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Examining the Web Pedagogical Content Knowledge of Faculty of Sports Sciences Students and Their Attitudes towards Distance Education

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Abstract

The aim of the research is to investigate the web pedagogical content knowledge and attitudes towards distance education of students enrolled in the Faculty of Sports Sciences. A total of 355 randomly selected students from Erciyes University's Faculty of Sports Sciences participated in the study. The research utilized the Distance Education Attitude Scale, Web Pedagogical Content Knowledge Scale, and a personal information form prepared by the researcher. Independent t-test statistics were used to compare the scores obtained from the scales in terms of gender, internet access status, computer availability, previous experience with distance education, and taking courses in information technologies. One-way analysis of variance (LSD) test statistics were used for comparisons based on class, overall weighted grade point average, place of residence, and the perception of the university's distance education facilities. As a result, no statistically significant differences were found based on the gender variable, while significant differences were identified with respect to class, overall weighted grade point average, place of residence, internet access status, computer availability, previous experience with distance education, and the perception of the university's distance education facilities. Furthermore, when examining the results of correlation and regression, a significant negative relationship was observed between web pedagogical content knowledge and the limitations of distance education, explaining 14.1% of the total variance. Students with an adequate level of web content knowledge tend to have more positive attitudes toward distance education. With their sufficient web content knowledge, students can be more effective in focusing on online courses, which can potentially contribute to their academic success.

Keywords: Web pedagogical content, distance education, sports.

Introduction

COVID-19, initially emerged in December in the city of Wuhan, Hubei Province, China, was officially identified on January 13, 2020, through research conducted on a group of individuals displaying symptoms of respiratory distress, including fever, cough, and shortness of breath (Til, 2020). The pandemic is defined as a rapidly spreading epidemic disease, necessitating essential measures to combat the virus and prevent its transmission, such as hygiene regulations, mask usage, and social isolation (Yılmaz, 2020).

In Türkiye, a series of measures were taken to fight against this disease. These measures included curfews, travel restrictions, quarantine procedures, and restrictions on educational activities in schools (Yılmaz, 2020). Schools were initially temporarily closed on March 16, 2020, followed by a nationwide transition to distance education (Ministry of National Education [MoNE], 2020a). The Ministry of National Education announced the initiation of remedial education through the National Education Information Network [EBA] on the internet and the Turkish Radio and Television Corporation [TRT] on television by making changes to the weekly lesson plans (MoNE, 2020b). Over twenty million students and more than a million teachers in Türkiye transitioned to distance education. During this period, educators attempted to ensure the continuity of education through online platforms, although they had not been adequately trained in distance education methods (Karip, 2020).

Web pedagogical content knowledge, a component of web-based education, encompasses the integration of instructional content with web-based resources and pedagogical principles (Lee & Tsai, 2010). Educators need to understand both the content and how to effectively integrate web resources into their teaching. Adequate pedagogical knowledge is essential for utilizing technology effectively in education. Individuals who lack the necessary pedagogical knowledge may struggle to harness the potential of technology in their teaching (Angeli & Valanides, 2009).

In Türkiye, web-based distance education is primarily implemented through the Distance Education Application and Research Centers [UZEM] of various universities, including Anadolu University, Istanbul University, and Atatürk University. However, the rapid transition to emergency distance education, which required unique adaptations, was crucial for the continuity of education during the COVID-19 pandemic. Emergency structured distance education involves shifting to online instruction during crises or emergencies, with the potential to revert to traditional face-to-face teaching once the crisis subsides (Hodges et al., 2020).

The effectiveness of remote learning is influenced by various factors, including access to technological tools, students' learning environments, the support provided by families, pandemic-related stress and anxiety levels, and other variables (TEDMEM, 2021). Comparing online education to in-person learning is a complex endeavor due to multiple reasons, including the necessity to consider different media as equal methods of knowledge delivery and the impact of various factors on learning outcomes (Hodges et al., 2020).

The transition to remote education during the COVID-19 pandemic posed various challenges. While students in urban areas generally had better access to online programs, those in rural areas often faced connectivity issues. Moreover, students' lack of knowledge about using computers, tablets, phones, and other communication devices might lead to difficulties in accessing remote education activities. Additionally, students with insufficient web pedagogical content knowledge might struggle to navigate online interfaces, potentially leading to negative attitudes towards distance education.

This study aims to determine the levels of web pedagogical content knowledge and the thought levels regarding distance education among physical education and sports teacher candidates and investigate the relationship between these two factors."

Method

Research Model

This study adopts a relational survey model. This survey model can be defined as one that aims to determine the existence and/or degree of mutual variation between two or more variables (Karasar, 2007). Given that this research is intended to conduct a situational analysis of the relationship between the web pedagogical content knowledge and attitudes towards distance education of students enrolled in the Faculty of Sports Sciences at Erciyes University, it carries a descriptive nature.

Research Group

The research will be conducted through a study group. The study group consists of 2nd, 3rd, and 4th-year students studying in various departments of the Faculty of Sports Sciences, selected using a random method.

Table 1. *Socio-demographic characteristics of participants*

	Variable	N	%
Gender	Female	129	36,3
	Male	226	63,7
Class	2	58	16,3
	3	160	45,1
	4	137	38,6
General Weighted Grade Point Average (GPA)	2.01-2.50	46	13,0
	2.51-3.00	177	49,9
	3.01-3.50	114	32,1
	3.51-4.00	18	5,1
Place of Residence	Village	14	3,9
	District	32	9,0
	Province	82	23,1
	Metropolitan	227	63,9
Internet Accessibility Status	Yes	342	96,3
	No	13	3,7
Computer Availability	Yes	294	82,8
	No	61	17,2
Participation in Information Technology Courses	Yes	320	90,1
	No	35	9,9
Previous Experience with Distance Education	Yes	316	89,0
	No	39	11,0
Perceptions of Your University's Distance Education Facilities	Very Inadequate	12	3,4
	Inadequate	125	35,2
	Adequate	186	52,4
	Very Adequate	32	9,0

Data Collection Tools

Informed consent forms were obtained from the participants before the administration of the measurement tools. During the administration, researchers provided necessary explanations to the participants over an extended period, without rushing, to create an assessment process that is sufficiently comprehensive for the participants. Moreover, conducive conditions were provided for the participants to comfortably fill out the forms. The data collection instruments used in the study were configured as the Web Pedagogical Content Knowledge Scale, the Distance Education Attitude Scale, and a Socio-Demographic Information Form.

Socio-Demographic Information Form

When creating the socio-demographic information form for the study, a pool of characteristics to be examined in the students was established by researching existing web pedagogical content knowledge and attitudes toward distance education scales in the literature. Subsequently, feedback was obtained from statistical experts to create the socio-demographic information form. This socio-demographic information form includes nine questions concerning participants' gender, class, general weighted grade point average, place of residence, internet accessibility status, computer availability, participation in information technology courses, prior experience with distance education, and their perceptions of their university's distance education facilities.

Distance Education Attitude Scale

The Distance Education Attitude Scale [UETÖ], developed by Ağır et al., (2008), consists of twenty-one items. The items in the scale are rated on a five-point Likert scale (1- Strongly Disagree, 2-

Disagree, 3- Undecided, 4- Agree, 5- Strongly Agree). In the UETÖ, a total of seven items are reverse-scored, and these items also constitute the sub-dimension of "Limitations of Distance Education". The minimum and maximum scores that can be obtained for the UETÖ's sub-dimensions and the entire scale are as follows: For the sub-dimension "Advantages of Distance Education," the scores range from 14 to 70, for "Limitations of Distance Education," they range from 7 to 35, and for the entire scale, they range from 21 to 105. A higher score on the UETÖ indicates a more positive attitude toward distance education, while a lower score reflects the opposite. The scale's reliability was calculated as a test-retest reliability of 0.799 and a Cronbach's Alpha reliability coefficient of 0.835.

Web Pedagogical Content Knowledge Scale

The scale was developed by Lee, Tsai, and Chang (2008) and adapted to Turkish by Horzum (2011). The scale was designed using a 5-point Likert scale. The participation levels are rated as 1, 2, 3, 4, 5. The scale comprises a total of 30 items and is composed of five factors. The factors are General Web, Communicative Web, Pedagogical Web, Web Pedagogical Content, and Attitude Toward Web-Based Instruction. The internal consistency coefficient of the scale is reported as 0.94. For this study, the internal consistency coefficient of the scale was calculated as 0.98.

Analysis of Data

Personal information of the participants, inventory total scores, and factor scores are provided in frequency (f) and percentage (%) values. The Kolmogorov-Smirnov test and skewness-kurtosis values were examined to determine the distribution of scores from the scales. The results indicated that the data distribution was within the +/-1 range, which is considered normal without extreme deviations. Therefore, parametric test statistics were used for comparing the data. Independent t-tests were used for binary comparisons of scores from the scales, while one-way analysis of variance (ANOVA) was used for comparing three or more variables. In cases where significant differences were detected in sub-dimensions because of one-way ANOVA, the LSD test statistic, which is used for pairwise comparisons with homogenous distribution and unequal group sizes, was used. Pearson's product-moment correlation analysis (r) was used to reveal the relationship between the scores obtained from the scales, and multiple regression analysis (β) was applied to determine if the scores predicted each other.

Ethical Approvals for the Research

In this study, all rules specified under the "Higher Education Institutions' Scientific Research and Publication Ethics Directive" have been adhered to. None of the actions listed under the second section of the directive titled "Actions Contrary to Scientific Research and Publication Ethics" were carried out.

Ethics Committee Permission Information:

Ethics Committee Permission Information:

Name of the committee that made the ethical evaluation = Erciyes University Social and Humanities Sciences Ethics Committee

Date of ethical review decision= 27.04.2021

Application number= 233

Findings

Table 2. Descriptive statistics of participants' scores on web pedagogical content knowledge and attitudes toward distance education scales

Scale	N	Min.	Max.	X±SD	Skewness	Kurtosis	Kolmogorov-Smirnov
General Web	355	3,00	5,00	4,32±0,54	-,575	-,766	,000
Communicative Web	355	3,00	5,00	4,41±0,50	-,718	-,314	,000
Pedagogical Web	355	2,71	5,00	4,49±0,54	-,891	-,160	,000
Web Pedagogical Content	355	2,40	5,00	4,40±0,55	-,738	-,068	,000
Attitude Toward Web-Based Instruction	355	3,00	5,00	4,43±0,61	-,688	-,867	,000
Total Web Pedagogical	355	3,18	5,00	4,41±0,46	-,684	-,648	,000
Advantages of Distance Education	355	1,14	4,43	2,85±0,60	,150	-,004	,145
Limitations of Distance Education	355	1,00	4,71	2,53±0,78	,302	-,381	,000

When Table 2 is examined, it is determined that the sub-dimensions of web pedagogical content knowledge and attitudes towards distance education of students in the Faculty of Sports Sciences are as follows: the general web dimension is 4.32 ± 0.54 , the communicative web dimension is 4.41 ± 0.50 , the pedagogical web dimension is 4.49 ± 0.54 , the web pedagogical content dimension is 4.40 ± 0.55 , the attitude towards web-based instruction dimension is 4.43 ± 0.61 , the total web pedagogical dimension is 4.41 ± 0.46 , the advantages of distance education dimension is 2.85 ± 0.60 , and the limitations of distance education dimension is 2.53 ± 0.78 .

Table 3. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' gender

Scale	Gender	N	X±SD	t	p
General Web	Female	129	4,33±0,54	,068	,946
	Male	226	4,32±0,54		
Communicative Web	Female	129	4,36±0,52	-1,440	,151
	Male	226	4,44±0,49		
Pedagogical Web	Female	129	4,52±0,51	1,021	,308
	Male	226	4,46±0,56		
Web Pedagogical Content	Female	129	4,36±0,57	-1,070	,285
	Male	226	4,42±0,53		
Attitude Toward Web-Based Instruction	Female	129	4,42±0,62	-,220	,826
	Male	226	4,44±0,60		
Total Web Pedagogical	Female	129	4,40±0,46	-,379	,705
	Male	226	4,42±0,46		
Advantages of Distance Education	Female	129	2,80±0,61	-1,356	,176
	Male	226	2,89±0,60		
Limitations of Distance Education	Female	129	2,47±0,84	-1,021	,308
	Male	226	2,56±0,74		

When Table 3 is examined, no significant difference was found in the sub-dimensions of web pedagogical content knowledge and attitude towards distance education among the students of the Faculty of Sports Sciences based on the gender variable ($p>0.05$).

Table 4. Comparison of web pedagogical content knowledge and attitude toward distance education scale scores by participants' classifications

Scale	Class	N	X±SD	f	p	LSD
General Web	2 ^a	58	4,39±0,55	5,795	,003	a>b b<c
	3 ^b	160	4,22±0,60			
	4 ^c	137	4,42±0,44			
Communicative Web	2 ^a	58	4,51±0,46	4,546	,011	a>b b<c
	3 ^b	160	4,32±0,55			
	4 ^c	137	4,46±0,44			
Pedagogical Web	2 ^a	58	4,51±0,58	2,502	,083	-
	3 ^b	160	4,42±0,57			
	4 ^c	137	4,56±0,47			
Web Pedagogical Content	2 ^a	58	4,42±0,51	3,102	,046	b<c
	3 ^b	160	4,32±0,62			
	4 ^c	137	4,48±0,44			
Attitude Toward Web-Based Instruction	2 ^a	58	4,45±0,53	1,309	,272	-
	3 ^b	160	4,38±0,64			
	4 ^c	137	4,49±0,59			
Total Web Pedagogical	2 ^a	58	4,46±0,45	4,456	,012	b<c
	3 ^b	160	4,33±0,50			
	4 ^c	137	4,48±0,39			
Advantages of Distance Education	2 ^a	58	2,67±0,53	4,503	,012	a<b
	3 ^b	160	2,94±0,57			
	4 ^c	137	2,83±0,65			
Limitations of Distance Education	2 ^a	58	2,36±0,64	4,981	,007	a<b b>c
	3 ^b	160	2,67±0,77			
	4 ^c	137	2,44±0,82			

When Table 4 is examined, it is observed that among the students of the Faculty of Sports Sciences, significant differences were found in the sub-dimensions of general web, communicative web, web pedagogical content, web pedagogical total, advantages of distance education, and limitations of distance education based on their class levels ($p<0.05$); however, no significant differences were found in the sub-dimensions of pedagogical web and attitude towards web-based instruction ($p>0.05$).

Table 5. Comparison of web pedagogical content knowledge and attitude toward distance education scale scores by participants' GPA variable

Scale	GPA	N	X±SD	f	p	LSD
General Web	2.01-2.50 ^a	46	4,16±0,49	2,516	,058	-
	2.51-3.00 ^b	177	4,39±0,51			
	3.01-3.50 ^c	114	4,29±0,58			
	3.51-4.00 ^d	18	4,37±0,59			
Communicative Web	2.01-2.50 ^a	46	4,37±0,41	,382	,766	-
	2.51-3.00 ^b	177	4,39±0,52			
	3.01-3.50 ^c	114	4,45±0,51			
	3.51-4.00 ^d	18	4,41±0,53			
Pedagogical Web	2.01-2.50 ^a	46	4,25±0,61	3,953	,009	a<b a<c a<d
	2.51-3.00 ^b	177	4,51±0,52			
	3.01-3.50 ^c	114	4,51±0,53			
	3.51-4.00 ^d	18	4,68±0,38			
Web Pedagogical Content	2.01-2.50 ^a	46	4,25±0,44	1,805	,146	-
	2.51-3.00 ^b	177	4,45±0,56			
	3.01-3.50 ^c	114	4,37±0,55			
	3.51-4.00 ^d	18	4,41±0,54			
Attitude Toward Web-Based Instruction	2.01-2.50 ^a	46	4,28±0,60	1,344	,260	-
	2.51-3.00 ^b	177	4,44±0,62			
	3.01-3.50 ^c	114	4,49±0,61			
	3.51-4.00 ^d	18	4,43±0,44			
Total Web Pedagogical	2.01-2.50 ^a	46	4,26±0,41	1,968	,118	-
	2.51-3.00 ^b	177	4,44±0,47			
	3.01-3.50 ^c	114	4,42±0,45			
	3.51-4.00 ^d	18	4,46±0,44			
Advantages of Distance Education	2.01-2.50 ^a	46	2,93±0,74	2,616	,051	b<c
	2.51-3.00 ^b	177	2,76±0,58			
	3.01-3.50 ^c	114	2,95±0,58			
	3.51-4.00 ^d	18	2,90±0,46			
Limitations of Distance Education	2.01-2.50 ^a	46	2,66±0,85	1,089	,354	-
	2.51-3.00 ^b	177	2,48±0,78			
	3.01-3.50 ^c	114	2,58±0,78			
	3.51-4.00 ^d	18	2,34±0,47			

When Table 5 is examined, it is found that among the students of the Faculty of Sports Sciences, significant differences were detected in the sub-dimensions of pedagogical web and advantages of distance education based on their GPAs ($p < 0.05$); however, no significant differences were observed in the sub-dimensions of general web, communicative web, web pedagogical content, attitude towards web-based instruction, web pedagogical total, and limitations of distance education ($p > 0.05$).

Table 6. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' place of residence variable

Scale	Place of Residence	N	X±SD	f	p	LSD
General Web	Village ^a	14	4,02±0,48	2,272	,080	a<d
	District ^b	32	4,22±0,58			
	Province ^c	82	4,32±0,50			
	Metropolitan ^d	227	4,36±0,55			
Communicative Web	Village ^a	14	4,24±0,53	2,842	,038	b<d
	District ^b	32	4,26±0,54			
	Province ^c	82	4,34±0,47			
	Metropolitan ^d	227	4,46±0,50			
Pedagogical Web	Village ^a	14	4,28±0,59	2,209	,087	b<d
	District ^b	32	4,31±0,56			
	Province ^c	82	4,48±0,50			
	Metropolitan ^d	227	4,52±0,54			
Web Pedagogical Content	Village ^a	14	4,36±0,54	1,026	,381	-
	District ^b	32	4,27±0,66			
	Province ^c	82	4,36±0,51			
	Metropolitan ^d	227	4,43±0,54			
Attitude Toward Web-Based Instruction	Village ^a	14	4,11±0,84	2,391	,068	a<d
	District ^b	32	4,30±0,62			
	Province ^c	82	4,41±0,62			
	Metropolitan ^d	227	4,48±0,58			
Total Web Pedagogical	Village ^a	14	4,20±0,51	2,734	,044	a<d b<d
	District ^b	32	4,27±0,52			
	Province ^c	82	4,38±0,42			
	Metropolitan ^d	227	4,45±0,45			
Advantages of Distance Education	Village ^a	14	2,80±0,61	,725	,538	-
	District ^b	32	2,94±0,71			
	Province ^c	82	2,91±0,63			
	Metropolitan ^d	227	2,82±0,58			
Limitations of Distance Education	Village ^a	14	2,66±0,75	1,080	,357	-
	District ^b	32	2,67±0,95			
	Province ^c	82	2,60±0,80			
	Metropolitan ^d	227	2,48±0,74			

When Table 6 is examined, it is found that among the students of the Faculty of Sports Sciences, significant differences were detected in the sub-dimensions of general web, communicative web, pedagogical web, attitude towards web-based instruction, and web pedagogical total based on their place of residence ($p < 0.05$); however, no significant differences were observed in the sub-dimensions of web pedagogical content, advantages of distance education, and limitations of distance education ($p > 0.05$).

Table 7. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' internet access status

Scale	Internet Accessibility Status	N	X±SD	t	p
General Web	Yes	342	4,34±0,54	1,989	,068
	No	13	4,03±0,54		
Communicative Web	Yes	342	4,42±0,50	2,587	,022
	No	13	4,10±0,43		
Pedagogical Web	Yes	342	4,51±0,52	2,892	,013
	No	13	3,90±0,75		
Web Pedagogical Content	Yes	342	4,41±0,55	1,937	,074
	No	13	4,15±0,46		
Attitude Toward Web-Based Instruction	Yes	342	4,45±0,60	1,852	,088
	No	13	4,06±0,75		
Total Web Pedagogical	Yes	342	4,42±0,45	2,447	,030
	No	13	4,05±0,55		
Advantages of Distance Education	Yes	342	2,86±0,60	1,368	,195
	No	13	2,63±0,61		
Limitations of Distance Education	Yes	342	2,51±0,77	-2,458	,014
	No	13	3,04±0,69		

When Table 7 is examined, it is determined that among the students of the Faculty of Sports Sciences, significant differences were found in the sub-dimensions of communicative web, pedagogical web, web pedagogical total, and limitations of distance education based on their internet access status ($p < 0.05$); however, no significant differences were found in the sub-dimensions of general web, web pedagogical content, attitude towards web-based instruction, and advantages of distance education ($p > 0.05$).

Table 8. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' computer ownership status

Scale	Computer Availability	N	X±SD	t	p
General Web	Yes	294	4,36±0,54	2,975	,004
	No	61	4,15±0,49		
Communicative Web	Yes	294	4,44±0,51	2,732	,007
	No	61	4,25±0,42		
Pedagogical Web	Yes	294	4,54±0,51	4,500	,000
	No	61	4,21±0,58		
Web Pedagogical Content	Yes	294	4,43±0,54	2,219	,027
	No	61	4,26±0,55		
Attitude Toward Web-Based Instruction	Yes	294	4,48±0,60	3,039	,003
	No	61	4,22±0,60		
Total Web Pedagogical	Yes	294	4,45±0,45	3,682	,000
	No	61	4,22±0,46		
Advantages of Distance Education	Yes	294	2,87±0,60	1,009	,316
	No	61	2,78±0,61		
Limitations of Distance Education	Yes	294	2,50±0,75	-1,245	,217
	No	61	2,66±0,90		

When Table 8 is examined, it is found that among the students of the Faculty of Sports Sciences, significant differences were detected in the sub-dimensions of general web, communicative web, pedagogical web, web pedagogical content, attitude towards web-based instruction, and web pedagogical total based on their computer ownership status ($p < 0.05$); however, no significant differences were observed in the sub-dimensions of advantages of distance education and limitations of distance education ($p > 0.05$).

Table 9. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' enrollment in information technology courses

Scale	Participation in Information Technology Courses	N	X±SD	t	p
General Web	Yes	320	4,33±0,55	,614	,542
	No	35	4,28±0,45		
Communicative Web	Yes	320	4,41±0,51	,161	,873
	No	35	4,40±0,45		
Pedagogical Web	Yes	320	4,50±0,54	1,287	,205
	No	35	4,37±0,56		
Web Pedagogical Content	Yes	320	4,40±0,55	,616	,541
	No	35	4,34±0,54		
Attitude Toward Web-Based Instruction	Yes	320	4,45±0,60	1,488	,144
	No	35	4,29±0,62		
Total Web Pedagogical	Yes	320	4,42±0,46	1,056	,297
	No	35	4,33±0,44		
Advantages of Distance Education	Yes	320	2,83±0,59	-1,591	,119
	No	35	3,02±0,67		
Limitations of Distance Education	Yes	320	2,47±0,75	-4,013	,000
	No	35	3,07±0,85		

When Table 9 is examined, it is observed that among the students of the Faculty of Sports Sciences, a significant difference was found in the sub-dimension of limitations of distance education based on their enrollment in information technology courses ($p < 0.05$); however, no significant differences were found in the sub-dimensions of general web, communicative web, pedagogical web, web pedagogical content, attitude towards web-based instruction, web pedagogical total, and advantages of distance education ($p > 0.05$).

Table 10. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' prior experience with distance education

Scale	Previous Experience with Distance Education	N	X±SD	t	p
General Web	Yes	316	4,35±0,53	2,574	,010
	No	39	4,12±0,55		
Communicative Web	Yes	316	4,44±0,51	3,884	,000
	No	39	4,17±0,38		
Pedagogical Web	Yes	316	4,51±0,53	2,203	,033
	No	39	4,30±0,56		
Web Pedagogical Content	Yes	316	4,41±0,56	1,755	,085
	No	39	4,28±0,43		
Attitude Toward Web-Based Instruction	Yes	316	4,45±0,61	1,588	,113
	No	39	4,29±0,59		
Total Web Pedagogical	Yes	316	4,43±0,46	2,820	,007
	No	39	4,23±0,41		
Advantages of Distance Education	Yes	316	2,87±0,59	1,716	,093
	No	39	2,68±0,67		
Limitations of Distance Education	Yes	316	2,54±0,77	,905	,370
	No	39	2,41±0,85		

When Table 10 is examined, it is found that among the students of the Faculty of Sports Sciences, significant differences were detected in the sub-dimensions of general web, communicative web, pedagogical web, and web pedagogical total based on their prior experience with distance education ($p < 0.05$); however, no significant differences were observed in the sub-dimensions of web pedagogical

content, attitude towards web-based instruction, advantages of distance education, and limitations of distance education ($p>0.05$).

Table 11. Comparison of web pedagogical content knowledge and attitude towards distance education scale scores according to participants' evaluation of the opportunities provided by their university for distance education

Scale	Perceptions of Your University's Distance Education Facilities	N	X±SD	f	p	LSD
General Web	Very Inadequate ^a	12	4,32±0,55	,864	,460	-
	Inadequate ^b	125	4,26±0,60			
	Adequate ^c	186	4,35±0,53			
	Very Adequate ^d	32	4,39±0,34			
Communicative Web	Very Inadequate ^a	12	4,33±0,46	,331	,803	-
	Inadequate ^b	125	4,38±0,55			
	Adequate ^c	186	4,43±0,47			
	Very Adequate ^d	32	4,40±0,48			
Pedagogical Web	Very Inadequate ^a	12	4,76±0,37	1,789	,149	-
	Inadequate ^b	125	4,44±0,58			
	Adequate ^c	186	4,51±0,53			
	Very Adequate ^d	32	4,41±0,46			
Web Pedagogical Content	Very Inadequate ^a	12	4,35±0,47	1,312	,270	-
	Inadequate ^b	125	4,33±0,66			
	Adequate ^c	186	4,42±0,48			
	Very Adequate ^d	32	4,53±0,40			
Attitude Toward Web-Based Instruction	Very Inadequate ^a	12	4,77±0,38	2,538	,056	-
	Inadequate ^b	125	4,35±0,64			
	Adequate ^c	186	4,48±0,59			
	Very Adequate ^d	32	4,35±0,62			
Total Web Pedagogical	Very Inadequate ^a	12	4,51±0,38	1,071	,361	-
	Inadequate ^b	125	4,35±0,50			
	Adequate ^c	186	4,44±0,44			
	Very Adequate ^d	32	4,42±0,36			
Advantages of Distance Education	Very Inadequate ^a	12	2,68±0,62	7,411	,000	a<d
	Inadequate ^b	125	2,69±0,61			b<c
	Adequate ^c	186	2,92±0,57			b<d
	Very Adequate ^d	32	3,16±0,61			c<d
Limitations of Distance Education	Very Inadequate ^a	12	1,85±0,75	8,021	,000	a<b
	Inadequate ^b	125	2,40±0,79			a<c
	Adequate ^c	186	2,58±0,72			a<d
	Very Adequate ^d	32	2,95±0,80			b<d c<d

When Table 11 is examined, it is observed that among the students of the Faculty of Sports Sciences, significant differences were found in the sub-dimensions of advantages of distance education and limitations of distance education based on their evaluation of the opportunities provided by their university for distance education ($p<0.05$); however, no significant differences were found in the sub-dimensions of general web, communicative web, pedagogical web, web pedagogical content, attitude towards web-based instruction, and web pedagogical total ($p>0.05$).

Table 12. Correlation analysis of web pedagogical content knowledge and attitude towards distance education scales

N=355		1	2	3	4	5	6	7
General Web (1)	r	1						
	p							
Communicative Web (2)	r	,627**	1					
	p	,000						
Pedagogical Web (3)	r	,594**	,607**	1				
	p	,000	,000					
Web Pedagogical Content (4)	r	,684**	,608**	,629**	1			
	p	,000	,000	,000				
Attitude Toward Web-Based Instruction (5)	r	,617**	,567**	,599**	,646**	1		
	p	,000	,000	,000	,000			
Total Web Pedagogical (6)	r	,844**	,809**	,822**	,857**	,834**	1	
	p	,000	,000	,000	,000	,000		
Advantages of Distance Education (7)	r	,046	,087	,006	,012	-,039	,024	1
	p	,387	,100	,908	,820	,460	,652	
Limitations of Distance Education (8)	r	-,249**	-,184**	-,276**	-,280**	-,307**	-,314**	,495**
	p	,000	,000	,000	,000	,000	,000	,000

While no significant relationship was found between the overall web size and the advantages of online education ($r=0.046$, $p=0.387$), a low-level negative significant relationship was observed between the limitations of online education and overall web size ($r=-0.249$, $p=0.000$). Similarly, there was no significant relationship between the communicative web size and the advantages of online education ($r=0.087$, $p=0.100$), but a low-level negative significant relationship was detected between the limitations of online education and the communicative web size ($r=-0.184$, $p=0.000$). The pedagogical web size showed no significant relationship with the advantages of online education ($r=0.006$, $p=0.908$), while a low-level negative significant relationship was found between the limitations of online education and the pedagogical web size ($r=-0.276$, $p=0.000$). There was no significant relationship between the web pedagogical content size and the advantages of online education ($r=0.012$, $p=0.820$), but a low-level negative significant relationship was identified between the limitations of online education and the web pedagogical content size ($r=-0.280$, $p=0.000$). The attitude dimension toward web-based learning had no significant relationship with the advantages of online education ($r=-0.039$, $p=0.460$), while a low-level negative significant relationship was observed between the limitations of online education and the attitude toward web-based learning ($r=-0.307$, $p=0.000$). Furthermore, no significant relationship was found between the web pedagogical total size and the advantages of online education ($r=0.024$, $p=0.652$), but a low-level negative significant relationship was identified between the limitations of online education and the web pedagogical total size ($r=-0.314$, $p=0.000$).

Table 13. Regression table for predicting attitude towards distance education values by web pedagogical content knowledge

Scale		β	t	P	R	R ²	F	p
Web Pedagogical Content Knowledge Total	Advantages of Distance Education	,238	4,183	,000	,376	,141	28,925	,000
	Limitations of Distance Education	-,432	-7,590	,000				

Table 13 presents a model that demonstrates a significant relationship between web pedagogical content knowledge and the attitude towards online education ($r=0.376$, $r^2=0.141$; $p<0.05$).

When examining the results of the t-test for the significance of the regression coefficient, it can be observed that web pedagogical content knowledge predicts the level of advantages ($t=4.183$, $p=0.000$) and limitations ($t=-7.590$, $p=0.000$) of online education, explaining 14.1% of the total variance ($f=28.925$, $p<0.05$).

Discussion and Conclusion

In the conducted study, it was determined that there was no statistically significant difference between the gender of students at the Faculty of Sports Sciences in terms of their web pedagogical content knowledge and their attitudes towards distance education. A review of the literature revealed parallel findings to our study. Arslan and Korkmaz (2019) stated that there was no difference in attitudes towards distance education based on gender. Similarly, Ağır (2007) noted that there was no significant difference in the attitudes of primary school teachers working in private and state schools towards distance education in terms of gender. Yavuz (2016) conducted a similar study and found no significant difference in attitudes towards distance education scores based on the gender variable. However, contrary to the results of our study, findings in the literature indicated otherwise. Gömleksiz and Fidan (2011), Kaya et al., (2011), and Kavanoz et al., (2015) concluded in their studies that there was a significant difference in web pedagogical content knowledge between male and female teacher candidates. Yenilmez et al., (2017) and Bahar (2014) found a significant difference in attitudes towards distance education based on the gender variable in their research. It is suggested that the lack of a significant difference between students' attitudes towards distance education and web pedagogical content knowledge based on their gender may be attributed to the fact that theoretical and practical classes were conducted without gender discrimination both before and after the pandemic.

In our study, significant relationships were identified among students at the Faculty of Sports Sciences in terms of their classes for the sub-dimensions of general web, communicative web, web pedagogical content, total web pedagogical, advantages of distance education, and limitations of distance education, while no significant relationship was found for the pedagogical web and attitude towards web-based instruction sub-dimensions. Ergenekon (2021) found that students' attitudes towards distance education varied significantly based on their class variable in a study. Likewise, Ekici et al., (2015) determined in their research that students' web pedagogical content knowledge differed based on the class variable. However, Kazu and Erten (2011) and Kavanoz et al., (2015) did not find a statistically significant difference in web pedagogical content knowledge based on the class variable in their studies. When the data from our study is examined, it is generally observed that 4th-year students create a significant difference in web pedagogical content knowledge and attitudes towards distance education compared to other classes. The reason for this might be that higher-level students are more experienced in using computers and the internet for the presentation of course materials and completion of assignments, leading to an increase in their general web knowledge. As a result, it is thought that they can access online education courses more easily.

In our study, significant differences were observed in the sub-dimensions of pedagogical web and the advantages of distance education based on the students' overall weighted grade point averages, while no significant relationships were found for the sub-dimensions of general web, communicative web, web pedagogical content, attitude towards web-based instruction, total web pedagogical, and the limitations of distance education. When considering the students' overall weighted grade point average, it was found that students with higher averages had higher levels of pedagogical knowledge and also

had a positive emotional disposition towards distance education. It is believed that academically successful students actively participate in web-related courses to enhance their computer and web-related knowledge, resulting in a deeper understanding of web content. Students with adequate web content knowledge are also expected to have a positive attitude towards distance education, and it is believed that the results obtained are attributed to this factor.

Upon examination of our research, significant relationships were found in the sub-dimensions of general web, communicative web, pedagogical web, attitude toward web-based instruction, and total web pedagogical based on the location of residence for students in the Faculty of Sports Sciences, while no significant relationships were identified for the sub-dimensions of web pedagogical content, the advantages of distance education, and the limitations of distance education. In a study conducted by Ergenekon (2021), it was determined that university students studying in metropolitan areas had significantly different levels of web pedagogical knowledge compared to those studying in other cities. Consistent with our results, other studies have concluded that the place of residence does not have a significant effect on attitudes toward distance education (Kurnaz et al., 2020; Yıldırım, 2021). Upon analyzing the results, it was observed that students living in metropolitan areas had higher levels of web pedagogical content knowledge compared to students in other locations. Most educational institutions at the primary and secondary school levels in metropolitan areas have computer laboratories. As a result, students studying in these schools tend to have higher levels of web content knowledge. It is believed that the positive impact of quality basic education received in the past has contributed to the students' high levels of web pedagogical content knowledge. Additionally, the rapid spread of the internet and technology has made it possible for people in rural areas to access the internet quickly and smoothly, which may explain the lack of significant differences in attitudes toward distance education based on the place of residence.

In our study, significant relationships were found in the sub-dimensions of communicative web, pedagogical web, total web pedagogical, and the limitations of distance education based on the students' internet access status in the Faculty of Sports Sciences. However, no significant differences were observed in the sub-dimensions of general web, web pedagogical content, attitude toward web-based instruction, and the advantages of distance education. Barış (2015) noted in his study on university students' attitudes toward distance education that the average attitude scores of the participating students differed based on the variable "continuous internet access." Similarly, in a survey conducted by Akgün (2013) with 214 teacher candidates, it was found that the scores for web pedagogical content knowledge differed between those who used the internet for several hours a day and those who used it for a few hours a week or month. Upon analyzing our data, it was evident that students with internet access had higher levels of web pedagogical knowledge compared to those without internet access, and this difference was statistically significant. Additionally, it was determined that students without internet access had negative attitudes toward distance education. It is believed that internet access is a significant variable that influences the level of web pedagogical content knowledge and attitudes toward distance education.

In your study, significant relationships were found in the sub-dimensions of general web, communicative web, pedagogical web, web pedagogical content, and attitude toward web-based instruction based on the students' computer ownership status in the Faculty of Sports Sciences. However, no significant relationships were observed in the sub-dimensions of the advantages and

limitations of distance education. Kirali and Alıcı (2016) found in their research that students who had computers had more positive attitudes toward distance education compared to students who did not have access to computers. Similarly, Ateş and Altun (2008) found that students' computer usage experiences and their perceived computer skills had a positive impact on their attitudes toward distance education. Upon analyzing your data, it was evident that students with computer access had higher levels of web pedagogical knowledge compared to those without computers, and this difference was statistically significant. On the other hand, computer ownership status did not lead to significant differences in students' attitudes toward distance education. This might be attributed to the fact that all students had smartphones, and they were able to access distance education courses through their phones, making computer ownership less critical for their distance education experiences.

In your study, you found a significant relationship between students' participation in information technology courses and the limitations of distance education. This means that students who had taken information technology courses had a more positive attitude toward distance education and were less likely to perceive limitations. Türker and Dündar (2020) emphasized the importance of adequate hardware in ensuring a smooth experience in distance education. In line with their findings, your results suggest that students who had not taken information technology courses might struggle to access and engage with distance education, leading to negative perceptions about it. This highlights the role of information technology courses in preparing students for effective participation in distance education, as these courses likely enhance their technological skills and familiarity with web-based content and tools.

Your study indicates that students who had previously experienced distance education had higher levels of web pedagogical knowledge. This finding suggests that prior experience with distance education contributes to a better understanding of web-based teaching and learning methods, as students gain practical experience and skills in online learning environments. Additionally, the results show that prior experience with distance education did not significantly impact students' attitudes toward distance education. This suggests that students who had already gone through distance education were well-prepared and experienced enough not to perceive significant advantages or limitations in a new round of distance education. Their prior exposure to online learning might have made them more comfortable with the format and less prone to concerns or hesitations. In summary, your study highlights the importance of prior experience in distance education in enhancing students' web pedagogical knowledge and readiness for online learning, while also demonstrating that this experience can positively influence their attitudes toward distance education.

When examining the assessment of the opportunities provided by your university for distance education among students in the Faculty of Sports Sciences, significant relationships were observed in the sub-dimensions of the advantages of distance education and the limitations of distance education. However, no significant relationships were found in the sub-dimensions of general web, communicative web, pedagogical web, web pedagogical content, attitude towards web-based learning, and web pedagogical total. A review of the literature did not yield any findings related to this variable. From this perspective, it is believed that this variable will contribute to the literature and make a pioneering contribution to the field.

When the correlation and regression results of our study were examined, a significant negative relationship was found between web pedagogical content knowledge and the limitations of distance

education, explaining 14.1% of the total variance. It can be said that students with a high level of web pedagogical knowledge do not experience any issues with distance education and, therefore, do not feel any limitations. Horzum (2012) revealed in their study that web pedagogical content knowledge significantly increased the web-based teaching scores of teacher candidates. Yazar and Şimşek (2015) found that the average scores for general web pedagogical content knowledge of students taking computer technology courses were significantly higher. Andoh and his colleagues (2020), in their research on the evaluation of distance education for university students, highlighted in student opinions that technological resources should be used more effectively in distance education.

In conclusion, it was determined that students in the Faculty of Sports Sciences have a high level of web pedagogical content knowledge, while their attitudes towards distance education are at a moderate level. When examining the variables in our study, it was found that class, overall weighted grade point average, place of residence, internet access status, computer status, taking computer technology courses, level of using Office programs, previous experience with distance education, evaluation of the university's educational quality, and evaluation of the university's distance education facilities created significant differences, while no significant relationship was found in terms of gender and age variables. Additionally, when analyzing the correlation and regression results, a significant negative relationship was found between web pedagogical content knowledge and the limitations of distance education, explaining 14.1% of the total variance. Students with a sufficient level of web content knowledge have more positive attitudes toward distance education. Students with adequate web content knowledge can be more effective in focusing on online classes. This is believed to contribute to students becoming more academically successful individuals.

Recommendations

Practical training sessions can be provided to students to enhance their skills in effectively using online resources, content creation, and sharing. This can assist students in better understanding distance education materials and learning more effectively. Diversifying distance education materials can increase students' levels of interest. Using different learning resources such as video lectures, forums, and virtual laboratories can make online learning more engaging for students. To ensure that all students have equal access to the distance education system, communal spaces with internet connections and necessary hardware (cafes, libraries, computer labs, etc.) can be made more widely available. It is essential to regularly gather students' opinions about online classes and receive feedback to improve the courses. Feedback based on students' experiences can contribute to the enhancement of course content and teaching methods. Our study was conducted with students in the Faculty of Sports Sciences. Similar studies can be conducted for other departments in different research projects.

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BIOGRAPHICAL NOTES

Contribution Rate of Researchers

Author 1: 50%

Author 2: 30%

Author 3: 20%

Conflict Statement

We declare that all the rules in the Directive on Scientific Research and Publication Ethics for Higher Education Institutions have been complied with and that none of the "Actions Contrary to Scientific Research and Publication Ethics" in the second part of the directive have been carried out.



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Spor Bilimleri Fakültesi Öğrencilerinin Web Pedagojik İçerik Bilgileri ile Uzaktan Eğitime Yönelik Tutumlarının İncelenmesi

Giriş

Yeni koronavirüs hastalığı, ilk olarak Çin'in Hubei Eyaleti, Vuhan Kenti'nde aralık ayında ortaya çıkmıştır. Virüs, solunum yolunu etkileyip ateş, öksürük ve nefes darlığı belirtileri gösteren bir grup insan üzerinde yapılan araştırmalarla 13 Ocak 2020'de tanımlanmıştır. Pandemi, çok çabuk yayılan salgın hastalık olarak tanımlanmaktadır (Til, 2020). Virüs ile mücadele etmek ve bulaşıcılığı önlemek için temizlik kuralları, maske kullanımı ve sosyal izolasyon gibi insanların birbiri ile temasını en aza indirecek uygulamalar oldukça önemli hale gelmiştir. Türkiye'de bu hastalık ile mücadele kapsamında pek çok önlem alınmıştır. İnsan sağlığını korumak amaçlı yapılan bu uygulamaların başında; sokağa çıkma yasakları, seyahat kısıtlamaları, karantina süreçleri ve okullardaki eğitim öğretim faaliyetleri ile ilgili kısıtlamalar gelmektedir (Yılmaz, 2020).

İlk olarak 16 Mart 2020 tarihinde okullar geçici olarak kapatılmış, daha sonra ülke genelinde uzaktan eğitime geçiş yapılmıştır (Milli Eğitim Bakanlığı [MEB], 2020a). Milli Eğitim Bakanlığı haftalık ders programlarında değişiklikler yaparak, Eğitim Bilişim Ağı [EBA] ile internet üzerinden ve Türkiye Radyo Televizyon Kurumu [TRT] ile televizyondan telafi eğitimi başlatacağını duyurmuştur (MEB, 2020b). Türkiye'de yirmi milyondan fazla öğrenci ile bir milyondan fazla öğretmen uzaktan eğitime geçmiştir. Bu süre içerisinde yeteri kadar hâkim olamadığımız uzaktan eğitim aracılığıyla eğitimin devamlılığı sağlanmaya çalışılmıştır (Karip, 2020).

Türkiye'de web tabanlı uzaktan eğitim, Anadolu Üniversitesi, İstanbul Üniversitesi ve Atatürk Üniversitesi ile bazı üniversitelerin Uzaktan Öğretim Uygulama ve Araştırma Merkezleri [UZEM] aracılığı ile gerçekleştirilen bir yöntem olarak kullanılmaktadır. Uzaktan eğitim alt yapıları pek çok üniversitede bulunup kullanılsa da bu süreç içerisinde "acil uzaktan eğitim" isimli bir yapının oluşumu ve bu sürece özel yeni adaptasyonlara ihtiyaç duyulmuştur. Acil yapılandırılmış uzaktan eğitim, kriz ya

da acil durum ortadan kalktığında eski formatına dönerek yüz yüze ders olarak verilecek olan eğitim ya da öğretim için tamamen uzaktan öğretim çözümlerinin kullanılmasını içerir (Hodges vd., 2020). COVID-19 nedeniyle oluşan krize hızlıca çözüm olarak örgün eğitime göre şekillenmiş üniversiteler, yüz yüze eğitim yerine web tabanlı uzaktan eğitim aracılığıyla dersleri ve programları devam ettirmek için hızla çalışmalara başlamış, acil uzaktan eğitime geçiş yapmışlardır (Gewin, 2020; Lau vd., 2020).

Bununla beraber öğrencilerin bilgisayar, tablet, telefon vb. iletişim araçlarının kullanımındaki bilgi eksikliğinden kaynaklı, gerçekleştirilecek uzaktan eğitim etkinliklerine giriş sağlamada çeşitli problemlerle karşılaşabilecekleri düşünülmektedir. Öğrencilerin yeterli düzeyde web pedagojik içerik bilgisine sahip olmamaları onların çeşitli internet ara yüzlerine geçiş yapmakta zorlanabilecekleri ve bunun sonucunda uzaktan eğitime karşı olumsuz düşüncelere sahip olabilecekleri düşünülmektedir. Bu doğrultuda çalışmada beden eğitimi ve spor öğretmeni adaylarının web pedagojik içerik bilgi düzeyleri ve uzaktan eğitim düşünce düzeylerinin belirlenmesi ve ilişkilerinin incelenmesi amaçlanmıştır.

Yöntem

Bu araştırma ilişkisel tarama modelindedir. Bu tarama modeli, "...iki ve daha çok sayıdaki değişken arasında birlikte değişim varlığını ve/veya derecesini belirlemeyi amaçlayan araştırma modelleri" şeklinde tanımlanabilir (Karasar, 2007). Araştırma; Erciyes Üniversitesi Spor Bilimleri Fakültesinde öğrenim gören öğrencilerin web pedagojik içerik bilgisi ve uzaktan eğitime yönelik tutum ile demografik özellikler arasındaki ilişki konularında durum tespiti yapılacağından dolayı betimsel nitelik taşımaktadır.

Araştırmada katılımcılara yaptırılacak olan ölçekler uygulanmadan önce bilgilendirilmiş onam formu imzalatılmış ve uygulama esnasında araştırmacılar tarafından adayların her birine geniş bir zaman dilimi içerisinde, acele edilmeden, gerekli açıklamalar yapılarak, katılımcılar için yeterli düzeyde değerlendirme süreci yaratılmaya çalışılmıştır. Ayrıca adayların rahat bir ortamda formları doldurmaları için uygun koşullar sağlanmıştır. Araştırmada kullanılan veri toplama araçları; Web Pedagojik İçerik Bilgisi Ölçeği ve Uzaktan Eğitim Tutum Ölçeği ile Sosyo demografik bilgi formu şeklinde ayarlanmıştır. Çalışma grubunu tesadüfî yöntem ile seçilmiş Spor Bilimleri Fakültesinde farklı bölümlerde öğrenim gören 2. 3. ve 4. sınıf öğrencileri oluşturmaktadır.

Bulgular

Çalışmada spor bilimleri fakültesi öğrencilerinin web pedagojik içerik bilgisi ve uzaktan eğitim tutum ölçekleri alt başlıklarından genel web boyutu $4,32\pm 0,54$, iletişimsel web boyutu $4,41\pm 0,50$, pedagojik web boyutu $4,49\pm 0,54$, web pedagojik içerik boyutu $4,40\pm 0,55$, web tabanlı öğretime yönelik tutum boyutu $4,43\pm 0,61$, web pedagojik toplam boyutu $4,41\pm 0,46$, uzaktan eğitimin avantajları boyutu $2,85\pm 0,60$, uzaktan eğitimin sınırlılıkları boyutunun $2,53\pm 0,78$ olduğu tespit edilmiştir. Cinsiyet değişkenine göre web pedagojik içerik bilgisi ve uzaktan eğitim tutum alt boyutlarında anlamlı farklılık tespit edilmemiştir. Sınıflarına göre genel web, iletişimsel web, web pedagojik içerik, web pedagojik toplam, uzaktan eğitimin avantajları, uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilirken; pedagojik web ve web tabanlı öğretime yönelik tutum alt boyutlarında anlamlı farklılık tespit edilmemiştir. Öğrencilerin GANO'larına göre pedagojik web ve uzaktan eğitimin avantajları alt boyutlarında anlamlı farklılık tespit edilirken; genel web, iletişimsel web, web pedagojik içerik, web tabanlı öğretime yönelik tutum, web pedagojik toplam, uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilmemiştir. Yaşadıkları yere göre genel web, iletişimsel web, pedagojik web,

web tabanlı öğretime yönelik tutum, web pedagojik toplam alt boyutlarında anlamlı farklılık tespit edilirken; web pedagojik içerik, uzaktan eğitimin avantajları ve uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilmemiştir.

Öğrencilerin internet erişim durumuna göre iletişimsel web, pedagojik web, web pedagojik toplam ve uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilirken; genel web, web pedagojik içerik, web tabanlı öğretime yönelik tutum, uzaktan eğitimin avantajları alt boyutlarında anlamlı farklılık tespit edilmemiştir. Bilgisayara sahip olma durumlarına göre genel web, iletişimsel web, pedagojik web, web pedagojik içerik, web tabanlı öğretime yönelik tutum, web pedagojik toplam alt boyutlarında anlamlı farklılık tespit edilirken; uzaktan eğitimin avantajları ve uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilmemiştir. Bilişim teknolojileri dersi alma durumlarına göre uzaktan eğitimin sınırlılıkları alt boyutunda anlamlı farklılık tespit edilirken; genel web, iletişimsel web, pedagojik web, web pedagojik içerik, web tabanlı öğretime yönelik tutum, web pedagojik toplam ve uzaktan eğitimin avantajları alt boyutlarında anlamlı farklılık tespit edilmemiştir. Öğrencilerin daha önce uzaktan eğitim süreci yaşama durumlarına göre genel web, iletişimsel web, pedagojik web, web pedagojik toplam alt boyutlarında anlamlı farklılık tespit edilirken; web pedagojik içerik, web tabanlı öğretime yönelik tutum, uzaktan eğitimin avantajları ve uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilmemiştir. Üniversitenin uzaktan eğitim için sağladığı imkânları değerlendirme durumlarına göre; uzaktan eğitimin avantajları ve uzaktan eğitimin sınırlılıkları alt boyutlarında anlamlı farklılık tespit edilirken; genel web, iletişimsel web, pedagojik web, web pedagojik içerik, web tabanlı öğretime yönelik tutum ve web pedagojik toplam alt boyutlarında anlamlı farklılık tespit edilmemiştir.

Web pedagojik içerik bilgisi ile uzaktan eğitime yönelik tutum arasında oluşturulan model anlamlı ilişki sunmuştur ($r=,376$, $r^2 =.141$; $p<0.05$). Regresyon katsayısının anlamlılığına ilişkin t-testi sonuçları incelendiğinde; Web pedagojik içerik bilgisinin uzaktan eğitimin avantajları ($t=4,183$, $p=.000$), ve uzaktan eğitimin sınırlılıkları ($t=-7,590$, $p=.000$) düzeyini yordadığı ve toplam varyansın %14,1'ini açıkladığı görülmüştür ($f = 28,925$, $p<0.05$).

Tartışma ve Sonuç

Gerçekleştirilen çalışmada spor bilimleri fakültesi öğrencilerinin cinsiyetlerine göre web pedagojik içerik bilgileri ve uzaktan eğitime yönelik tutum seviyeleri arasında istatistiksel olarak anlamlı bir fark olmadığı tespit edilmiştir. Elde edilen veriler sonucunda öğrencilerin uzaktan eğitime yönelik tutumları ve web pedagojik içerik bilgileri arasında cinsiyetlerine göre anlamlı bir farklılığın tespit edilmemiş olması öğrencilerin pandemi öncesi ve sonrası hem teorik hem uygulama derslerinin cinsiyet ayrımı yapılmadan yürütülüyor olmasından kaynaklandığı düşünülmektedir. Çalışmamız verileri incelendiğinde web pedagojik içerik bilgisi ve uzaktan eğitime yönelik tutumlarda genel olarak 4. Sınıf öğrencilerinin diğer sınıflara göre anlamlı farklılık oluşturduğu görülmektedir.

Öğrencilerin genel ağırlıklı not ortalaması değişkeni ele alındığında yüksek ortalamaya sahip öğrencilerin pedagojik bilgilerinin yüksek olduğu ve aynı zamanda uzaktan eğitime karşı olumlu duygu durumu içerisinde oldukları belirlenmiştir. Elde edilen sonuçlar incelendiğinde büyükşehirde yaşayan öğrencilerin diğer yerleşimlere göre daha fazla web pedagojik içerik bilgisine sahip olduğu görülmüştür. Büyükşehirlerde ilk ve ortaokul düzeyinde eğitim veren kurumların çoğu bilgisayar laboratuvarına sahiptir. Bunun neticesinde bu okullarda öğrenim gören öğrencilerin web içerik bilgi düzeyleri daha

yüksek olabilmektedir. Elde ettiğimiz verilere göre internet erişim durumuna sahip olan öğrencilerin web pedagojik düzeylerinin olmayanlara göre daha yüksek olduğu ve anlamlı farklılaştığı görülmüştür. Ayrıca bilgisayara sahip olan öğrencilerin web pedagojik düzeylerinin olmayanlara göre daha yüksek olduğu ve anlamlı farklılaştığı görülmüştür. Daha önce uzaktan eğitim süreci yaşayan öğrencilerin web pedagojik bilgilerinin yüksek olduğu belirlenmiştir. Bu durum daha önce uzaktan eğitim alırken web ortamında edindikleri tecrübelerden kaynaklı web pedagojik bilgi düzeylerini yükselttiği şeklinde ifade edilebilir.

Sonuç olarak spor bilimleri fakültesi öğrencilerinin yüksek düzeyde web pedagojik içerik bilgisine sahip oldukları belirlenirken uzaktan eğitime yönelik tutumlarının ise orta düzeyde olduğu tespit edilmiştir. Çalışmamıza değişkenler açısından bakıldığında sınıf, genel ağırlıklı not ortalaması, yaşanan yer, internet erişim durumu, bilgisayar durumu, bilişim teknolojileri dersi alma durumu, Office programları kullanma düzeyi, daha önce uzaktan eğitim yaşama durumu, üniversitenin eğitim kalitesinin değerlendirilmesi, üniversitenin uzaktan eğitim imkânlarının değerlendirilmesi değişkenlerinin anlamlı farklılık oluşturduğu tespit edilirken, cinsiyet ve yaş değişkenlerinde anlamlı ilişki tespit edilememiştir. Aynı zamanda korelasyon ve regresyon sonuçları incelendiğinde web pedagojik içerik bilgisi ile uzaktan eğitimin sınırlılıkları arasında negatif yönlü anlamlı ilişki tespit edilirken, toplam varyansın %14,1'ini açıkladığı görülmüştür. Yeterli düzeyde web içerik bilgisine sahip öğrenciler uzaktan eğitime yönelik daha olumlu düşüncelere sahiptir. Öğrenciler sahip oldukları yeterli düzeydeki web içerik bilgileri sayesinde çevrimiçi derslere odaklanmada daha etkin olabilirler. Bu sayede öğrencilerin akademik anlamda daha başarılı bireyler olabileceği düşünülmektedir.

Öneriler

- Öğrencilere, çevrimiçi kaynakları daha etkili bir şekilde kullanma, içerik üretme ve paylaşma becerilerini geliştirmeleri için pratik eğitimler sunulabilir. Bu, öğrencilerin uzaktan eğitim materyallerini daha iyi anlamalarına ve daha etkili bir şekilde öğrenmelerine yardımcı olabilir.
- Uzaktan eğitim materyallerini çeşitlendirmek, öğrencilerin ilgi düzeylerini artırabilir. Video dersler, forumlar ve sanal laboratuvarlar gibi farklı öğrenme kaynaklarının kullanılması, öğrencilerin çevrimiçi öğrenmeyi daha ilgi çekici bulmalarına yardımcı olabilir.
- Uzaktan eğitim sistemine tüm öğrencilerin eşit şartlarda ulaşabilmeleri adına internet bağlantısı ve gerekli donanımların olduğu toplu kullanım alanları (kafe, kütüphane, bilgisayar laboratuvarı vb.) yaygınlaştırılabilir.
- Öğrencilerin çevrimiçi dersler hakkındaki görüşlerini düzenli olarak toplamak ve geri bildirim almak, dersleri iyileştirmek için önemlidir. Öğrencilerin deneyimlerine dayalı geri bildirimler, ders içeriğinin ve öğretim yöntemlerinin geliştirilmesine yardımcı olabilir.
- Çalışmamız spor bilimleri fakültesi öğrencilerine uygulanmıştır. Farklı çalışmalarda diğer bölümler için de böyle bir çalışma yapılabilir.