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The Assessment of Student Satisfaction with Art and Design Online Course at Normal Universities in Hunan, China

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Abstract

Purpose: In the 5G age, new information technology like artificial intelligence and big data greatly influenced online courses. This research examines the factors impacting user satisfaction with the art and designs online course at the normal universities in Hunan, China. The conceptual framework was constructed with commitment, self-efficacy, transformational leadership, service quality, satisfaction, and actual usage. **Research design, data, and methodology:** Sample data was collected from the art and design major of three typical normal universities in Hunan Province by using quantitative methods and a questionnaire as a tool before distributing the questionnaire, Item-Objective, and reliability. Data was analyzed by utilizing Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM) to validate the model's goodness of fit and confirm the causal relationship among variables for hypothesis testing. **Results:** The results indicated that actual usage was the strongest factor that had a significant impact on student satisfaction, followed by commitment, self-efficacy, transformational leadership, and service quality. In addition, self-efficacy was directly related to actual usage. **Conclusions:** The conceptual framework proposed in this study had high reliability and validity. Art and design online courses should improve students' cognitive levels, improve student satisfaction, and actual usage to strengthen the curriculum construction.

Keywords : Online Learning, Self-Efficacy, Service Quality, Satisfaction, Actual Usage

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Online courses can be classified as webcast e-learning courses. The year 2016 is called the first year of the China webcast era. Lots of webcast platforms were established this year. Many platforms specifically for online education, such as Ke.qq, Study.163, Xue. Taobao, Chuanke, and Lizhiweike also appeared around that time. Starting from 2020, some platforms originally mainly used for web conferences and webcams, like Ding Talk, and Tencent Meeting, also transformed into online learning webcasts (Menon & Suresh, 2021). Webcast e-learning platforms are mainly used by webcast teaching, with basic functions like attendance check and roll call.

Art and design are a comprehensive major that integrates Art, science, and technology. Art and design courses take practical courses as a major part and aim to improve students'

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practice and application skills. Students majoring in Art and design normally do not have a final examination or only have final examinations for certain theoretical courses. Normal universities aim at training teachers. The outbreak of COVID-19 in 2020 has greatly changed the education of art and design courses (Chen et al., 2021). It has had to change some of its offline teaching methods. The researchers take some normal universities in Hunan Province as an example, and there are many historical "firsts" in teaching Art and design courses. The first large-scale organization of teacher skills training, the first online defense, and the first large-scale application of online education tools. For Art and design majors in normal universities, the satisfaction analysis of online courses is a subject that needs timely research.

Many scholars have pointed out that students' satisfaction with their courses is directly and indirectly related to their self-efficacy (Aldholay et al., 2018). Self-efficacy plays an important role in measuring students' satisfaction and the efficiency of using e-learning. In addition, another important factor is the understanding of service quality. Transformational leadership also has a very direct impact on satisfaction (Aldholay et al., 2019). Many other factors affect student satisfaction, including actual use, commitment, compatibility, and so on (Dehghan et al., 2014).

In the year 2020, due to the influence of the COVID-19 pandemic, colleges, and universities applied school closure while class continues policy. All colleges and universities use online education platforms to give online lectures, expanding the number of users numbers of online education. In the 5G age, new information technology like artificial intelligence and big data greatly influenced online courses. Online teaching requires an online platform, and both functions need technical support. The training objectives of different universities are different; students in different universities may have different academic levels and may give additional feedback on the same knowledge point. So different universities have different teaching objectives for the same course, and students in different types of universities may have different learning processes. Samples and results of this thesis may apply to similar universities only. I used non-normal universities as an example to do the same research. The results show that the factors affecting student satisfaction are similar to normal universities, but the degree is slightly different. Therefore, this study aims to determine the factors that impact students' satisfaction with Art and design online courses in China. According to the results of this study, Art and design online courses should improve students' cognitive levels and satisfaction and actual usage to strengthen the curriculum construction.

2. Literature Review

2.1 Service Quality

Oldfield and Baron (2000) regarded service quality as three dimensions: "acceptable elements," which are attractive to students but not necessary, "requisite elements," which are vital for students to fulfill their learning obligations, "functional elements," which are of a nature with practical or utilitarian characteristics. According to the comprehensive evaluation, higher education organizations can use unlike performance index and indicators to assess their quality of service according to their resources, high-influence research, student-centered education, and stakeholder engagement (Camilleri, 2021). Emiliani (2014) pointed out that service quality function deployment and policy deployment can be used to determine what should be started from which course, along with the change of school focus or teaching capacity and standard of certification. Quality of service is a major determinant of good performance in electronic channels (Barrutia & Gilsanz López, 2009). There is expected to be significant growth potential for products and services delivered through electronic channels. Perhaps the same to the online course.

Facilities quality, degree program quality, school image, and other factors affect students' satisfaction with the school (Weerasinghe & Fernando, 2018). Teachers' teaching level, administrators' administrative ability, classroom control, and library service also affect students' satisfaction (Sharabati et al., 2019). The empirical study verifies the direct influence of students' perception of service quality on students' satisfaction (Teeroovengadum et al., 2019). The perceived quality of services, such as teaching, administrative services, academic facilities, campus infrastructure, internationalization, and support services, are all key to student satisfaction (Annamdevula & Bellamkonda, 2016). Chaudhary and Dey (2021) found that whether students perceive the quality of service directly impacts student satisfaction. When students perceive that teachers and staff are knowledgeable and take into account their requirements, teachers' behavior will stimulate students' confidence accordingly.

H1: Service quality has a significant influence on user satisfaction.

2.2 Commitment

Balay (2006) investigated senior middle school superintendents and teachers' organizational commitment. Sezgin (2009) studied that psychological endurance is one of the primary factors in predicting teachers' commitment to an organization. Several population statistics variables are also important to explain teachers' organizational commitment,

and different predictor variables contribute significantly to different components of teacher commitment. In the conclusion of Park et al. (2005), it is stated that team cooperation is an important predictor element in teachers' commitment, teamwork skills, and high teachers' awareness of a higher level of commitment. In the research of Lakshman et al. (2021) thought, knowledge-based viewpoints are increasingly being applied in many unlike fields to solve problems in developing markets and knowledge-intensive operating environments. Baniasad et al. (2021) identified that motivation factors could improve teachers' commitment levels and then affect teachers' turnover intention.

Prior research has explored the impact of impact commitment, calculation commitment, and formal acceptance on customer service satisfaction (Fatima et al., 2015). Relationship scholars generally agree that satisfaction has a positive psychological effect on users, making them better committed to a particular unit (Meyer et al., 2002). Satisfaction can also influence and regulate commitment to some extent because it can make customers consider it a rhetorical obligation (Bansal et al., 2004). This researcher believes that the user's service satisfaction is the result of all the past service experiences of the customer, so it determines the user's commitment to the organization in the future (Fullerton, 2011). Users feel that they should maintain a relationship with a company that satisfies them, and the specification commitment represents a specific and targeted specification (Mbango, 2018).

H2: Commitment has a significant influence on satisfaction.

2.3 Self-efficacy

Self-efficacy concerns students' confidence in completing studying tasks. Improving students' self-efficacy and reducing the amount of online theory courses can improve pupils' degree of satisfaction with online learning (Hamdan & Al-Bashaireh, 2021). Kundu (2020) revealed that self-efficacy among schoolteachers and pupils who handle online terraces, the confidence level is an important factor in performing specific tasks, and increased effectiveness can encourage online practice. Akhir et al. (2014) suggests that self-efficacy and network participation negatively impact one's secrets concerns; conversely, privacy concerns will also adversely impact the rate of online trade. It also indicates that the direct influence of network self-efficacy and network participation on network transaction rate is positive.

Teachers' attitude towards teaching is one of the important factors that affect teachers' teaching effect. If teachers are passionate about their profession and have a positive attitude toward it, they tend to be more effective in their teaching tasks (Antoniou & Griaznova, 2018). Teachers' self-efficacy is closely related to job satisfaction. Kavitha and Venkateswaran (2015) also demonstrated that teachers' attitudes toward work and self-efficacy positively correlate with job satisfaction. Dicke et al. (2020) showed that teachers' satisfaction with their work is positively related to student's academic performance. Banerjee et al. (2017) claimed that there is a moderate active correlation between teachers' job recognition and students' reading ability.

Self-efficacy affects people's attribution patterns. When seeking solutions to difficult problems, people with high self-efficacy have the disposition to attribute their failure to a lack of effort. In contrast, a person without enough self-efficacy tends to attribute their failure to a lack of capacity. (Bandura, 1986). Effects on systems use: there is a remarkable positive correlation between self-efficacy and the use of a system (Eom, 2012).

Further research found there is a causal relevance between attribution and self-efficacy. For example, attributing low performance to personal limitations will damage their self-efficacy. Thus, please use the latent capacity of online learning as a high educational strategy to expand access to higher education, strengthen schoolroom teaching, and ultimately improve student learning outcomes in liberalized and distance learning institutions. It Investigates the effect of individual innovation ability and self-efficacy, Particularly the effect of technological self-efficacy on learners' adoption of online learning (Lin et al., 2009). Ifinedo (2017) said that Self-efficacy affects students about how to use blogs to learn.

H3: Self-efficacy has a significant influence on satisfaction.

H5: Self-efficacy has a significant influence on actual usage.

2.4 Transformational Leadership

Transformational leadership is viewed as a whole and generally classified into three parts: intellectual stimulation, core transformation, and personal consideration (Jaruwanakul, 2021). Thus, each of these three factors contributes differently to the effort-reward imbalance since each focus on the behavior of transformational leaders (Web & Sub, 2016). Michaelis et al. (2010) indicate that managers need to consider the implementation of transformational leadership and follower innovation behavior mechanism. Xiao et al. (2017) thought transformational leadership has an energetic effect on assignment performance, and attributional charisma has a stronger positive effect on knowledge sharing for individuals with low exchange awareness.

Transformational leadership thinks that leaders could make employees conscious of the importance of their responsibilities and tasks through leadership's enchantment and charisma, intellectual stimulation, and individuation care, thereby maximizing its potential and realizing the highest

level of merits. Seashore and Taber (1975) put forward that transformational leadership is a flexible leadership style that attracts individual and team values, emotions, and beliefs to mobilize them to make more expected performance. Leithwood and Menzies (1998) contend that transformational leadership impacts the effective efficiency of organized learning, which can also promote the procedure and results of organized learning. It is very inappropriate to regard humanity as animal people or economic men. Transformational leadership theory pays great attention to the realization of staff's values, regards employees as energetic, incites them to achieve themselves, and believes they have boundless latent capacity (Lam, 2002).

H4: Transformational Leadership has a significant influence on satisfaction.

2.5 Actual Usage

Mittal et al. (2020) evaluated the adoption and use of online instruction from a faculty perspective. They provided practical insights to universities to promote the adoption, acceptance, and use of online instruction in healthcare emergencies that result in campus lockdowns or restrictions on the physical activity of personnel. User behavior research in academic journals has always challenged academic communication (Jenkins, 1997). Tripathi and Jeevan (2013) found that Net E-Natural resources are not a seek-profit organized system; it was established in 2002 to develop standardizing methods and electronic resource usage reports. It provides an international and scalable code to put it into practice that allows applying online message products and services to be measured in a reliable, unanimous, and compatible manner.

Users use your technology, products, or services (Kim et al., 2007). Agarwal and Prasad (1998) think that manner is an emotional response to a person's use of new technology. Users, also known as those who use it, refer to those who use computers or network services. They usually have a user account and are identified by their user's name. Wang (2008) defined online user satisfaction as the Internet users' sense of their experience using the Internet and the threshold that it meets their expectations. Norzaidi and Salwani (2009) showed that, under the situation.

Regarding Internet technology, actual use significantly affects user satisfaction in Malaysia. Hou (2012) found that online use and time can predict user satisfaction. When surveying the use of technology, the user's satisfaction is one of the vital elements that researchers need to consider (Delone & Mclean, 2003).

H6: Actual usage has a significant influence on satisfaction.

2.6 Satisfaction

In terms of the development of e-learning, some countries have strong growth in High Technology Industries and extensive Internet access. A growing number of private and public educational institutions are starting to offer online Gaokao preparation courses. They find that availability and cost are greatest when the sign is at a lower standard, and their performance has been high in recent years. Satisfaction is likely higher when performance does not matter (Pak, 2016). The prime objective of mastering the present situation of satisfaction is to help the target object, to center the finite resources on the top sides of clients, to build and improve client faithfulness and retain clients; Through brand and customer group research, provide the foundation for lamination, distributary, and differentiated services, by understanding and measuring customer demands. Find out the weakness of service, analyze the merit of customers, and realize the priority distribution of finite resources to the best valuable clients; Research the disparity between service standards, delivery, processes, and client's wishes. Find the problems concerning clients and service weaknesses, and put forward relevant improvement advice. Teachers have the highest satisfaction, and the health factor is the prefactor of teachers' work motivation. The teacher's work motivation increases the influence of health factors on satisfaction exponentially, and the participating student has the greatest influence on teacher satisfaction, followed by enthusiasm (Basbeth & Ahmad Saufi, 2021).

3. Research Methods and Materials

3.1 Research Framework

This present study has applied two theories and three articles as a theoretical foundation of the conceptual frameworks in the study. The two theories were: the Technology Acceptance Model (TAM), which was proposed by Davis et al. (1989), and the Unified Theory of Technology Acceptance and Use (UTAUT) (Venkatesh et al., 2012). Moreover, Aldholay et al. (2018) conducted the first previous theoretical framework. It provided self-efficacy, actual usage, and satisfaction. Aldholay et al. (2019) developed the second previous theoretical framework. It supplied transformational leadership and satisfaction. The third previous theory was built by Dehghan et al. (2014). It provided service quality, commitment, and satisfaction. The research framework is shown in Figure 1.

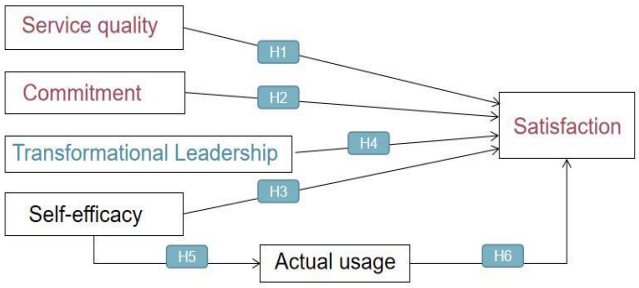

Figure 1: Conceptual Framework

H1: Service quality has a significant influence on satisfaction.
H2: Commitment has a significant influence on satisfaction.
H3: Self-efficacy has a significant influence on satisfaction.
H4: Transformational Leadership has a significant influence on satisfaction.
H5: Self-efficacy has a significant influence on actual usage.
H6: Actual usage has a significant influence on satisfaction.

3.2 Research Methodology

This study used questionnaires to investigate students who have studying experience in art and design online courses in three different normal universities in Hunan, China, in 2022. Conducting an investigation into students who have studied art and design online courses across three different normal universities in Hunan, China holds immense significance. This research endeavor aims to uncover insights that can contribute to enhancing the quality of art and design education in the online learning environment. The questionnaire was divided into screening questions, measurement variables, and demographic questions. It used Likert five-point scale (Cooper & Schindler, 2011) to measure variables. In addition, before the questionnaire survey, the researchers used the index of item objective consistency (IOC) to evaluate the content validity. Moreover, a pilot test was also conducted by distributing questionnaires to 30 target populations to test the reliability of the questionnaire by Cronbach's Alpha. Then the questionnaires were delivered to about 1200 students, which resulted in 500 accepted responses. Finally, Confirmatory Factor Analysis (CFA) and structural equation modeling (AEM) were analyzed by AMO software.

3.3 Population and Sample Size

Burns and Groves (1997) considered the target population "a collection of all respondents who meet a specified set of criteria." Hair et al. (2007) mentioned that the target population is a complete set of elements associated with the research project. Moreover, Barnsbee et al. (2018) proposed that the population of the target was a group of individuals about whom the researcher intends to study and make assumptions. Anyway, the researcher used A-priori Sample Size Calculator for SEM from Daniel Soper's website to calculate the recommended minimum sample size (Soper, 2006). The researcher put six latent variables, 21 observed variables, and a probability level of 0.05. The minimum sample size, as recommended, was 403 respondents. Finally, the researcher decided to distribute 1,200 questionnaires and select the qualified respondents 500.

3.4 Sampling Technique

The researcher used non-probability sampling as the sampling technique. In addition, the sampling procedure of this study was divided into three steps: judgment sampling, quota sampling, and convenience sampling. First, judgment sampling was used to limit the target population to students who had studying experience in art and design online courses at a normal university in Hunan, China. Then, the proportional quota sampling method is used to select equal proportion samples from the corresponding school to ensure the representativeness of the samples. The proportion distribution is shown in Table 1. Finally, convenience sampling was applied to collect data proportionately from the three target university students in different grades

Table 1: Sample Units and Sample Size

University Name	Population Size	Number of questionnaires	Proportional Sample Size (N=500)
Shaoyang University	1159	370	164
Hunan University of Humanities, science, and technology	747	290	106
Hunan City University	1625	540	230
Total	**3531**	**1200**	**500**

Source: Constructed by author

4. Results and Discussion

4.1 Demographic Information

As was shown in table 1, among 500 respondents, 43% percent were male, and 57% were female. Most of the respondents were from their sophomore year (45.4%). Major in Visual communication design (25%), Digital media art (19.6%), Digital media art (19%), Clothing design (10.4%), Product design (19%), and other Art and design direction (7%). The respondents had the studying experience of the type of online course is theory course (33.4%), practical course (14.6%), or course with theory and practice (52%).

Table 2: Demographic Profile

Demographic and General Data (N=500)		Frequency	Percentage
Gender	Male	215	43%
	Female	285	57%
Admission Year	2018	69	13.8%
	2019	69	13.8%
	2020	227	45.4%
	2021	135	27%
Major	Visual Communication Design	125	25%
	Digital Media Art	98	19.6%
	Environmental Design	95	19%
	Clothing Design	52	10.4%
	Product Design	95	19%
	Other Art and Design Direction	35	7%
The type of course	Theory Course	167	33.4%
	Practical Course	73	14.6%
	Course With Theory and Practice	260	52%

Source: Constructed by author

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was used to test whether the measurement model between the observed and potential variables in the measurement mode was consistent with the observed data (Brown, 2015). Ainur et al. (2017) thought that Good-of-fit (GoF) was used to measure the fitting degree of the model. Cronbach's Alpha was used to test the reliability of the questionnaire. Table 3 shows that the constructs have a coefficient of internal consistency under the rule that Cronbach's Alpha value must be at 0.7 or above (Dikko, 2016). Factor loading of each variable was also above 0.5 at a t-value >1.98 and p-value<0.05 (Hair et al., 2010). Composite reliability (CR) was greater than 0.7, and the average variance extracted (AVE) was greater than 0.5 for all constructs (Fornell & Larcker, 1981). In summary, the statistical estimates were significant.

Table 3: Confirmatory Factor Analysis Result, Composite Reliability (CR) and Average Variance Extracted (AVE)

Variables	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factors Loading	CR	AVE
Service quality (SQ)	Dehghan et al. (2014)	5	0.850	0.657-0.814	0.855	0.543
Commitment (COM)	Dehghan et al. (2014)	3	0.751	0.635-0.794	0.751	0.503
Self-efficacy (SE)	Aldholay et al. (2018)	3	0.782	0.690-0.807	0.785	0.550
Transformational Leadership (TL)	Aldholay et al. (2019)	3	0.800	0.679-0.844	0.823	0.610
Actual usage (AU)	Aldholay et al. (2018)	3	0.847	0.721-0.895	0.859	0.672
Satisfaction (SAT)	Roca et al. (2006)	4	0.826	0.636-0.868	0.827	0.548

As seen in Table 4 below, Ainur et al. (2017) thought that Good-of-fit (GoF) was used to measure the fitting degree of the model. Table 4 shows the value of GoF were CMIN/DF= 2.517, GFI=0.923, AGFI=0.898, NFI=0.912, CFI=0.945, TLI=0.933, and RMSEA=0.055.

Table 4: Goodness of Fit for Measurement Model

Fit Index	Acceptable Criteria	Statistical Values
CMIN/DF	<5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	2.517
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.923
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.898
NFI	≥ 0.80 (Wu & Wang, 2006)	0.912
CFI	≥ 0.80 (Bentler, 1990)	0.945
TLI	≥ 0.80 (Sharma et al., 2005)	0.933
RMSEA	< 0.08 (Pedroso et al., 2016)	0.055
Model Summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker–Lewis index, and RMSEA = Root mean square error of approximation.

In Table 5, the value of AVE square roots was all larger than inter-construct correlations Therefore, the discriminant validity was considered to be acceptable.

Table 5: Discriminant Validity

	SQ	COM	SE	TL	AU	SAT
SQ	**0.737**					
COM	0.194	**0.710**				
SE	0.177	0.388	**0.742**			
TL	0.169	0.256	0.261	**0.781**		
AU	0.269	0.356	0.467	0.439	**0.820**	
SAT	0.246	0.449	0.512	0.457	0.639	**0.740**

Note: The diagonally listed value is the AVE square roots of the variables
Source: Created by the author.

4.3 Structural Equation Model (SEM)

SEM is a statistical method to analyze the relationship between variables based on the covariance matrix of variables (Zhang, 2015). The Good-of-fit indices are shown in Table 6. The results of statistical values are CMIN/DF = 3.710, GFI = 0.880, AGFI = 0.848, N FI= 0.863, CFI = 0.896, TLI = 0.881, and RMSEA = 0.074. Consequently, from the values above, the fit of structural models is confirmed.

Table 6: Goodness of Fit for Structural Model

Index	Acceptable	Statistical Values
CMIN/DF	<5.00 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	3.710
GFI	≥ 0.85 (Sica & Ghisi, 2007)	0.880
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.848
NFI	≥ 0.80 (Wu & Wang, 2006)	0.863
CFI	≥ 0.80 (Bentler, 1990)	0.896
TLI	≥ 0.80 (Sharma et al., 2005)	0.881
RMSEA	< 0.08 (Pedroso et al., 2016)	0.074
Model Summary		**In harmony with empirical data**

Remark: CMIN/DF = The ratio of the chi-square value to degree of freedom, GFI = Goodness-of-fit index, AGFI = Adjusted goodness-of-fit index, NFI = Normed fit index, CFI = Comparative fit index, TLI = Tucker–Lewis index, and RMSEA = Root mean square error of approximation.

4.4 Research Hypothesis Testing Result

The structural equation model combines the measurement structure in factor analysis with the path analysis framework by setting potential and unobserved constructs. It can distinguish the measurement model from the structural model (Lefcheck, 2015)—the observation variables of the measurement concept from the former. At the same time, the latter constructs the relationship between the constructs, and the intermediary path is included in the structural model. Meanwhile, the path coefficient measures the correlation between the external and internal potential variables in the structural equation model. Based on Table 6, hypotheses testing results reveals that H1, H2, H3, H4, H5, and H6 are supported. The explanation of research hypothesis testing is shown in table 7.

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	t-Value	Result
H1: SQ→SAT	0.088	2.190*	Supported
H2: COM→SAT	0.314	6.859*	Supported
H3: SE→SAT	0.318	5.670*	Supported
H4: TL→SAT	0.223	5.283*	Supported
H5: SE→AU	0.557	9.310*	Supported
H6: AU→SAT	0.454	8.104*	Supported

Note: * p<0.05
Source: Created by the author

Based on Table 7, hypotheses testing results reveals that H1, H2, H3, H4, H5, and H6 are supported. The explanation of research hypothesis testing is per followings:

H1: postulated that there is a positive effect between service quality and user satisfaction as the standard coefficient value is 0.088. Moreover, the t-value at 2.190*. It is the least influential hypothesis compared to other hypotheses. This still supports the attitude of Chaudhary and Dey (2021); Weerasinghe and Fernando (2018); Annamdevula and Bellamkonda (2016), who said that service quality perceived by students has a direct effect on student satisfaction.

H2: Commitment significantly influences user satisfaction with a standardized path coefficient of 0.314 and a t-value at 6.859* in H2. Users feel it should maintain a relationship with a company that satisfies them because the specification commitment is on behalf of a special specification (Bansal et al., 2004; Fatima et al., 2015; Fullerton, 2011; Mbango, 2018; Meyer et al., 2002).

H3: For H3, the study's result disclosed that self-efficacy positively affects user satisfaction as of standard coefficient value=0.318, t-value=5.670*. Previous literature confirmed that user self-efficacy could be considered the degree of user confidence, positively correlated with user satisfaction (Antoniou & Griaznova, 2018; Bandura, 1986; Banerjee et al., 2017; Dicke et al., 2020).

H4: Another significant factor impacting user satisfaction is transformational leadership with a standard coefficient value=0.223, t-value=5.283* in H4. Leaders can mostly manage people's actions to achieve the goal of people's positive work engagement and affect user satisfaction (Lam, 2002; Leithwood & Menzies, 1998; Robbins, 2003; Seashore & Taber, 1975)

H5: H5 indicated that self-efficacy has the strongest effect on actual usage. The standard coefficient is 0.557, t-value is 9.310*. The data is the highest of all the assumptions, much higher than the minimum H1. When users are aware of a high tone of self-efficacy, they consider that they have enough ability and knowledge to offer their learning to the community (Bandura, 1986; Chen et al., 2017; Dhir et al., 2018; Ifinedo, 2017; Lin et al., 2009).

H6: Actual usage also significantly impact user satisfaction with a standardized path coefficient of 0.454 and a t-value at 8.104* in H6. It is considered the frequency and number of times the technique is used (Agarwal & Prasad, 1998; Delone & Mclean, 2003; Isaac et al., 2017; Kim et al., 2007; Norzaidi & Salwani, 2009; Wang, 2008). The intermediary function of satisfaction of users between practical technology use and performance influence has not been emphasized.

5. Conclusion and Recommendation

5.1 Conclusion and Discussion

In the present form, analyzing students' satisfaction with the practical application of online courses in art and design in normal colleges and universities is a very important subject. This study takes three typical colleges and universities in Hunan as examples to explore the factors affecting students' satisfaction in normal colleges and universities in Hunan. The conceptual framework is

developed from the two core theories and three previous theoretical frameworks. Variables in the conceptual framework include quality of service, commitment, self-efficacy, transformational leadership, actual use, and satisfaction. In addition, the researchers put forward six hypotheses corresponding to the defined research questions. Then, the researchers conducted a pilot experiment on 30 distributed questionnaires, using the item objective consistency (IOC) index and Cronbach's alpha to test the validity and reliability of the questionnaires. Using the collected data, the non-probabilistic sampling technique was used to collect the data from 500 normal college students in Hunan Province. In addition, confirmatory factor analysis (CFA) was used to evaluate the measurement model's convergence and discriminant validity. A structural equation model (SEM) was used to test the influence of the measured variables, and the study was summarized.

The findings of this research can be described as follows. First, the results of the present study revealed that student satisfaction had a positive and significant impact on actual usage. Student satisfaction was an important indicator of behavioral intention (Mirabolghasemi et al., 2021). On the one hand, it evaluates the teaching quality of the school, which is an important means to understand the quality of the university running quality, personnel training, and other projects. We should pay attention to improving the satisfaction of students.

On the other hand, the effectiveness of actual use has the greatest impact on student satisfaction, and it is the most effective evaluation. Schools should improve teachers' teaching levels to improve students' recognition of the courses taught by teachers to improve the actual utilization rate. Finally, commitment is another important indicator of the influencer's student satisfaction rating. Therefore, the training of students should be strengthened to make students feel that their teachers should be responsible. The results show that self-efficacy, transformational leadership, and service quality are the three main factors that positively impact students' satisfaction.

In summary, the determinants of student satisfaction were service quality, commitment, self-efficacy, transformational leadership, and actual usage. Moreover, self-efficacy also is an important factor in actual usage.

5.2 Recommendation

For theoretical implications, the researcher developed the conceptual framework based on two core theories: the Technology Acceptance Model (TAM) and the Unified Theory of Technology Acceptance and Use (UTAUT). The results confirmed that commitment and actual usage were two significant elements to impact student satisfaction., and self-efficacy strongly impacted actual usage. This study indicated that service quality and transformational leadership were important factors impacting student satisfaction in art and design online courses among normal universities.

In a practical sense, this study proves that the epidemic has promoted the development of art design education. With the advent of the Internet era, art and design education is facing greater challenges. Chinese art design education is to cultivate student's ability to design innovation. This education includes artistic connotations, scientific heritage, and cultural knowledge in modern industrial production and artistic design activities. The realization of this depends mainly on human creativity and imagination. Therefore, art design education focuses on cultivating students' creativity in art design. In art design education, it is necessary to cultivate students' design practice ability and strengthen the cultivation of students' artistic accomplishment and innovation ability.

The conclusion of this study will provide some valuable suggestions for the current online course development enterprises and have certain reference significance for the training of art design students in normal universities. This study has solved some problems in the use of online tools in the transitional period from the side, as well as the main factors affecting the satisfaction of online courses of art, which has a positive significance for promoting the reform of online courses in colleges and universities and also provides some ideas for the development of online courses. These findings will be of value to administrators and art and design teachers at teacher-oriented higher education institutions looking to expand online learning programs and explore different software solutions, such as online assessment tools, that can help prepare them for the transition from traditional to blended forms of learning.

5.3 Limitation and Further Study

The limitation of this study lies in the particularity of art and design online courses, which are different from other types of online courses, such as face-to-face teaching, many design practices, and more market research. Therefore, the results of this study may not apply to other online courses. In addition, the objects of this study are students of Hunan Normal University in China. The selected sample groups are affected by social and economic conditions, school conditions, school philosophy, teaching methods, and teaching levels will vary greatly, and different samples may present different results. Therefore, future studies should compare the differences in influencing factors in different regions to enhance the universality of research results. China is in a period of social transformation and medical reform, and the factors affecting online course satisfaction and behavior intention may also change. Therefore, the relevant variables explored in this study need to be continuously improved in the promotion and application.

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