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A Study on the Satisfaction of Educational Services in Teaching Methods in Online Learning

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Abstract

Background/Objectives: The survey was conducted on students attending the nursing department of the university in C area to examine their satisfaction with the educational service of teaching methods in the online learning environment in university education was conducted in university education.

Methods/Statistical analysis: The quality of lecture service, the value of lecture service and satisfaction of lecture service were investigated to find ways to increase the efficiency of online learning. General characteristics, technical statistics, t-test, and ANOVA were tested using SPSS 20.0.

Findings: The online lecture service quality score was 3.35 ± 0.67, the lecture service value score was 2.95 ± 0.90 and the online lecture service satisfaction score was 3.14 ± 0.84. The service quality scores of online lectures differed depending on grade, one's own health condition, school life satisfaction, major satisfaction, and time spent on online classes. The value of lecture services differed depending on the satisfaction level of school life, major satisfaction level, and time spent on online classes. Satisfaction with online lecture services varied depending on grade, school life satisfaction, major satisfaction level, economic level and time spent on online classes.

Improvements/Applications The satisfaction level of school life and major satisfaction is high, and the more time you spend on online classes, the higher the satisfaction level of online education services is statistically. Satisfaction with school life and satisfaction with majors are factors that affect satisfaction with educational services. Therefore, the maximum application of methods that can statically increase this satisfaction can be achieved to increase satisfaction with educational services.

***Keywords*:** Nursing student, Online learning, Service quality, Service satisfaction, Service value.

1. Introduction

Rapid social changes and the continued development of new information technology require the learning and application of new knowledge and information in almost all areas. Responding to these social changes requires continuous learning to develop existing learning and experience by modifying it to fit reality [1]. The Fourth Industrial Revolution, based on the innovative development of information technology, is inducing rapid paradigm shift around the world. The reality of Korea is also undergoing significant changes throughout society [2]. Reactive environmental changes are essential to adapt to the new era, especially the development of information technology is rapidly supporting the creation of an environment where knowledge sharing and infinite results can be generated through free networking [3]. In response to this social atmosphere, the learning value imposed on universities is recommended to find a future-oriented education model through innovation, which means breaking away from existing teaching methods [4].

The change in the method of university education in accordance with the demand for social change is a key precondition for innovation in university education. The education community is also actively utilizing online learning centered on universities that feel limited by traditional methods of education, and teaching methods such as flip learning and bland learning are increasing. The online learning environment has recently evolved into a dynamic learning space centered on learners that can draw active participation and immersion from learners due to the use of social networking services, the application of artificial intelligence and big data technologies, and the evolution of the learning management system [5]. The advantages of online learning are that learners can learn at any time and place they want, share their knowledge with fellow learners or experts through the network, and access to learning is easier than offline classes without time and space limits, which makes it an effective method of teaching [6].

The participation of learners and collaborative learning activities in the online space are mainly conducted through the online learning management system. The system provides a means of organizing and communicating tasks, discussion rooms, assessment support, and learning content, as well as mediating dynamic knowledge sharing, participation and communication in the learning process [7]. These positive functions of online learning will be commercialized in the online learning of universities, serve as a

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driving force to enhance learners' learning performance, and even enable a comprehensive analysis of learning paths.

When the new teaching methods were used in classes, eLearning using Internet technology could reflect individual learners' learning needs and implement customized learning. As a result, there have been many positive and skeptical views that have increased learning effects, and there have been many quality problems in e-learning classes. In other words, more systematic efforts are needed to effectively introduce and settle various forms of online learning [8].

There is a need to provide a variety of educational experiences, to meet the needs and levels of individual learners, and to provide a wider range of opportunities and resources for university education [9].

Therefore, in-depth research is needed to apply various information technology to cope with the Fourth Industrial Revolution, so that university education can be applied and utilized in terms of teaching and learning, and be an effective plan. For this reason, through this study, we would like to examine the satisfaction level of teaching service in the online learning environment and use it for further research on university education methods.

2. Materials and Methods

2.1. *Research subjects*

To explore the relation between smartphone use and addiction status of female high school students and career A survey was conducted on 278 students attending the nursing department of the university in the C area to investigate their satisfaction with the educational service of teaching methods in university education operated by online learning.

2.2. *Research period*

The survey was conducted online from June 10 to 12, 2020. Subjects who voluntarily agreed to the purpose of the study were targeted.

2.3. *Measurement tools*

The quality of lecture service, the value of lecture service, and satisfaction of lecture service were measured using the tool completed by Yu [10]. In this study, the lecture service is defined as all kinds of lecture activities and lecture support services provided by the professor to achieve the purpose of the lecture, and the quality of lecture service is defined as the overall evaluation and attitude of the demander (student) on the lecture service. The value of lecture service is defined as the degree to which the student is aware of the ratio of usefulness to the cost, time and effort of the lecture service. To measure the value of service, after taking Internet lectures, the effects on cost, time, effort, and overall improvement in learning ability were measured on a Likert-type five-point scale. Lecture service satisfaction is defined as the satisfaction of the needs of students participating in the lecture through the lecture service. Lecture service at university is a key concept of education service, and education service satisfaction can be obtained through lecture service satisfaction. In order to measure the satisfaction of the lecture service, the level of satisfaction that respondents felt about the education service for the Internet lecture service was measured using a five-point scale for overall satisfaction, understanding of the contents of learning, satisfaction with the method of proceeding, and acquisition of knowledge.

3. Results and Discussion

3.1. *Sociodemographic characteristics of subjects*

Sociodemographic characteristics of subjects are Table 1. The sex of those surveyed was 12.6% for male and 87.4% for female. The grade was 23.4% for first grade, 33.8% for second grade, 20.1% for third grade, and 22.7% for fourth grade. On the satisfaction level of school life, 52.2% of the students said they were "satisfied," 41.4% said they were "ordinary," and 6.5% said they were "not satisfied." The satisfaction level for nursing majors was 71.2% for students who said they were "satisfied," 25.5% for those who said they were "normal," and 3.2% for those who said they were "not satisfied." Regarding the level of study they think they are good at studying, 23.7% said they are good at studying, 57.2% said they are normal, and 19.1% said they are not good at studying. As for places that mostly use online classes, 91.0% said "home" and 9.0% said "outside cafes and other places." As for the average time spent investing in online classes during the day, 18.0% said less than three hours, 53.6% said about three to five hours, and 28.4% said more than five hours. The online lecture service quality score was 3.35±0.67, the lecture service value score was 2.95±0.90 and the online lecture service satisfaction score was 3.14±0.84.

Table 1: Sociodemographic characteristics of subjects

		N	%
Sex	Male	35	12.6
	Female	243	87.4
Grade	1st	65	23.4
	2nd	94	33.8
	3rd	56	20.1
	4th	63	22.7

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One's own health condition	Bad	12	4.3
	Normal	74	26.6
	Good	192	69.1
Satisfaction with school life at University	Not satisfied	18	6.5
	Moderate satisfaction	115	41.4
	Great satisfaction	145	52.2
Degree of satisfaction in major	Not satisfied	9	3.2
	Moderate satisfaction	71	25.5
	Great satisfaction	198	71.2
Your own level of study	Not good	53	19.1
	Normal	159	57.2
	Good	66	23.7
Level of economy in one's own family	Poor	40	14.4
	Normal	175	62.9
	Well-off	63	22.7
Place where online classes are mainly used	House	253	91.0
	Cafe	25	9.0
Average amount of time spent on online classes during the day	Less than 3 hours	50	18.0
	3 to 5 hours	149	53.6
	more than 5 hours	79	28.4

3.2. *The online lecture service quality, the lecture service value, the online lecture service satisfaction*

The online lecture service quality score was 3.35 ± 0.67, the lecture service value score was 2.95 ± 0.90 and the online lecture service satisfaction score was 3.14 ± 0.84<Table 2>.

Table 2: The online lecture service quality, the lecture service value, the online lecture service satisfaction

	M	SD
The online lecture service quality score	3.35	.67
The lecture service value score	2.95	.90
The online lecture service satisfaction score	3.14	.84

3.3. *Differences in Online lecture service according to sociodemographic characteristics*

t-test and ANOVA were conducted to explore the differences in online lecture service perceived by the subjects according to sociodemographic characteristics and the results are shown in table 3.

Table 3: Differences in Online lecture service according to sociodemographic characteristics

		M	SD	t/F	p
Sex	Male	3.53	.96	1.211	.233
	Female	3.33	.61		
Grade	1st	3.42	.56	4.032	.008 (b>d)
	2nd	3.50	.72		
	3rd	3.22	.52		
	4th	3.17	.75		
One's own health	Bad	3.35	.52	3.736	.025

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condition	Normal	3.17	.56		(b<c)
	Good	3.42	.70		
Satisfaction with school life at University	Not satisfied	2.73	.63	27.960	.000 (a<b, a<c, b<c)
	Moderate satisfaction	3.14	.55		
	Great satisfaction	3.60	.65		
Degree of satisfaction in major	Not satisfied	2.77	.31	11.043	.000 (a<c, b<c)
	Moderate satisfaction	3.12	.52		
	Great satisfaction	3.46	.69		
Your own level of study	Not good	3.40	.73	.500	.607
	Normal	3.37	.65		
	Good	3.28	.66		
Level of economy in one's own family	Poor	3.17	.67	1.828	.163
	Normal	3.38	.68		
	Well-off	3.40	.61		
Place where online classes are mainly used	House	3.37	.67	1.463	.144
	Cafe	3.16	.57		
Average amount of time spent on online classes during the day	Less than 3 hours	3.05	.56	6.353	.002 (a<b, a<c)
	3 to 5 hours	3.41	.69		
	more than 5 hours	3.43	.65		

3.4. *Differences in lecture service value according to sociodemographic characteristics*

t-test and ANOVA were conducted to explore the differences in lecture service value perceived by the subjects according to sociodemographic characteristics and the results are shown in table 3.

Table 4: Differences in lecture service value according to sociodemographic characteristics

		M	SD	t/F	p
Sex	Male	3.08	1.07	.763	.450
	Female	2.94	.88		
Grade	1st	3.07	.67	1.820	.144
	2nd	3.05	1.02		
	3rd	2.86	.89		
	4th	2.77	.91		
One's own health condition	Bad	2.80	.38	1.974	.141
	Normal	2.79	.93		
	Good	3.03	.91		
Satisfaction with	Not satisfied	2.42	1.03	16.285	.000

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school life at University	Moderate satisfaction	2.69	.80		(a<c, b<c)
	Great satisfaction	3.23	.88		
Degree of satisfaction in major	Not satisfied	2.59	.92	6.834	.001 (b<c)
	Moderate satisfaction	2.65	.86		
	Great satisfaction	3.08	.89		
Your own level of study	Not good	2.99	.99	.977	.378
	Normal	3.00	.79		
	Good	2.82	1.06		
Level of economy in one's own family	Poor	2.80	.90	1.391	.251
	Normal	3.02	.88		
	Well-off	2.87	.96		
Place where online classes are mainly used	House	2.98	.91	1.464	.144
	Cafe	2.70	.75		
Average amount of time spent on online classes during the day	Less than 3 hours	2.66	.97	3.857	.022 (a<c)
	3 to 5 hours	2.97	.92		
	more than 5 hours	3.11	.77		

3.5. *Differences in Online lecture service satisfaction according to sociodemographic characteristics*

t-test and ANOVA were conducted to explore the differences in online lecture service satisfaction perceived by the subjects according to sociodemographic characteristics and the results are shown in table 3.

Table 5: Differences in Online lecture service satisfaction according to sociodemographic characteristics

		M	SD	t/F	p
Sex	Male	3.08	1.01	-.397	.693
	Female	3.15	.82		
Grade	1st	3.41	.72	3.679	.013 (a>d)
	2nd	3.13	.83		
	3rd	3.04	.87		
	4th	2.94	.90		
One's own health condition	Bad	3.18	.62	.743	.477
	Normal	3.03	.82		

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	Good	3.17	.86		
Satisfaction with school life at University	Not satisfied	2.64	.94	17.819	.000 (a<c, b<c)
	Moderate satisfaction	2.87	.76		
	Great satisfaction	3.41	.81		
Degree of satisfaction in major	Not satisfied	2.84	.66	6.013	.003 (b<c)
	Moderate satisfaction	2.87	.76		
	Great satisfaction	3.25	.86		
Your own level of study	Not good	3.10	.85	.404	.668
	Normal	3.18	.79		
	Good	3.07	.97		
Level of economy in one's own family	Poor	2.84	.83	3.355	.036 (a<b)
	Normal	3.22	.84		
	Well-off	3.10	.82		
Place where online classes are mainly used	House	3.14	.85	.406	.685
	Cafe	3.07	.74		
Average amount of time spent on online classes during the day	Less than 3 hours	2.76	.84	6.181	.002 (a<b, a<c)
	3 to 5 hours	3.21	.88		
	more than 5 hours	3.23	.72		

4. Conclusion

Online education programs are separated between professors and learners in terms of space and time, so it is necessary to derive teaching methods that utilize the maximum strengths. Since the effects of online learning are not necessarily positive, we should try teaching methods that can enhance satisfaction as much as possible through various research using information technology. The effects of learning in offline situations and online learning may not be satisfactory in terms of learning performance alone. The satisfaction of educational services is largely attributed to motivation for learning participation and the characteristics of individual learners in various studies. The satisfaction level of online education services can be the biggest variable, with motivation to participate in learning, which can be the satisfaction level of school life and major satisfaction.

The satisfaction level of school life and major satisfaction is high, and the more time you spend on online classes, the higher the satisfaction level of online education services is statistically. This can result in high academic performance as learners have more time to set goals and invest in learning with the will and ability to implement learning. The characteristics of individual learners can also affect their academic performance, especially in the online learning environment, where the more difficult the economic level is, the more time they spend on learning, the less time they spend on learning, and the less time they spend on learning, which can result in lower academic performance. In addition, the online learning environment has the advantage of being able to listen to learning materials repeatedly, which can be considered an attractive advantage as it can be used whenever learners find it difficult to understand or need repetitive learning.

If online learning falls short of or does not want to meet expectations in need and effectiveness, both professors and learners will inevitably have very low academic performance. In addition, the educational programs that learners participate in are thought to be useful for learning, and in the educational environment in which they actively participate, it will have a positive effect on their academic performance. This could be an attractive method of teaching if various techniques are used to increase concentration and maximize learning effects.

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As the results of this study show, satisfaction with school life and major is a factor that affects satisfaction with educational services. Therefore, it is imperative to apply as many methods as possible to statically increase satisfaction in school life and maximize satisfaction in major when students are in lower grades to achieve positive results in satisfying educational services. For example, it is necessary to strengthen ties with the homeroom professor to enhance the satisfaction of school life in the lower grades, to establish a close and supportive relationship between seniors and juniors, and to pay attention to whether the cordial close relationship with fellow friends is going well. If the roadmap for majors is accurately guided to enhance the satisfaction level of majors, guidance on designing careers tailored to the characteristics of individual students, goals are set for each grade, and cooperation with each department of the university to achieve them through systematic management, a positive effect can be expected.

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