

Investigation on Satisfaction and Performance of Online Education Among Fine Arts Major Undergraduates in Chengdu Public Universities

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Abstract

Purpose: This research investigates factors affecting satisfaction and performance of online education among undergraduate fine art students in three public universities in Chengdu, China. The variables include perceived usefulness, perceived ease of use, self-efficacy, task-technology fit, compatibility, satisfaction and performance. **Research design, data, and methods:** Through a quantitative research approach, questionnaires were distributed via online and offline channels to 500 target respondents. Judgmental, quota and convenience samplings were used to collect the data. The data previously examined by Item Objective Congruence (IOC) Index to confirm content validity, and by Cronbach's Alpha coefficient value to approve constructs' reliability in a pilot test of 30 participants. Statistical analysis involves confirmatory factor analysis (CFA) and structural equation model (SEM), including the test of factor loadings, validity, reliability and goodness of fit model. **Results:** The results showed that perceived ease of use significantly affected satisfaction and perceived usefulness. The relationship between self-efficacy, perceived ease of use and perceived usefulness was supported. Compatibility and task-technology fit significantly affected student satisfaction. Furthermore, satisfaction is a predictor of performance. **Conclusion:** For online education providers, the system should be designed to be easy, useful, self-control, compatibility and task-fit to gain higher student satisfaction and performance. **Keywords:** Online Education, Compatibility, Task-Technology Fit, Satisfaction, Performance

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Since 2020, the impact of COVID-19 has accelerated more and more students to engage online education. Thus, online education has become a rigid demand of students across the world (Shereen et al., 2020). As of December 2020, the total number of online education users in China was 342 million. China has gained the benefits of large-scale

online education practices during the pandemic, where many universities have stepped up to online teaching to replace offline education. Nevertheless, there are still many problems in China's online education. First of all, China's current online education management and assessment mechanisms at the university level are still in the development stage. The main manifestations are that there is not much difference between online and offline education management (Wang, 2020), and there is some ambiguity in

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the assessment methods of online education (Wang et al., 2020). Secondly, there are many problems with most university teachers' perceptions of online teaching, teaching methods and course design (Zhang & Du, 2020). Lastly, there is a lack of relevant quantitative research, and most studies have used descriptive, inferential, and qualitative methods.

However, the five pillars of online education quality include student satisfaction, instructor satisfaction, enrollment, learning efficiency, and cost effectiveness (Wang, 2006). Among them, student satisfaction as one of the key challenges facing online education (Bali & Liu, 2018). It is the most important factor for the successful implementation of online learning which depends mainly on users' perceptions of course availability and quality, website platform and service quality, and expected achievement levels. Therefore, it is necessary to understand student satisfaction because some online learning does not meet the needs of students and does not achieve the expected learning performance (Allen & Seaman, 2014).

1.1 Objectives of this Research

a) To determine for significant effects between perceived usefulness, perceived ease of use, self-efficacy, task-technology fit, compatibility, satisfaction, and performance.

b) To provide recommendations to online education providers and universities for the improvement of online education to gain higher student satisfaction and performance.

1.2 Research Questions

a) What is the significant effect between significant effects between perceived usefulness, perceived ease of use, self-efficacy, task-technology fit, compatibility, satisfaction, and performance?

b) How can online education providers and universities improve online education to gain higher student satisfaction and performance?

1.3 Significance of the Study

The results of the study will help online education providers, higher education institutes and government to formulate online education policies, which will be beneficial to the future development of online education for art majors' program, and to improve student satisfaction and performance of online education. In addition, academic practitioners and researchers can use the findings to explore further in significant factors affecting students' satisfaction and performance of online education, and how online education can be better implemented in universities to achieve higher students' satisfaction and performance.

2. Literature Review

2.1 Perceived Ease of Use

Davis (1989) coined the term "perceived ease of use" (PEOU) to describe the easiness which an innovation or technology is perceived to be understood, learned, and operated. PEOU refers to how an individual thinks it would be effortless to use a technology. In this context, PEOU is the extent to which learners perceive that using a learning system will be easy, and is a factor in their motivation to make a use decision. PEOU is determined by the students' judgment of an important feature of utilizing a technology, such as the interfaces and procedures involved in its usage. PEOU as the main component of TAM, directly affects the attitude and intention of use (Davis, 1989). In addition, Islam et al. (2018) revealed a direct and significant effect of PEOU on student satisfaction when using wireless Internet technology for higher education learning. TAM proposed that perceived usefulness (PU) is influenced by PEOU. Users' acceptance of new technologies is largely determined by their PEOU and PU (Davis, 1989). Many literatures on student acceptance of learning technology show that PEOU and PU are positively correlated (Lee et al., 2005). Based on previous studies, hypotheses are proposed:

H1: Perceived ease of use has a significant effect on satisfaction of students in using online education.

H3: Perceived ease of use has a significant effect on perceived usefulness of students in using online education.

2.2 Perceived Usefulness

Perceived usefulness (PU) is generally agreed that online learning methods are more beneficial and effective for learners (Cheng, 2019). Through Davis (1989) study, PU refers to the degree to which a person trusts a system and believes that it will improve one's performance. In other words, PU is the extent to which a person believes that adopting a system will improve his or her performance. In addition, PU refers to the degree to which people hope to gain operational or strategic advantages through the use of information system (Bhattacharjee, 2001). According to TAM, PU is considered to be the influence of a person's attitude towards using a system or technology (Davis et al., 1989). Users are satisfied with the use of a technology when they feel it could bring benefits to them such as speed, convenience, and less cost (Davis, 1989). Therefore, Davis (1989) argues that there is a direct causal relationship between PU and user satisfaction. Therefore, a hypothesis is set:

H2: Perceived usefulness has a significant effect on satisfaction of students in using online education.

2.3 Self-Efficacy

Self-efficacy (SE) is the level of confidence that determines a student's ability to achieve learning goals and is a central mechanism for individual actions and behavioral intentions (Huang & Duangekanong, 2022). SE has also been defined as a judgment of an individual's ability to perform a certain learning task with certain goals (Bandura, 1986). This variable is a student's confidence in his or her ability to successfully perform a specific behavior to produce an outcome or to effectively perform a specific learning task (Aldholay, 2018). SE is an exogenous variable that positively influences PU and PEOU. A number of researchers have determined that the effect of SE on behavioral intention is mediated by PU (Fokides, 2017). Islam et al. (2011) noted that SE has a significant impact on PEOU which means personal ability to use computer and web play a vital role in determining users' perception of ease level and benefits of use. Henceforth, hypotheses are developed:

H4: Self-efficacy has a significant effect on perceived usefulness of students in using online education.

H5: Self-efficacy has a significant effect on perceived ease of use of students in using online education.

2.4 Compatibility

Compatibility refers to the degree to which something new fits with the current values, needs, and past experiences of hidden users (Moore & Benbasat, 1991). According to Rogers (2003), compatibility is defined as the degree to which a new technology is consistent with the prior beliefs, habits, needs, and experiences of potential adopters who have used predecessor technologies, as well as the requirements of future adopters. Furthermore, when a technology is in use, the extent to which it is compatible with the needs, values and previous experiences of users is a contributor of user's satisfaction (Chen et al., 2015). A study by Islam et al. (2018) showed that students who use a more compatible e-learning system are more satisfied with the application because it meets their learning needs. Hence, H6 is posted:

H6: Compatibility has a significant effect on satisfaction of students in using online education.

2.5 Task-Technology Fit

Task-technology fit (TTF) designates the interdependence among task, technology, and individuals (Yüce et al., 2019). In addition, TTF, according to Lu and Yang (2014), is the extent to which technology assists users in completing tasks or courses. TTF also refers to the degree to which the system is capable of assisting in the completion

of the job and meeting its criteria. TTF refers to the relationship between task completion requirements, personal capabilities, and technical functions in an information technology (Cheng, 2019). Studies have shown that the more suitable the information technology for a specific task, the more likely it is to improve the task result (Lin, 2012). In addition, Jarupathirun and Zahedi (2007) presented that a support a relationship between tasks and information technology has a positive impact on satisfaction. Accordingly, a hypothesis is derived per follow:

H7: Task-technology fit has a significant effect on satisfaction of students in using online education.

2.6 Satisfaction

Satisfaction is one of the fundamental determinants of the success of a new system adoption (DeLone & McLean, 2016). When conducting research in the use of technology, one of the most important variables to consider is the level of user satisfaction. In addition, when investigating is the level of users' satisfaction of technology usage, it contributes to the user's expected performance (Delone & Mclean, 2003). It is also described in terms of how satisfied students are with their decision to use online learning and how well it meets their expectations (Roca et al., 2006). Several studies have demonstrated that user satisfaction can affect the performance of various environments and technology applications (Aldholay et al., 2018; Hok et al., 2021). Based on above evidences, a hypothesis is developed:

H8: Satisfaction has a significant effect on performance of students in using online education.

2.7 Performance

As defined by Isaac et al. (2017), performance refers to the extent to which distance learning aspects have an impact on student knowledge acquisition, productivity, competence, and resource savings. The amount to which the system is used to improve the quality of work, assist in completing tasks quickly, control overwork, improve job performance, remove errors, and raise productivity is referred to as performance (Norzaidi et al., 2007). The term "performance impact" refers to something that improves the quality of work by finishing it quickly, exerting control over it, promoting job performance, and reducing workplace blunders (Isaac et al., 2016). In addition, the structure of performance is described as the degree to which knowledge acquisition, communication quality, and decision quality are impacted by system use.

3. Conceptual Framework

The conceptual framework was developed based on the analysis of previous academic research frameworks and is based on three major theories as the demonstration in Figure 1. Firstly, the technology acceptance model (TAM) is an information systems theory that models how users come to accept and use a technology (Davis, 1989). Next, the expectation confirmation theory (ECT) is a cognitive theory which seeks to explain post-purchase or post-adoption satisfaction as a function of expectations (Anderson & Sullican, 1993). Lastly, the information systems (IS) success model theory which seeks to provide a comprehensive understanding of IS success by identifying, describing, and explaining the relationships among critical dimensions of technology attributes (Delone & Mclean, 2003).

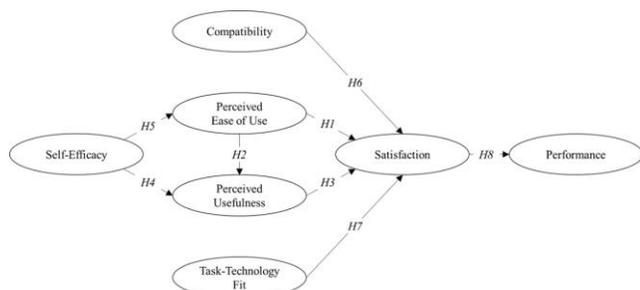


Figure 1: Conceptual Framework

- H1:** Perceived ease of use has a significant effect on satisfaction of students in using online education.
- H2:** Perceived usefulness has a significant effect on satisfaction of students in using online education.
- H3:** Perceived ease of use has a significant effect on perceived usefulness of students in using online education.
- H4:** Self-efficacy has a significant effect on perceived usefulness of students in using online education.
- H5:** Self-efficacy has a significant effect on perceived ease of use of students in using online education.
- H6:** Compatibility has a significant effect on satisfaction of students in using online education.
- H7:** Task-technology fit has a significant effect on satisfaction of students in using online education.
- H8:** Satisfaction has a significant effect on performance of students in using online education.

4. Research Methods and Materials

4.1 Research Methodology

The researcher administered a quantitative survey to undergraduate fine arts majors at three target universities

with online educational experiences through a combination of online and offline questionnaires. The survey was divided into three sections: screening questions, a five-point Likert scale measure, and demographic information. Prior to data collection, the Index of item– objective congruence (IOC) of the program was tested by three experts who are business professionals and PhD. As a result, all items had a minimum score of 0.6. Cronbach's alpha (CA) reliability test scores for the 30 participants indicated that all values of 0.70 or above were acceptable (Nunnally & Bernstein, 1994).

The Cronbach's alpha method was tested for validity and reliability. After the reliability test, the questionnaire was distributed to the target respondents, resulting in 500 accepted responses. The data collected was analyzed by the researchers through SPSS AMOS statistical software. Confirmatory factor analysis (CFA) was then used to verify the structural validity (convergent and discriminant validity) and the fit of the model. Structural equation model (SEM) was performed to demonstrate significant effects between variables.

4.2 Population and Sample Size

The target population for this academic study was undergraduate art students at three representative universities which are Chengdu University, Sichuan Conservatory of Music, and Sichuan Normal University. Next, the researchers used a statistical calculator to calculate the minimum sample size of 425 (Soper, 2022). The researchers collect 500 valid samples to obtain appropriate statistical results.

4.3 Sampling Techniques

The researchers performed nonprobability in the sampling technique. Initially, the researchers conducted judgmental sampling by selecting 1,500 art students from three public universities in Chengdu, China, who have at least one month of online education experience. In addition, a quota sampling was conducted to select a sample of 500 students, as shown in Table 1. Convenience sampling was carried out to distributing survey through offline via admiration offices and online via email and chat application.

Table 1: Sample Units and Sample Size

Target Universities	Sampling Units	First Stage Sample Size	Proportional Secondary Stage Sample Size
Sichuan Conservatory of Music (SCCM)	Freshman	103	34
	Sophomore	125	42
	Junior	120	40
	Senior	121	40
	Freshman	87	29

Chengdu University (CDU)	Sophomore	89	30
	Junior	44	15
	Senior	46	15
Sichuan Normal University Fine Arts College (SNU)	Freshman	233	78
	Sophomore	215	72
	Junior	167	55
	Senior	150	50
Total		1500	500

Source: Created by the author.

5. Results and Discussion

5.1 Demographic Information

The demographic profile of the 500 respondents included 68.20% of female, and 31.20% of male. 31.20% were from Sichuan Conservatory of Music, 17.80% from Chengdu University and 51% from Sichuan Normal University. In terms of academic year, 28.20% of the survey respondents were Freshmen, 28.80% of Sophomore, 22.00% in Junior and 21.00% of Senior. In addition, 26.80% of the students were in the oil painting, 24.80% of Chinese painting, 12.60% of the printmaking, 4.60% of sculpture and 31.20% for other fine arts specialization.

Table 2: Demographic Characteristics of Respondents

Demographic and General Data (N=500)		Frequency	Percentage
University	SCCM	156	31.20%
	CDU	89	17.80%
	SNU	255	51%
Gender	Male	159	31.8%

Year of Study	Female	341	68.2%
	Freshman	141	28.2%
	Sophomore	144	28.8%
	Junior	110	22%
Major Direction	Senior	105	21%
	Oil painting	134	26.8%
	Chinese painting	124	24.8%
	Printmaking	63	12.6%
	Sculpture	156	31.20%
	Other fine arts	23	4.6%
		156	31.2%

Source: Created by the author.

5.2 Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis (CFA) was used in this study for the data analysis after the data collection (Malhotra et al., 2004). The goodness of fit is determined by the significance and acceptable values of the factor loadings for each item (Hair et al., 2006). In Table 3, factor loadings have p-values less than 0.05 and values greater than 0.30. The average variance extracted (AVE) was acceptable at higher than cut-off point of 0.5, and composite reliability was higher than cut-off point of 0.7 (Fornell & Larcker, 1981). CMIN/DF, GFI, AGFI, RMSEA, CFI, NFI, and TLI were also used to confirm measurement model fit in the CFA test as shown in Table 4. The convergent and discriminant validities were verified. Furthermore, the discriminant validity and accuracy of the structural model estimates that follow are confirmed by these model measurements.

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

Latent Variables	Source of Questionnaire	No. of Items	Cronbach's Alpha	Factors Loading	CR	AVE
PEOU	Davis et al. (1989)	4	0.860	0.723-0.833	0.925	0.640
PU	Davis et al. (1989)	4	0.835	0.708-0.785	0.836	0.561
SE	Fokides (2017)	3	0.797	0.701-0.859	0.802	0.577
C	Moore and Benbasat (1991)	3	0.814	0.742-0.801	0.815	0.596
TTF	Larsen et al. (2009)	4	0.866	0.752-0.838	0.867	0.621
SAT	Aldholay et al. (2018)	3	0.826	0.727-0.863	0.827	0.615
P	Aldholay et al. (2018)	7	0.924	0.723-0.863	0.925	0.640

Source: Created by the author.

Table 4: Goodness-of-Fit for Measurement Model

Index	Acceptable Values	Source	Practical Values
CMIN/DF	<3	Hair et al. (2010)	1.410
GFI	>0.90	Bagozzi and Yi (1988)	0.940
AGFI	>0.80	Filippini et al. (1998)	0.926
RMSEA	<0.05	Browne and Cudeck (1993)	0.029
CFI	>0.90	Hair et al. (2006)	0.981
NFI	>0.90	Arbuckle (1995)	0.939
TLI	>0.90	Hair et al. (2006)	0.979

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, RMSEA = root mean square error of approximation, CFI = comparative fit index, NFI = normalized fit index, and TLI = Tucker-Lewis index.

Source: Constructed by author.

The convergent validity was approved when the value of CR is higher than AVE, and the AVE is equal or above 0.50 (Hair et al., 2006). Additionally, the values of the discriminant validity were examined and demonstrated in Table 5, which exceeded the critical point values. Consequently, the convergent validity and the discriminant validity of this research were sufficient.

Table 5: Discriminant Validity

	SE	C	PEOU	PU	TTF	SAT	P
SE	0.760						
C	0.346	0.772					
PEOU	0.359	0.391	0.780				
PU	0.395	0.332	0.369	0.749			
TTF	0.307	0.281	0.337	0.260	0.788		
SAT	0.306	0.317	0.419	0.320	0.386	0.784	
P	0.340	0.316	0.481	0.337	0.299	0.412	0.800

Note: The diagonally listed value is the AVE square roots of the variables

Source: Created by the author.

5.3 Structural Equation Model (SEM)

Following the CFA, the adequacy of the conceptual framework and measurement model (using SPSS and AMOS) was evaluated using structural equation modeling (SEM) in conjunction with the structural model to test for causal relationships among multiple constructs, consisting of independent and dependent variables (Bagozzi & Yi, 1988). Table 6 shows the structural model fit, including CMIN/DF, GFI, AGFI, RMSEA, CFI, NFI, and TLI.

Table 6: Goodness of Fit for Structural Model

Index	Criterion	Source	After Adjustment Values
CMIN/DF	<3	Hair et al. (2010)	2.172
GFI	>0.90	Bagozzi and Yi (1988)	0.905
AGFI	>0.80	Filippini et al. (1998)	0.885
RMSEA	<0.05	Browne and Cudeck	0.049

		(1993)	
CFI	>0.90	Hair et al. (2006)	0.946
NFI	>0.90	Arbuckle (1995)	0.904
TLI	>0.90	Hair et al. (2006)	0.939

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, RMSEA = root mean square error of approximation, CFI = comparative fit index, NFI = normalized fit index, and TLI = Tucker-Lewis index.

Source: Constructed by author.

5.4 Research Hypothesis Testing Result

The research matrix was computed as significance for each variable from the regression weights and R2 variances. According to the results of each calculation shown in Figure 2 and Table 7. Satisfaction had the strongest effect on performance with a standardized path coefficient (β) of 0.507 (t-value = 9.081***), SE on PU with β at 0.483 (t-value = 6.189***), SE on PEOU with β at 0.458 (t-value = 8.235***), PEOU on SAT with β at 0.403 (t-value = 6.187***), PEOU on PU with β at 0.256 (t-value = 4.550***), TTF on SAT with β at 0.295 (t-value = 5.595***), PU on SAT with β at 0.162 (t-value = 2.958**), and C is on SAT with β at 0.145 (t-value = 2.955**). Thus, all hypotheses were supported by significance with p-values less than 0.05.

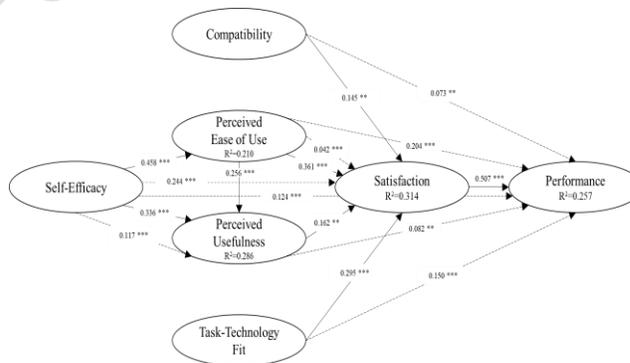


Figure 2: Structural Equation Model (SEM)

Note: *** p<0.001, ** p<0.01, * p<0.05

Table 7: Hypothesis Results of the Structural Equation Modeling

Hypothesis	Standardized Coefficients (β)	t-value	Result
H1: PEOU→SAT	0.403	6.187***	Supported
H2: PU→SAT	0.162	2.958**	Supported
H3: PEOU→PU	0.256	4.550***	Supported
H4: SE→PU	0.483	6.189***	Supported
H5: SE→PEOU	0.458	8.235***	Supported
H6: C→SAT	0.145	2.955**	Supported
H7: TTF→SAT	0.295	5.595***	Supported
H8: SAT→P	0.507	9.081***	Supported

Source: Created by the author.

According to the findings in Figure 2 and Table 7, the following extensions are described.

The results for H1 supported the hypothesis of a significant effect of perceived ease of use on satisfaction, with a standardized coefficient value of 0.403. When students perceived ease of use of online education, they tend to be satisfied (Nagy, 2018).

For H2, the results showed that perceived usefulness significantly affected satisfaction with a standard coefficient value of 0.162. Nagy (2018) confirmed that benefits of using an online education such as responsiveness, convenience and less time consuming of use will potentially create satisfaction of students.

H3 has confirmed that perceived ease of use is one of the key factors driving perceived usefulness, with a standardized path coefficient value of 0.256 in the structural pathway. Vululleh (2018) convinced that perceived ease of use can contribute to students' positive evaluation of the perceived usefulness of the online learning system.

With a standard coefficient of 0.483, H4 was confirmed that self-efficacy had a significant effect on perceived usefulness. Self-efficacy explains the self-control and ability to use online education of students positively influence the perceived usefulness (Huang & Liaw, 2018).

H5 supported the hypothesis that self-efficacy which had evidence of a significant effect on perceived ease of use, with a standard coefficient of 0.458. The ease of the system used is subjected to the ability of students in the control of the system (Nagy, 2018).

H6 determined that compatibility affects satisfaction, resulting in a standard coefficient value of 0.145. Islam et al. (2018) showed that students who feel compatible with e-learning system is were more satisfied with the application because it met their learning needs.

In H7, the findings supported the relationship between task-technology fit and student satisfaction with a standard coefficient value of 0.295. Jarupathirun and Zahedi (2007) confirmed that students are satisfied with online education in assisting them to complete their learning goals.

H8 confirmed that satisfaction has the strongest effect on performance, presenting a standard coefficient value of 0.507. It can be interpreted that satisfied students made decision to use online learning that meets their expectations (Roca et al., 2006).

6. Conclusions and Recommendation

6.1 Conclusion

The purpose of this study is to explore the essential factors influencing the satisfaction and performance of online education among undergraduate fine arts students in

three public universities. Questionnaires were sent to 500 undergraduate students who have at least one month of experience in online education. Statistical analysis was conducted through Confirmation Factor Analysis (CFA) to test the validity and reliability of the measurement model. In addition, structural equation modeling (SEM) was used to verify factors affecting satisfaction and performance. Firstly, the results showed that student satisfaction had a significant effect on their performance. According to Montesdioca and Macada (2014), information technology's assessment is based on users' satisfaction and are commonly used to measure the success of technology adoption. Satisfaction significantly affected performance in a variety of situations, engaging with technology usage. Secondly, contributors to satisfaction are perceived ease of use, task-technology fit, perceived usefulness, and compatibility. This explains that perceived ease of use and perceived usefulness are considered to be the main motivations for student satisfaction of online education (Venkatesh & Davis, 1996). This result also confirmed the positive impact between task-technology fit and the high compatibility of online education could greatly affect the student satisfaction and performance, obtaining from the use of online education (Glowalla & Sunyaev, 2014; Islam et al., 2011). In addition, perceived usefulness was significantly influenced by perceived ease of use in the findings. The results indicate that the easier the system is to use, the higher the benefits perceived by users (Igbaria et al., 1995). Lastly, self-efficacy also significantly affected perceived usefulness and perceived ease of use as students believed in their own ability to complete specific learning activities using the ease of use and benefits of using e-learning system (Nagy, 2018).

6.2 Recommendation

The researchers identified that perceived usefulness, perceived ease of use, compatibility, task-technology fit, and self-efficacy demonstrated the effect on Undergraduate students' satisfaction and performance in the use of online education at three major universities in Chengdu, Sichuan. Therefore, it is recommended that these aspects should be considered to design and reform of future online education courses for fine arts majors in order to enhance students' satisfaction and performance.

Firstly, administrators and teachers of higher institutions must emphasize the ease of use and usefulness of online education platforms, and teaching materials. Furthermore, teachers should reduce students' unfamiliarity and resistance to engage online learning so that undergraduate art students can easily and technically operate online learning when they perceive that online learning methods are more beneficial and effective for learners. These recommendations were supported with the findings that supported relationship among perceived ease of use, perceived usefulness and

satisfaction of students in using online education.

Secondly, in terms of the support correlation between compatibility, task-technology fit and satisfaction, the future online education courses for undergraduate art students in corresponding teachers should be carefully considered the effective art practice materials for students. The technicality of online education platforms should match with the experience, requirements and interests of students per appropriate, and strive to make online learning more helpful for learners to complete their tasks or courses, thus generating higher satisfaction of students.

Self-efficacy showed a significant effect to perceived usefulness and perceived ease of use of students in using online education. Therefore, the corresponding teachers are required to assess students' self-control over the courses and system and provide appropriate methods to improve their self-efficiency, which is more conducive for them to achieve their learning performance.

6.3 Limitation and Further Study

This study focuses only the sample group of art major students from three public universities in Chengdu, China. Thus, the different regions or countries could provide more comparative results to better understand students' perspectives on their satisfaction and performance. Next, this study was limited to examining undergraduate students' satisfaction and performance; Accordingly, teachers' performance could be added to examine as an essential factor. Furthermore, quantitative approach is limited to the data analysis but it has no descriptive findings on why and what degree the sample group measures significant factors differently which could be solved by the qualitative method in the future study.

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