a blended learning method, and as a result, in this context, it has been concluded that blended education has a significant effect on sports education for secondary education students among the results of the research. It can also be said that blended education provides benefits in education by considering the two results.

Yang (2021) noted the theoretical analysis and practical analysis in the teaching of physical education in the country in the implementation of the idea of physical education, at the current stage, outdated educational understanding, lack of resources, some obvious issues such as lack of teachers by pointing out that this training is intended to provide students with the technology and as a result are not familiar with computers in teaching physical education and sports students in the humanities and sciences and concluded that they are very skilled in using the computer. In this context, among the results of the research, it was concluded that the students who use smart devices are most focused on blended education and sports education. When these two values are combined, it can be said that the areas that need application such as sports with technology will always benefit students and teachers.

Taufik et al. (2021) in the year of the work they have done in an environment for the purpose of this study is primarily a virtual learning basic motor skills in elementary school as a YouTube-based application intended to get an overview of the learning outcomes by using and learning by using technology as a result of fundamental movement skills in enhancing the learning environment for primary school students they got the results they achieved quite meaningful. In this context, it can be said that the research conducted in this context is directly proportional to the results of the research and that this area benefits the students.

It is seen that there is a significant difference between blended education and sports education in secondary school students. Even if a meaningful result is reached, it is thought that repeating this study in other years and in different geographical locations will benefit the field and students, as technology is a current that develops every day and replaces it with a new one, the studies in the field should be kept up to date. In this context, it is important to repeat this research. It can be said that blended education benefits secondary school students and that the research is directly proportional to the problem situation.

#### **5. Conclusion**

It is seen that gender information comes first when the results part of the research is considered, gender concepts are always important in case of a problem. Equal distribution of the

concept of gender is directly related to the problem situation of the study. In this context, the distributions according to the gender variable of the secondary school students participating in the study were determined and it was concluded that 145 male and 135 female secondary school students participated in the study. Another value of research-secondary education when students use smart device often researched, investigated, and as a result has been reached the conclusion that they were most 3–4 hours using your smart device. This value is important in the research in blended education, in this context, they use a lot of smart devices that blended for training days is required. In this context, it was concluded that the smart device usage time of secondary school students regarding the blended education process is mostly in the 3–4 hours within the research. Another result of the research is that the use cases of secondary school students for blended learning process times were examined and as a result, it was concluded that they use time for blended learning of 5 hours and more, in this context, it was concluded that secondary school students prefer blended learning usage amounts of 5 hours and more in the research. In addition, it has been concluded that this value also supports smart device usage values.

If the value is in another research, the purpose of secondary education students of computer and internet use in education blended researched on the problem of the research and as a result, it was inferred that 160 people was targeting blended training. It has been concluded that each question posed to secondary school students has found its value. In this context, it is seen that secondary school students use sports education in line with blended education and include technology in this education. Another value of the study is that the educational status of secondary school students blended with the gender variable was examined and as a result, it was concluded that the views of h male students on blended education in female students were positive. In addition, it was concluded that there was no significant difference according to the gender criterion. In this context, it can be said in the results part of the study that there is no difference between the blended education scores of male secondary school students and female students in this study and that they are also high. The final result of the study was collated and it is seen that the results of the pre-test and final test on sports training were included. It was concluded that there was a significant difference between the pre-test and post-test scores and that the final test was higher than the pre-test.

Middle school students also able to express themselves better with blended training course, which is the repetition of the sports activities could watch over and over again with blended training, blended training, every one they could easily get used to it, blended training, thanks to the increase of interest in the area, they have no difficulty in blended training, blended training so that you can connect any smart device etc. As a result, it was found that they responded significantly.

According to the results obtained from the study, it was concluded that there is a significant difference between the pre-test and final-test of secondary school students and that the blended education results are high in both gender groups where the blended education is high in sports classes. In this context, it is seen that blended education provides benefits and benefits to secondary education students in the study, and it is recommended that this study be carried out again for future generations and teachers.

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