p-ISSN 2355-5343
e-ISSN 2502-4795
http://ejournal.upi.edu/index.php/mimbar

Article Received: 06/01/2022; Accepted: 26/08/2022
Mimbar Sekolah Dasar, Vol. 9(2), 336-351
DOI: 10.53400/mimbar-sd.v9i2.42884

Examining the Relationships between Student Engagement, Campus Facilities, and Technology Integration among Elementary Teacher Candidates

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Abstract. This study aims at examining the relationships between technology integration, campus facilities, and student engagement at 26 state universities in Turkey. In the study, the quantitative method was employed, specifically the correlational research method. The research sample involved 5,534 female students (71.21%) and 2237 (28.79%) male students, amounting to 7771 participants in total. The data of this study were collected by means of Student Engagement Scale, Student Perception Scale for Faculty Members' Technology Integration Efficacy, and Campus Climate Checklist. In addition, Pearson correlation analysis was conducted on the collected data. The results revealed that in every university, there was a positive relationship between student engagement and the students' scores in regards to benefits from the campus facilities. Another important result was that the positive relationship between student engagement and the students' perceptions regarding technology integration efficacies of the faculty members was proven for all universities involved in the study.

Keywords: student engagement, campus facilities, technology integration, elementary teacher candidates

1. Introduction

Teacher candidates have continued their development under the influence of many factors since the first year of university. In addition to corporate culture, access to academic resources and student interactions (Yılmazlı Trout & Yıldırım, 2021), student engagement, campus climate, and university life are among the other factors that affect the teacher candidates' future professional lives. It is also believed that these factors affect their success, social skills, and professional attitudes. In this sense, campus facilities and university experiences are considered crucial for both personal and professional development and attitudes of teacher candidates, especially for the achievements of their future elementary students.

One of the factors that most affect the university education and life of teacher candidates is student engagement (Gunuc, 2013). Student engagement is defined as the psychological, cognitive, affective, and behavioral responses of the student to the learning process, academic and social activities inside and outside the classroom in order to achieve successful learning outcomes (Gunuc, 2013). Universities attempt to create an effective campus climate that includes social and scientific activities as well as educating their students academically. Although the level of opportunities offered and the status of students benefiting from these opportunities differ according to universities, these variables are instrumental in terms of students' success, satisfaction, and professional attitudes.

Another variable to highlight within the scope of classroom and campus climate is the effective integration of information technologies into the classroom and campus. Teacher candidates' effective use and integration of technology in their courses make significant contributions to

the professional development of teacher candidates. The relevant literature shows that the effective use of technology positively affects the academic success of teacher candidates (Gibbs & Poskitt, 2010; Gunuc, 2013). Moreover, the literature on professional development emphasizes the importance of teacher candidates' development of the ability to use technology in their university education (Cuckle & Jenkins, 2000).

1.1. Problem Statement

It is believed that university and campus life do not only affect the university education period, but these gains and developments may have some reflections on their future elementary students. In this context, studies show that teacher candidates' psychosocial variables emerge in their future professional lives. It is observed that not only contributions, but also some anxieties, problems, and negative attitudes may affect the teacher candidates. It has been observed that there is a positive relationship between the attitude towards the profession and the quality of university life, and a significant negative relationship between professional anxiety and quality of life at the university (Atabey, 2021).

A review of the related literature reveals that there are many studies on student engagement. However, little research has been conducted on the factors regarding campus engagement with larger groups of participants. In fact, no research has been conducted on the Turkish population. The results of studies with large participant groups are important as such studies represent the society and culture, and help to obtain clearer findings. On that account, this study was conducted by means of data collected from participants from 26 sub-geographical regions representing Turkey.

1.2. Previous Research

Gunuc and Kuzu (2014) define student engagement as the quality and quantity of students' psychological, cognitive, emotional and behavioral reactions to the learning process and to in-class/out-of-class academic and social activities to achieve certain learning outcomes. Matthews (2011) state that the campus and social learning areas considerably contribute to the development of student engagement and sense of belonging. Meanwhile, technology integration in learning process is to use technological tools in a way to facilitate teaching and learning in line with the educational goals (Edyburn, 1998). Moreover, Reynard (2007) states that teachers can use technology as a supplementary tool to increase the 21st century students' engagements.

1.3. Research Objectives

This study examined the relationships between technology integration, students' benefits from campus facilities, and student engagement at 26 state universities in Turkey. The main purpose of the study was not to reveal which universities had higher levels of student engagement, better campus facilities, and higher levels of technology integration. Instead, it was to investigate the relationship between student engagement and the factors of campus and technology in 26 different universities in terms of geographical, quantitative, and qualitative aspects.

2. Theoretical Framework

2.1. Student Engagement

Student engagement involves concepts like active participation during the learning process, taking responsibility, attention, efforts made to achieve the intended outcomes, the time spent on tasks and participation in in-class and out-of-class activities (Gunuc, 2013; Marks, 2000; Hu & Kuh, 2001; Kuh, 2009). Astin (1984; 999), using the concept of student's involvement, defines engagement as the physical and psychological energy that the students spend on educational activities. Similarly, according to the academic and social integration theory put forward by Tinto (1987; 1993), students' integration into the teaching and learning process will

reflect onto the value and norms they assign to the institution, and in order to achieve this, an appropriate environment should be established by the institution.

To date, student engagement has been examined as a multidimensional concept (Gunuc & Kuzu, 2014; Fredricks, 2004). The dimensions consist of two main components (Gunuc & Kuzu, 2014), namely campus engagement and class engagement, and six sub-dimensions, including valuing, sense of belonging, cognitive engagement, relationships with friends (emotional engagement-1), relationships with faculty members (emotional engagement-2) and behavioral engagement. There are several studies demonstrating that student engagement could be an indicator of an education system of a society as well as an indicator of the educational quality of an institution (Kuh, 2001). It is also pointed out that student engagement is not only essential to students' academic achievements but also to their socialization, welfare, life satisfaction, and effective learning life (Li et al., 2010).

There are many factors that influence student engagement. To name a few, students' relationships with faculty members, their group works, active and cooperative learning, student-centered learning, technology integration, interactive use of technology and campus facilities are considered to be some of these factors (Gunuc, 2017).

2.2. Campus Life and Facilities

University life, or the campus life, is of great importance and holds a special meaning for students. University life goes beyond the instructional process, it also covers a long period in which young individuals embark on and maintain their social lives. For students, the university is the life itself which includes varied processes such as learning, socialization, finding new opportunities, self-discovery, and taking the first step in having a profession. To sum up, the university is not a mere process of learning or teaching. Therefore, besides functioning as class environments, a number of campuses provide their students with an area in which they can socialize and lead an effective life. Universities make a great effort to provide their students with the best facilities, to increase their satisfaction by attracting them, and to increase their engagement in school. The fact that students view a university more than a mere learning center but also an area for social life makes it inevitable for campuses to meet this need (Abubakar et al., 2010). Besides setting certain standards, universities should be able to provide services to meet students' personal needs and to facilitate their lives in the campus (Petruzzellis & Romanazzi, 2010).

Astin (1999) points out that students' active participation in the process could be achieved by encouraging their participation in out-of-class activities and their interaction with faculty members and other staff. Tinto (1993) states that not only the failure to meet students' expectations from the institution but also the probable problems to be experienced by students in relation to the institution could cause them to drop out of school (Gunuc, 2013; Gunuc et al., 2022). Gunuc (2013) explains student engagement with his Campus-Class-Technology theory and states that effective inclusion of factors in the process as the campus, class and technology will increase students' engagement and will eventually increase their achievements.

Higher education institutions have a great responsibility in increasing student engagement (Trowler, 2010). Establishing a communication between the institution and students will increase student engagement (Gunuc, 2013). Hernandez (2013) points out that university students' achievements depend mostly on whether they feel integrated in the campus climate or not, which is a fairly important point. A campus climate, which has been organized well and which allows students to interact with each other as well as with faculty members, plays a key role in the development of students' sense of belonging (Martin, 2014).

2.3. Technology Integration in Student Engagement

Effective and productive use of technology in today's universities and integration of technology into curricula have become an important necessity. Gunuc (2017) defines integration as the fit between two different elements combined for a single purpose and describes technology integration in education as students' comprehensive use of up-to-date technology sources in the teaching-learning process to contribute to effective learning. On the other hand, the use of technology alone is insufficient, and that effective technology integration is more important in increasing student engagement (Gunuc, 2017; McGrath, 1998). Gunuc (2013) points out that the use and integration of technology in classes will increase students' motivation in class and will thus contribute to student engagement.

Studies revealed that effective integration of information and communication technologies in in-class and out-of-class activities such as web 2.0 and virtual technologies (Golubski, 2012), visual and multimedia tools (Allison & Rehm, 2007), web-based learning (Chen et al., 2010), online discussions (Reynard, 2007), giving feedback (Xu, 2010), 3D virtual environments (Bouta et al., 2012), and communication with other students and faculty members via e-mail (Krausea & Coates, 2008) could contribute to student engagement.

3. Method

3.1. Research Model

In the study, the quantitative method was employed, specifically the correlational research method. This method is used to determine the relationships between two or more variables (Creswell, 2012). In the study, the relationships of student engagement and its sub-factors with the variables of use of campus facilities and students' perceptions on technology integration were examined. For this reason, the correlational research design was employed. Although correlational studies do not reveal a cause-result relationship, they allow examining the relationships as the causes of a variable (the statistical relationship of interest is thought to be causal).

3.2. Participants

The study was carried out with participants from all over Turkey. While collecting the research data, educational faculties of the state universities from 12 main regions and 26 sub-regions as determined by the Turkish Statistical Institute (TSI) were included in the study. The participants were selected from the faculty of education, in which Elementary Education Department includes Primary Education, Turkish Education, Mathematics-Science Education and Social Sciences Education. The research sample was made up of 5534 female teacher candidates (71.21%) and 2237 (28.79%) male teacher candidates, amounting to 7771 participants in total. In the study, 1536 1st grade (20%), 2253 2nd grade (30%), 2451 3rd grade (32%) and 1328 4th grade (18%) students were included. The age range of the participants is between 18 and 24.

3.3. Data Collection Tools

3.3.1. Student Engagement Scale (SES)

In the study, the Student Engagement Scale, which was developed by Gunuc and Kuzu (2014), was used. According to Figure 1, the scale included 41 items and two components with a six-factor structure. The scale consisted of 5-point items categorized as "I completely disagree", "I disagree", "I am neutral", "I agree" and "I completely agree". The total variance explained for the six factors in the scale was calculated as 59%. The Cronbach's Alpha (α) internal consistency coefficient for the whole scale was found to be .957 with the exploratory factor analysis, and .929 with the confirmatory factor analysis. Table 1 shows the Cronbach's Alpha internal consistency coefficients for the scale and for its sub-factors in relation to the 26 universities which were included in the study. The scale consisted of two main components (campus engagement and class engagement) and six factors. Campus engagement

covered two factors, namely valuing and sense of belonging, while the component of class engagement covered four factors, namely cognitive engagement, peer relationships (emotional engagement-1), relationships with faculty members (emotional engagement-2) and behavioral engagement. A high score produced by the scale signifies a high level of student engagement, meaning that the students have high levels of campus engagement and class engagement. In contrast, a low score obtained from the scale means that the participants have a low level of campus engagement and class engagement, which is likely to result in disengagement (Gunuc et al., 2022).

Table 1. SES and Student Perception Scale for Faculty Members' Technology Integration Efficacy (STIP) Cronbach's Alpha Reliability Values Obtained in the Study

University	SES	STIP
Celal Bayar University	.946	.957
Adıyaman University	.928	.951
Cumhuriyet University	.922	.949
Çukurova University	.949	.961
Dicle University	.934	.959
Erciyes University	.946	.964
Erzincan University	.938	.952
Atatürk University	.932	.966
Dokuz Eylül University	.944	.973
Sütçü imam University	.937	.932
Karadeniz Teknik University	.945	.951
Kırıkkale University	.957	.966
OnDokuz Mayıs University	.935	.956
Pamukkale University	.940	.950
OnSekiz Mart University	.937	.957
Recep Tayyip Erdoğan University	.939	.949
Süleyman Demirel University	.942	.944
Harran University	.945	.962
Necmettin Erbakan University	.946	.958
Van Yüzüncü Yıl University	.937	.949
Yıldız Teknik University	.941	.962
Trakya University	.957	.970
İstanbul University	.917	.957

Sakarya University	.955	.965
Ankara University	.953	.960
Osmangazi University	.946	.965

As seen in Table 1, the SES and STIP reliability coefficients for the research data collected at all the universities were higher than the accepted level of .70. It can also be seen that the reliability values especially for the whole scale scores were considerably high.

3.3.2. Student Perception Scale for Faculty Members' Technology Integration Efficacy (STIP)

For the purpose of determining the students' perceptions related to the faculty members' technology integration efficacy, the Student Perception Scale for Faculty Members' Technology Integration Efficacy, which was developed by Artun and Gunuc (2016), was used. The scale included five-point rating: "Never", "Rarely", "Sometimes", "Usually" and "Always". The scale was made up of 25 items in two sub-factors: Benefits from Technology and Technology Use. The Cronbach's Alpha internal consistency reliability coefficients were found to be .909 for the sub-factor of Benefits from Technology and .904 for the sub-factor of Technology Use. The Cronbach Alpha internal consistency reliability coefficient for the whole scale was .94. The reliability coefficients obtained in the study can be seen in Table 1. A high score obtained from the scale shows that the teacher candidates perceived their teachers' technology integration efficacy to be high. In other words, effective technology integration in lessons may have positive influence on students' perceptions, so the measurement tool aims to evaluate the faculty members' technology integration efficacy based on students' perceptions.

3.3.3. Campus Climate Checklist (CCC)

In accordance with the purpose of the study, to determine the extent of the students' involvement in campus climate and benefits from the campus facilities, the Campus Climate Checklist developed by Gunuc (2016) was used. The checklist was rated as "I have no idea (0)", "I don't benefit (1)", "I partly benefit (2)" and "I benefit (3)". The rating of the scale included "I have no idea (0)" in case some of the participants were unaware of the campus facilities. The main categories and indicators of a good-quality campus in the checklist were as follows: The Campus, Campus Life, Social Facilities, Entertainment Activities and Student Clubs/Communities.

3. 4. Data Collection and Analysis

The researchers collected all the data from the university students using the paper-and-pencil method. All the necessary consents were obtained from the university administrators as well as from the students. The data collection process took place for about one year. The research data were inputted into the package software of SPSS 21.0, and for healthy analyses of the data, the missing values, outliers and the conditions necessary for the analyses were examined. After the data were made ready for analysis, in order to examine the distribution of the data, the kurtosis-skewness, Kolmogorov Smirnov Test, histogram and Q-Q plot were utilized.

The research data in the study were collected from 26 universities. The total student engagement scores obtained via the university students participating in the study, the total scores related to benefits from the campus facilities, and the total scores related to the students' perceptions regarding technology integration were calculated. In relation to all these data, the Cronbach's alpha reliability, descriptive statistics, and Pearson correlation (as a normal distribution was found) were conducted for each university.

4. Findings

Table 2 presents the findings obtained in relation to the 26 universities with respect to the geographical regions. In addition, for each university, Table 3 shows the relationships between student engagement and the variables of benefits from campus facilities and technology integration.

Table 2. Student Engagement, Students' Perceptions on Technology Integration, Benefits from Campus Facilities, and Related Total-Scores and Standard Deviations

University	Sub-Region	SES Total-Score	STIP Total-Score	CCC Total-Score
Pamukkale University	Aegean Region	151.90 (20.68)	82.36 (16.48)	17.79 (7.84)
Çukurova University	Mediterranean Region	151.72 (22.22)	81.82 (17.86)	16.38 (7.23)
Karadeniz Teknik University	East Black Sea Region	151.11 (22.58)	81.37 (17.27)	14.69 (7.70)
Süleyman Demirel University	Mediterranean Region	149.90 (23.14)	88.42 (17.52)	19.16 (8.01)
Kırıkkale University	Central Anatolia Region	149.62 (24.52)	78.27 (19.31)	15.89 (8.54)
Celal Bayar University	Aegean Region	148.71 (24.04)	80.68 (18.39)	13.74 (8.11)
Yıldız Teknik University	İstanbul Region	147.83 (23.06)	85.19 (18.42)	17.56 (8.44)
Trakya University	West Marmara Region	147.21 (25.15)	85.32 (20.08)	21.33 (10.08)
Erzincan University	Northeast Anatolia Region	146.77 (22.77)	77.09 (18.64)	14.39 (6.33)
İstanbul University	İstanbul Region	145.18 (19.23)	78.52 (17.64)	14.09 (7.07)
Dokuz eylül University	Aegean Region	144.94 (24.35)	72.48 (22.05)	14.14 (8.31)
Ondokuz Mayıs University	West Black Sea Region	144.74	72.40	13.35

		(21.24)	(18.48)	(7.19)
Recep Tayyip Erdoğan University	East Black Sea Region	144.58 (23.30)	78.24 (18.22)	12.61 (7.22)
Onsekiz Mart University	West Marmara Region	143.98 (22.04)	73.60 (18.05)	14.63 (7.66)
Selçuk University	West Anatolia Region	143.17 (25.09)	79.77 (18.57)	11.24 (7.38)
Cumhuriyet University	Central Anatolia Region	143.17 (19.86)	72.54 (16.98)	11.79 (7.17)
Sakarya University	East Marmara Region	142.74 (25.44)	84.55 (18.37)	18.33 (9.95)
Atatürk University	Northeast Anatolia Region	141.90 (22.62)	73.44 (20.09)	16.64 (8.16)
Ankara University	West Anatolia Region	141.71 (26.72)	84.64 (17.93)	17.20 (9.48)
Adıyaman University	Southeast Anatolia Region	141.50 (20.99)	75.63 (17.54)	15.28 (7.73)
Dicle University	Southeast Anatolia Region	140.04 (24.43)	71.45 (19.46)	13.48 (8.26)
Osmangazi University	East Marmara Region	140.44 (24.4)	77.69 (19.26)	18.12 (6.98)
Van Yüzüncü Yıl University	Middle East Anatolia Region	140.32 (24.42)	74.36 (18.28)	11.83 (8.13)
Erciyes University	Central Anatolia Region	139.67 (23.47)	76.54 (18.12)	12.79 (8.47)
Harran University	Southeast Anatolia Region	138.19 (26.40)	73.56 (20.77)	15.11 (8.42)
Sütçü İmam University	Mediterranean Region	137.44 (24.97)	73.02 (16.65)	12.75 (8.65)

Besides the findings presented in Table 2, the sub-categories regarding the campus facilities were examined as well. Accordingly, considering the universities with the highest levels of student engagement, it can be concluded that the students were satisfied with the physical conditions and working hours of the library and with the services of the campus cafeterias, and that they benefitted from all these facilities. Moreover, when the sub-categories related to the campus facilities of all the universities were examined, it was revealed that the students from almost all the universities were satisfied mostly with the library facility and its related services. In other words, they mostly made use of this facility. As for the universities with the lowest level of student engagement, the students reported that the number and services of campus facilities such as cafeterias, campus cinema and theatre, the scholarships provided by the university, lifelong learning centers and certificate programs, indoor sports facilities and the outings and activities organized in winters were poor and inefficient. In other words, the students were unable to make use of these facilities.

Table 3. Pearson Correlation *P-Values* between Student Engagement (and its Sub-Factors), Benefits from Campus Facilities, and Students' Perceptions on Technology Integration for Each University

		Campus Engagement		Class Engagement				Student Engagement
University		Valuing	Sense of belonging	Cognitive E.	Emotional E.-I	Emotional E.-II	Behavioral E.	Student E.
İstanbul University	CF	.809	.022	.816	.240	.093	.667	.091
	TI	.000	.001	.004	.035	.000	.356	.000
Yıldız Teknik University	CF	.001	.000	.291	.127	.051	.675	.002
	TI	.000	.000	.000	.002	.000	.002	.000
Trakya University	CF	.642	.000	.329	.578	.001	.521	.022
	TI	.001	.000	.001	.001	.000	.000	.000
On Sekiz Mart University	CF	.077	.000	.106	.022	.004	.760	.000
	TI	.000	.000	.001	.000	.000	.002	.000
Osman Gazi University	CF	.008	.000	.149	.021	.030	.003	.000
	TI	.000	.000	.000	.000	.000	.000	.000
Sakarya University	CF	.424	.000	.001	.266	.000	.459	.000
	TI	.000	.000	.000	.000	.000	.000	.000

Ankara University	CF	.000	.000	.022	.018	.000	.001	.000
	TI	.000	.001	.000	.000	.000	.000	.000
Necmettin Erbakan University	CF	.411	.004	.048	.059	.989	.837	.053
	TI	.002	.000	.000	.001	.000	.000	.000
Kırıkkale University	CF	.049	.000	.001	.014	.002	.009	.000
	TI	.000	.000	.000	.000	.000	.000	.000
Erciyes University	CF	.275	.000	.972	.777	.096	.934	.060
	TI	.000	.000	.000	.004	.000	.000	.000
Cumhuriyet University	CF	.853	.001	.109	.256	.000	.277	.001
	TI	.000	.000	.000	.000	.000	.000	.000
Atatürk University	CF	.091	.000	.003	.041	.005	.020	.000
	TI	.010	.000	.000	.000	.000	.000	.000
Erzincan University	CF	.057	.024	.070	.020	.000	.541	.001
	TI	.000	.000	.000	.008	.000	.012	.000
VAN Yüzüncü Yıl University	CF	.728	.006	.815	.631	.835	.698	.402
	TI	.000	.000	.000	.002	.000	.000	.000
Adıyaman University	CF	.038	.026	.007	.282	.081	.003	.002
	TI	.001	.000	.000	.007	.000	.000	.000
Harran University	CF	.765	.000	.534	.633	.104	.015	.218
	TI	.003	.000	.003	.000	.000	.001	.000
Dicle University	CF	.011	.000	.546	.044	.250	.394	.040
	TI	.000	.000	.000	.288	.000	.161	.000
Dokuz Eylül University	CF	.014	.000	.072	.013	.000	.406	.000
	TI	.000	.000	.000	.000	.000	.001	.000
Celal Bayar University	CF	.447	.000	.695	.472	.161	.582	.050
	TI	.000	.000	.000	.000	.000	.000	.000
Pamukkale University	CF	.229	.000	.001	.001	.005	.542	.000
	TI	.000	.000	.000	.000	.000	.020	.000
Süleyman Demirel University	CF	.046	.000	.676	.031	.021	.883	.002
	TI	.000	.000	.035	.000	.000	.001	.000
Sütçü İmam University	CF	.425	.003	.038	.001	.003	.048	.000

	TI	.267	.000	.002	.000	.000	.000	.000
Çukurova University	CF	.002	.000	.000	.001	.000	.021	.000
	TI	.000	.000	.000	.000	.000	.000	.000
Ondokuz Mayıs University	CF	.675	.036	.727	.287	.524	.756	.370
	TI	.000	.000	.000	.006	.000	.005	.000
Trabzon University	CF	.675	.036	.727	.287	.524	.756	.370
	TI	.000	.000	.000	.006	.000	.005	.000
Recep Tayyip Erdoğan University	CF	.283	.039	.436	.447	.700	.786	.587
	TI	.000	.000	.000	.000	.000	.000	.000

CF: Benefits from campus facilities TI: Students' technology integration perceptions

According to Table 3, there was a significant positive correlation between student engagement and benefits from campus facilities ($p<.05$). This relationship was proven to exist in most of the universities (19 universities, which means being proven 19 times). In relation to the sub-factors regarding student engagement, the factor of belonging had a positive relationship with the variable of benefits from campus facilities for all the universities (26 times). In addition, a significant positive relationship was found between the variables of behavioral engagement, valuing, cognitive engagement, relationship with friends (emotional engagement-I), relationships with faculty members (emotional engagement-II) and benefits from campus facilities for some of the universities ($p<.05$), while there was none in some others. This situation could be due to the quantity and quality of the campus facilities of the universities which were not found to have a significant correlation.

Another important finding was the existence of a significant positive correlation between student engagement and the students' perceptions on technology integration for all the universities ($p<.05$). This finding implies that the faculty members' effective technology integration efficacy had a relationship with student engagement.

5. Discussion

In the study, the relationships between student engagement, campus facilities and technology integration were examined for each university. The results revealed that for each university, a positive relationship existed between student engagement and the students' scores regarding benefits from the campus facilities. Several studies report similar findings, namely Rimm-Kaufman et al. (2015), Walker (2006), and Virtanen (2013). In many universities, positive relationships were found between benefits from the campus facilities and the sub-scales of valuing, cognitive engagement, relationships with friends (emotional engagement-1), relationship with faculty members (emotional engagement-2) and behavioral engagement. In some universities, no relationship was found and the factor may have something to do with the quantity and quality of campus facilities. Undoubtedly, the only factor related to student engagement is not the campus facilities. Besides this factor, a number of other important factors such as the facilities in the city where the campus is located, the reputation of the campus, whether the city appeals to students or not, and the geographical region could affect student engagement. In this study, it was found that the universities with higher levels of student engagement were located in cities which had beautiful, safe, and fitting conditions for students.

Although the results obtained in this study did not include a cause-effect relationship, the fact that these relationships were proven to exist in all 26 universities will contribute to the related literature as if 26 similar studies had been conducted at 26 different universities with the same

results. In addition, based on these results, some other conclusions could be drawn. For example, if faculty members can effectively and productively integrate technology into the learning process, student engagement will be increased. One of the most significant results obtained in the study was the existence of a positive correlation between student engagement and technology integration. In this respect, this result could be said to be parallel to those reported in other studies conducted by Gunuc (2013), Gibbs and Poskitt (2010), Sheard (2010), Dietrich (2012), Gilboy (2015), and Fukuzawa and Boyd (2016) in relation to the influence of technology on student engagement, where it could be stated that effective technology integration in classes will have positive influence on students' engagement. Therefore, when there is good-quality and effective integration of technology in class, it is possible to boost students' motivations, their academic and cognitive engagement, and behavioral engagement that will eventually lead to the increase of student engagement. However, the present study also provided other important findings that will contribute to the related literature. In this respect, the students' perceptions on the faculty members' technology integration efficacy were not just found to be related to class engagement, but also related to campus engagement (valuing and belonging). This finding was proven 26 times (for each of the 26 universities). Also, based on this finding, it could be concluded that the participants' student engagement was influenced not only by the campus facilities or by the campus climate but also by the factors related to the learning processes (for instance, technology used in class). In this respect, the factors related to the campus and classes (the learning process) have influence on one another. In other words, a factor related to the campus or to the learning process is likely to have holistic influence on students' general perceptions.

In the study, the results obtained in relation to student engagement, campus facilities, and technology integration perceptions are consistent with Astin's Involvement Theory (1999), Tinto's Academic and Social Integration Theory and Gunuc's Campus-Class-Technology Theory. Therefore, it could be concluded that one way of boosting the student engagement is by making necessary arrangements regarding effective use of technology in class as well as regarding the campus climate (campus culture, campus facilities, and campus conditions). Furthermore, confirmation of this result at universities in different geographical regions increased the validity and reliability of this result.

6. Conclusion

The results revealed that students with higher student engagement scores had higher levels of benefits from campus facilities, and that students with lower student engagement scores had lower levels of benefits from the campus facilities. In addition, it was also revealed that the universities with higher levels of student engagement were considered sufficient by the students, and that those with lower levels of student engagement were found to have insufficient campus facilities. In relation to the sub-factors regarding student engagement, the positive relationship especially between the sub-scale of belonging and benefits from campus facilities was proven for all the 26 universities.

Another significant result was that the positive relationship between student engagement and the students' perceptions on the faculty members' technology integration efficacy was proven for every university involved in the study. In other words, it can be concluded that the faculty members' efficacy in effective technology integration has an influence on student engagement.

Another conclusion of this study is related to the students' benefits from the campus facilities. Despite the fact that the students were not aware of the facilities provided at the universities which indicated low levels of student engagement, this situation signified that the campus facilities at those universities were not sufficient. In this study, the results revealed that rather than the existence of campus facilities, the extent to which the students benefit from these facilities was more important and had a close relationship with student engagement.

This study only involved state universities as the private universities were excluded in line with the research purposes. However, this situation should not be regarded as a limitation of the study, instead it should be viewed as a purpose of a future study because the state universities differ in Turkey differ from the private universities in many respects. When the students' profiles at private universities and the differences in the campuses of private universities are taken into account, it is likely that interesting findings will be obtained. For this reason, future studies could investigate student engagement and the related factors at private universities and compare the probable results with those obtained in this study.

Recommendation

In order to increase student engagement at universities, the following suggestions could be put forward to both university administrators and for faculty members:

- Various seminars could be organized to upgrade and update the faculty members' efficiency and knowledge about effective technology integration, and the related sub-structure could be established to integrate technology in the learning process.
- Some facilities and infrastructures of the campus like the physical conditions of the campus, accommodation/dormitory services, health services, counselling services, security services, technology-related services, library, social facilities, entertainment/leisure activities, and sports activities could be improved.
- Scholarships provided by universities for students and part-time job opportunities could be multiplied.
- Transportation to the campus and faculties could be made more accessible for students who do not live in campus; also, providing more dormitories in campus, allowing more students to accommodate and live in campus.
- Universities could be encouraged to plan and organize activities such as trips/outings and leisure clubs not only in spring but in winters as well.
- Universities could make the necessary arrangements to let students use of the lifelong learning centers and certificates.
- The hygiene/quality/cost of food that are served in campus cafeterias should be checked, arranged, and made appealing to all students, and the students should be provided with facilities like a cinema and a theatre in campus.
- The security services should be provided for students to make them feel safe in campus, and in this respect, a conducive campus environment should be established.

Acknowledgments

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This study was carried out with the funding of TUBITAK (Scientific and Technological Research Council of Turkey) 3001 Program (Number: 115K070)

Conflict of Interest

The authors declare that there is no conflict of interest.

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