

pISSN: 1906 - 3296 © 2020 AU-GSB e-Journal.
eISSN: 2773 - 868x © 2020 AU-GSB e-Journal.
<http://www.assumptionjournal.au.edu/index.php/AU-GSB>

Exploring Behavioral Intention Towards Hybrid Education of Undergraduate Students in Public Universities in Chongqing, China

Lai Luo*, Soonthorn Pibulcharoensit, Krisana Kitcharoen, Deping Feng

Received: July 26, 2022. Revised: September 17, 2022. Accepted: October 4, 2022.

Abstract

Purpose: This study investigates key factors influencing behavioral intention to use hybrid education of undergraduate students in Arts and Design of three universities in Chongqing, China. Perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence, and behavioral intention were associated in a conceptual framework. **Research design, data, and methods:** The researchers used a quantitative approach for survey distribution to 500 participants. The sampling techniques involve judgmental, quota and convenience samplings. Item Objective Congruence (IOC) Index and Cronbach's Alpha reliability test were approved prior to the data collection. Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) were used to test models' goodness of fit, validity, and reliability. **Results:** Perceived usefulness has the strongest significant impact on behavioral intention, followed by perceived ease of use, self-efficacy, effort expectancy, and social influence. Furthermore, perceived ease of use strongly and significantly impacts perceived usefulness. In contrary, the relationship between performance expectancy and behavioral intention was not supported. **Conclusion:** Hybrid education has gained the most concern in the system adoption for teaching and learning effectiveness. Therefore, educational stakeholders should identify the main contributors to achieve the hybrid learning implementation and increase student engagement and learning performance. **Keywords:** Hybrid Education, Undergraduate, Self-Efficacy, Effort Expectancy, Behavioral Intention

JEL Classification Code: E44, F31, F37, G15

1. Introduction

Higher education has been transformed from the pure physical classroom to hybrid learning, using system technology to facilitate distance learning. According to Barr and Tagg (1995), a paradigm shift of educational model has been redefined to focus less on traditional lecturing to more on self-pace learning in a student-centered environment.

When considering the benefits of online and offline education, some report argues that combining both formats provide more pleasure and convenience to learners (Popma, 2012). Many literatures postulated that hybrid education is more practical for students in a modern world. The researchers have explored the history, current status, and current limitations of hybrid education in China, based on how well students could adopt such format of learning to accomplish their academic goals.

1 * Lai Luo, School of Fine Arts and Design, China and ASEAN College of Arts, Chengdu University, Sichuan, China. Email: llcddx@163.com
2 Soonthorn Pibulcharoensit, TEM Full Time Faculty Member, Graduate School of Business and Advanced Technology Management, Assumption University of Thailand. Email: soonthornpbl@au.edu
3 Krisana Kitcharoen, Lecturer, Graduate School of Business and Advanced Technology Management, Assumption University, Thailand. Email: krisana@au.edu
4 Deping Feng, Dean of the Department of Marxism and Foundamental Education, Chongqing Vocational College of Intelligent Engineering, China. Email: ping0239@vip.sina.com

© Copyright: The Author(s)
This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Some experts describe hybrid education as a combination of face-to-face and virtual learning, involving educational data portals, digital resources, assignment submissions, and asynchronous or synchronous online content (Buzzetto-Moore & Sweat-Guy, 2006). Effective use of instructional time and reduction of travel time are two important aspects of hybrid education model (Hochberg, 2006). In recent years, due to the spread of the COVID-19, hybrid education generates obvious advantages in education industry. Public universities in China have quickly introduced hybrid learning at the beginning of epidemic, especially in Arts and Design program. Consequently, more and more Arts teachers have been trying to embed technologies to educate their students during the outbreak. This study is crucial for better understanding of undergraduate students in Arts and Design of their behavioral intention to use hybrid education for their learning activities.

1.1 Objectives of this Research

a) To investigate the causal relationship among perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence, and behavioral intention to use hybrid education among undergraduate students in Arts and Design from three universities in Chongqing, China.

b) To examine the causal relationship from perceived ease of use toward perceived usefulness of using hybrid education among undergraduate students in Arts and Design from three universities in Chongqing, China.

c) To make recommendations to academic practitioners and higher education executives for better improvement of hybrid education for students' successful adoption and learning performance optimization.

1.2 Research Questions

a) Do perceived ease of use, perceived usefulness, performance expectancy, self-efficacy, effort expectancy, social influence have significant impact on behavioral intention to use hybrid education among undergraduate students in Arts and Design from three universities in Chongqing, China?

b) Does perceived ease of use have a significant impact on perceived usefulness of using hybrid education among undergraduate students in Arts and Design from three universities in Chongqing, China.

c) What are recommendations for academic practitioners and higher education executives for better improvement of hybrid education for students' successful adoption and learning performance optimization?

1.3 Significance of the Study

With the globalization and the impact of global epidemic, the implementation of teaching and learning in colleges and universities worldwide has been facing major challenges. In digital era, the educational sector has undergone a rapid change. Especially in colleges and universities, multimedia and digital teaching facilities have been implemented. Introduction of a hybrid teaching and learning mode leads to a reform of the traditional Arts and Design courses in China. Therefore, this paper is beneficial to the design of Arts and Design education. Universities can exploit the findings to customize a reasonable educational model for students in Arts and Design program in terms of motivational factors of hybrid system adoption, which can effectively improve students' learning capabilities and performance. With the development of hybrid education courses, educators can consider the allocation of investment, materials, and human resources. In addition, Chinese government could issue the policies to enhance the country's hybrid education for international competitive advantage.

2. Literature Review

2.1 Perceived Ease of Use

The perception of how easy to use the system technology is described as perceived ease of use. It also explains on how confident people are to engage with particular technology (Chauhan, 2015). The perceived ease of use is a strong predictor of a person's future behavior (Davis, 1989). This perspective has been shown in several studies to influence an individual's behavior and motivation to use the target system (Venkatesh, 2000). Students are more likely to accept hybrid education when they feel it is easy to use to fulfil their learning objectives (Lee, 2009). Perceived ease of use can promote both perceived usefulness and behavioral intention of students to use hybrid learning, which means they feel it is not difficult to use and it is useful to them (Chang et al., 2012). Thereby, two hypotheses are constructed per follows:

H1: Perceived ease of use has a significant impact on perceived usefulness of hybrid education among undergraduates in Arts and Design.

H3: Perceived ease of use has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.2 Perceived Usefulness

Perceived usefulness is described as a person's belief that using a certain technology would increase their productivity.

It is also characterized as a user's willingness to adopt new technologies (Davis, 1989). According to other researches, perceived usefulness identifies the users' anticipation that the system technology would help them enhance their job performance, which is an important factor in determining whether to employ it (Bhattacharjee & Sanford, 2006). Majdalawi et al. (2014) used TAM with its core dimensions of perceived usefulness and perceived ease of use, as well as other external factors such as GPA, teacher, and academic year, to investigate the influence of these variables on students' behavioral intentions to use the Learning Management System (LMS). The possibility that a user would engage in the intended activity is referred to behavioral intention (Ajzen, 1991). Subsequently, a hypothesis is derived:

H2: Perceived usefulness has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.3 Performance Expectancy

Students' awareness of how to employ hybrid learning and its advantages are described as performance expectancy (Ssekakubo et al., 2011). The degree of comfort and convenience in which technology may be located, adopted, and utilized is characterized as performance expectancy (Duangekanong, 2022). Performance expectancy has a significant influence on educational technology acceptance, and is an essential indicator of behavioral intention. Ngampornchai and Adams (2016) investigated undergraduate students' preparedness for online learning in the UTAUT model that has been proven to be essential theory in a successful technology adoption (Venkatesh et al., 2003). Therefore, a hypothesis is developed:

H4: Performance expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.4 Self-Efficacy

Self-efficacy is defined as an evaluation of own's ability to accomplish a learning task with a specific goal (Fokides, 2017). Bandura (1982) defined self-efficacy as "the ability of a person to organize and execute the actions required to produce different achievements". It is considered that several technical, social and personal constraints, such as technical support, instructional design, and perceived self-efficacy, might limit the acceptance and application of new technologies (Asiri, 2019). The successful use of a hybrid education requires self-efficacy of a student which is a subjective evaluation of what one has to control over their task (Phyu & Vongurai, 2020). Behavioral intention is strongly influenced by self-efficacy (Qin et al., 2019).

Accordingly, H5 is indicated:

H5: Self-efficacy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.5 Effort Expectancy

When students anticipate that using hybrid learning will be simple and free of effort is described as effort expectancy. Effort expectancy is key predictor of educational system and technology adoption (Ssekakubo et al., 2011), which is signified as the acceptance of hybrid learning relying on students' perceptions of how simple it will be to use (Wang et al., 2009). Before making decision to embrace the specific technology, an individual observes or forecasts the effort to encounter the use procedure. Effort expectancy has been evidenced to have a significant impact on behavioral intention to use a system (Bervell et al., 2017; Venkatesh et al., 2003). Hence, a hypothesis is proposed:

H6: Effort expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.6 Social Influence

Social influence is conceptualized as one of the components in the technology adoption model. Social influence can be specified as the influence of other persons considered significant on the decision of potential adopters to accept a new technology (Bervell et al., 2017). Subjective norms were firstly initiated to describe social influence (Fishbein & Ajzen, 1975). Social factors, according to some experts, have both good and bad influences on people's behavioral intentions (Vermeir & Verbeke, 2006). In this study, social influence of students can come from their peers, teachers and parents who encourage them to use hybrid learning. Based on previous studies, a below hypothesis is developed:

H7: Social influence has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

2.7 Behavioral Intention

Behavioral intention is taken from a psychology theory that focuses on complete action and explains why people adopt a certain system (Chauhan, 2015). The cognitive awareness and decision of an individual to use a certain system depends on their level of intention. It also displays a student's willingness to accept a hybrid education, which was predicted by antecedent factors such as perceived ease of use, perceived usefulness, self-efficacy, social influence and many mores (Wang et al., 2016). Behavioral intention

describes how much effort/desire a person must carry out a specific activity (Fishbein & Ajzen, 1975). The stronger desire of an individual to do something, the more likely they will perform an action (Ajzen, 1991).

3. Conceptual Framework

The conceptual framework was developed by reviewing previous academic studies, based on the TAM and UTAUT theories. Firstly, Shin and Kang (2015) investigated an association between perceived ease of use (PEOU), perceived usefulness (PU), and behavioral intention (BI). Secondly, Cheung and Vogel (2013) identified a correlation between self-efficacy (SE) and behavioral intention (BI). Lastly, Attuquayefio and Addo (2014) established a correlation between effort expectancy (EE), performance expectancy (PE), social influence (SI), and behavioral intention (BI). As a result, a conceptual framework is visualized in Figure 1, followed by the summary of proposed hypotheses.

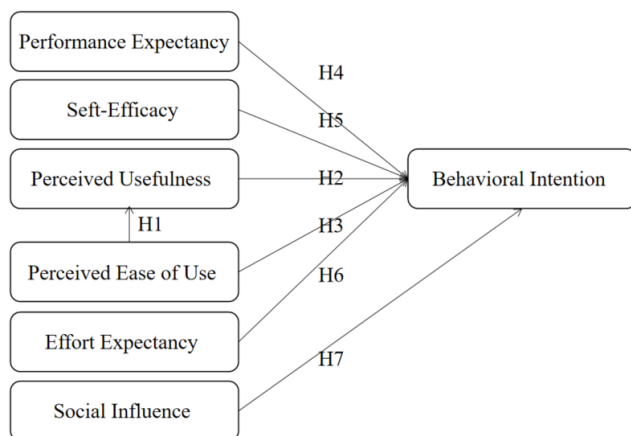


Figure 1: Conceptual Framework

H1: Perceived ease of use has a significant impact on perceived usefulness of hybrid education among undergraduates in Arts and Design.

H2: Perceived usefulness has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

H3: Perceived ease of use has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

H4: Performance expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

H5: Self-efficacy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts

and Design.

H6: Effort expectancy has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

H7: Social influence has a significant impact on behavioral intention of hybrid education among undergraduates in Arts and Design.

4. Research Methods and Materials

4.1 Research Methodology

This quantitative study applied nonprobability sampling in distributing questionnaire to undergraduate students in Arts and Design who have been experiencing hybrid education from three universities in Chongqing, China. Three universities are Sichuan Fine Arts Institute (SCFAI), Chongqing University (CQU), and Southwest University (SWU). The questionnaire contains three sections. Firstly, screening questions were organized to identify right characteristics of respondents (Voß et al., 2021). Next, demographic information was collected for descriptive analysis such as gender, universities, year of study and majors. Finally, five-point Likert scale was implemented to measure scale items (Salkind, 2017).

Before the data collection, item-objective congruence (IOC) index was applied to select three experts with Ph.D. credentials and educational specialists, and they were invited to validate each content. The IOC showed that all items were reserved at the score equal or over 0.67. In pilot testing, Clark-Carter (2010) found that 30 respondents were adequate. The Cronbach's Alpha coefficient values were measured to determine internal consistency reliability of equal or above 0.7 (Nunnally & Bernstein, 1994).

The data were collected from 500 undergraduate students. The researchers applied statistical program of SPSS and AMOS for the data analysis. Additionally, the confirmatory factor analysis (CFA) was used to evaluate factor loading, t-value, composite reliability (CR), average variance extracted (AVE), and discriminant validity. The structural equation model (SEM) was subsequently employed to test hypotheses and significant level of each relationship.

4.2 Population and Sample Size

The target population of interest is 500 undergraduate students in Arts and Design program from three public universities in Chongqing, China. The minimum sample size for structural equation model should be 200-500 (Israel, 1992). The questionnaire was distributed widely both offline and online to over 3,000 receivers. However, 500 students

were the target quantity which researchers aim to collect for the proper statistical analyses.

4.3 Sampling Techniques

The researchers utilized three sampling techniques to meet this study’s objectives. Initially, the researchers applied judgmental sampling to identify 2,400 undergraduate students in Arts and Design program with at least one month experience with hybrid education in three public universities in Chongqing, China. Additionally, 500 participants were determined as the final sample from quota sampling as of Table 1. For convenience sampling, researchers distribute questionnaires via offices of student affairs in both paper and online link formats.

Table 1: Sample Units and Sample Size

Target Public Universities	Student Grade	Population Size Total = 2,400	Proportional Sample Unit Size Total = 500
Sichuan Fine Arts Institute (SCFAI)	Freshman	395	82
	Sophomore	395	82
	Junior	390	81
	Senior	390	81
Chongqing University (CQU)	Freshman	130	27
	Sophomore	140	29
	Junior	150	31
	Senior	140	29
Southwest University (SWU)	Freshman	60	13
	Sophomore	70	15
	Junior	70	15
	Senior	70	15

Source: Created by the author.

5. Results and Discussion

5.1 Demographic Information

The demographical data of 500 respondents were that 21.48% are males, and 78.52% are females. In terms of

colleges, 65.4% of students are from Sichuan Fine Arts Institute (SCFAI), 23.4% are from Chongqing University (CQU), and 11.2% are from Southwest University (SWU). For year of study, 24.37% are freshmen, 25.21% are sophomores, 25.42% are juniors, and 25% are seniors. In addition, 24.5% of the respondents are Product Designs, 21.8% from Ring of Arts Design, 9.3% from Visual Communication Design, 20.2% from Digital Media Arts Design, and 24.2% of the students have not yet determined their major.

5.2 Confirmatory Factor Analysis (CFA)

CFA was used to verify the number of constructs and factor loadings among observed variables (Malhotra et al., 2004). Initially, measurement model was constructed to examine the goodness of fit. In Table 2, the goodness of fits in CFA, including CMIN/DF, GFI, AGFI, NFI, CFI, TLI and RMSEA, were acceptable.

According to the statistical results summarized in Table 3, Cronbach’s Alpha coefficient values are approved at more than 0.70. Furthermore, the acceptable values are evidenced as factor loadings more than 0.50, t-value more than 1.98, p-values less than 0.50, composite reliability (CR) more than 0.70, and average variance extracted (AVE) more than 0.50 (Hair et al., 2006). Therefore, CFA was approved to certify convergent and discriminant validities.

Table 2: Goodness-of-Fit for Measurement Model

Fit Index	Acceptable Criteria	Source	After Adjustment Values
CMIN/DF	< 5.00	(Al-Mamary & Shamsuddin, 2015; Awang, 2012)	2.716
GFI	≥ 0.85	(Sica & Ghisi, 2007)	0.803
AGFI	≥ 0.80	(Sica & Ghisi, 2007)	0.871
NFI	≥ 0.80	(Wu & Wang, 2006)	0.884
CFI	≥ 0.80	(Bentler, 1990)	0.923
TLI	≥ 0.80	(Sharma et al., 2005)	0.913
RMSEA	< 0.08	(Pedroso et al., 2016)	0.059

Note: 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.

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
Perceived Ease of Use (PEOU)	Shin and Kang (2015)	5	0.847	0.626-0.877	0.855	0.548
Perceived Usefulness (PU)	Mtebe and Raisamo (2014)	4	0.876	0.659-0.920	0.884	0.661
Performance Expectancy (PE)	Mtebe and Raisamo (2014)	4	0.869	0.616-0.923	0.878	0.649
Self-Efficacy (SE)	Mtebe and Raisamo (2014)	4	0.845	0.626-0.858	0.848	0.586
Effort Expectancy (EE)	Mtebe and Raisamo (2014)	4	0.858	0.646-0.845	0.863	0.614
Social Influence (SI)	Mtebe and Raisamo (2014)	4	0.857	0.568-0.898	0.867	0.626
Behavioral Intention (BI)	Shin and Kang (2015)	5	0.868	0.642-0.874	0.873	0.582

Source: Created by the author.

The convergent validity was determined when the value of CR is larger than AVE, while the AVE is higher than 0.50 (Hair et al., 2006). The values of the discriminant validity were examined to exceeding the critical point values as demonstrated in Table 4. Consequently, the convergent validity and the discriminant validity of this research were adequate.

Table 4: Discriminant Validity

	PEOU	PU	PE	SE	EE	SI	BI
PEOU	0.740						
PU	0.367	0.813					
PE	0.388	0.354	0.806				
SE	0.290	0.212	0.294	0.766			
EE	0.400	0.36	0.348	0.244	0.784		
SI	0.419	0.294	0.323	0.253	0.285	0.791	
BI	0.342	0.289	0.264	0.227	0.277	0.27	0.763

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

5.4 Structural Equation Model (SEM)

After the CFA process, the structural equation model (SEM) was conducted to estimate a linear equation and verify a structural model fit. Additionally, SEM determines the causal relationship among each variable (Jaruwanakul, 2021). The results were illustrated in Table 5, adjusted by SPSS AMOS. CMIN/DF, GFI, AGFI, CFI, TLI and the RMSEA are all approved. Consequently, each indicator of the goodness of fits in SEM verification for this research was acceptable.

Table 5: Goodness of Fit for Structural Model

Fit Index	Acceptable Criteria	Source	After Adjustment Values
CMIN/DF	< 5.00	(Al-Mamary & Shamsuddin, 2015; Awang, 2012)	1123.641/386 or 2.911
GFI	≥ 0.85	(Sica & Ghisi, 2007)	0.851
AGFI	≥ 0.80	(Sica & Ghisi, 2007)	0.821
NFI	≥ 0.80	(Wu & Wang, 2006)	0.876
CFI	≥ 0.80	(Bentler, 1990)	0.914
TLI	≥ 0.80	(Sharma et al., 2005)	0.903
RMSEA	< 0.08	(Pedroso et al., 2016)	0.062

Note: 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.

5.5 Research Hypothesis Testing Result

The significance of each variable is determined by regression weights and R2 variance. Based on the results in Table 6, the support relationship has p-values less than 0.05. The strongest effect is presented in the relationship between perceived ease of use on perceived usefulness with a standardized path coefficient (β) of 0.293 (t-value = 5.667***). Perceived usefulness has the strongest significant impact on behavioral intention at (β) of 0.196 (t-value = 3.951***), followed by perceived ease of use on behavioral intention at (β) of 0.178 (t-value = 3.519***), self-efficacy on behavioral intention at (β) of 0.133 (t-value = 2.733**), effort expectancy on behavioral intention at (β) of 0.133 (t-value = 2.744**), and social influence on behavioral intention at (β) of 0.130 (t-value = 2.712**). Nevertheless, the relationship between performance expectancy and behavioral intention is not supported at (β) of -0.006 (t-value = -0.134).

Table 6: Hypothesis Results of the Structural Equation Modeling

Hypothesis	(β)	S.E.	t-value	Result
H1: PEOU→PU	0.293	0.063	5.667***	Supported
H2: PU→BI	0.196	0.061	3.951***	Supported
H3: PEOU→BI	0.178	0.075	3.519***	Supported
H4: PE→BI	-0.006	0.074	-0.134	Not Supported
H5: SE→BI	0.133	0.071	2.733**	Supported
H6: EE→BI	0.133	0.066	2.744**	Supported
H7: SI→BI	0.130	0.073	2.712**	Supported

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

Source: Created by the author.

H1 confirms that perceived ease of use is one of the strongest factors of perceived usefulness, with a standardized path coefficient value of 0.293 in the structural pathway. The assumption is that students are more likely to accept hybrid education when they feel it is easy to use and useful to them (Huang et al., 2007; Wang et al., 2016).

H2 explicates that the relationship between perceived usefulness and behavioral intention is supported, with a standardized coefficient value of 0.196. Perceived usefulness identifies the students' anticipation that hybrid education would help them enhancing their learning performance (Davis, 1986).

For **H3**, the results show that perceived ease of use significantly impacts behavioral intention, with a standard coefficient value of 0.178. Davis (1986) found that when students can easily use hybrid learning, they tend to have behavioral intention for future learning activities (Chang et al., 2012).

H4 fails to confirm the significant impact of performance expectancy on behavioral intention, with a standard

coefficient value of -0.006. The result contradicts with previous studies (Duangekanong, 2022; Venkatesh et al., 2003), and can be assumed that students would think that hybrid education is lack of full engagement and complicated. **H5** supports that self-efficacy significantly impacts behavioral intention, with a standardized coefficient value of .133. The finding implies that students with high level of self-efficacy are less hindered in their ability to operate with hybrid education when they encounter challenges (Lai, 2008).

H6 affirms the influence of effort expectancy on behavioral intention, with a standardized coefficient value of .133, which is consistent with earlier academic studies (Bardakci, 2019; Teo & Noyes, 2014). Students usually anticipate that using hybrid learning will be simple and free of effort.

In **H7**, social influence significantly impacts behavioral intention, with a standardized coefficient value of 0.130, confirming that social influence of students can come from their peers, teachers and parents who encourage them to use hybrid learning (Kesharwani & Tripathy, 2012).

6. Conclusions and Recommendation

6.1 Conclusion

The study validates factors impacting behavioral intention to use hybrid education of undergraduate students in Arts and Design at three public universities in Chongqing, China. The hypotheses were presented in a conceptual framework. Questionnaires were distributed to 500 undergraduate students who have at least one month of hybrid learning experience. Statistical analyses were conducted through a confirmatory factor analysis (CFA) to check the validity and reliability, and structural equation model (SEM) was used to validate factors that significantly impact behavioral intention.

The findings can be implied for a clearer picture of how students would adopt hybrid education. Firstly, perceived usefulness has the strongest significant impact on behavioral intention. The assumption is that students are more likely to accept hybrid education when they feel it is easy to use and useful to them (Huang et al., 2007; Wang et al., 2016). Secondly, the significant relationship between perceived usefulness and behavioral intention signifies that the students anticipate that hybrid education would help them enhancing their learning performance (Davis, 1986). Thirdly, perceived ease of use significantly impacts behavioral intention. Thus, students expect hybrid learning to be easy to use for future learning activities (Chang et al., 2012).

Fourthly, self-efficacy significantly impacts behavioral intentions as confirmed by many scholars that students with high level of self-efficacy are less hindered in their ability to operate with hybrid education when they encounter

challenges (Lai, 2008). Fifthly, effort expectancy is evidenced to have a significant impact on students' behavioral intention to adopt hybrid education (Ssekakubo et al., 2011). Next, peers, teachers and parents are important influencers who encourage them to accept hybrid learning. (Kesharwani & Tripathy, 2012), which confirms the significant impact of social influence on behavioral intention. Lastly, this study fails to prove the relationship between performance expectancy and behavioral intention, opposing with other researchers (Ngampornchai & Adams, 2016; Ssekakubo et al., 2011; Venkatesh et al., 2003). It can be assumed that students would think that hybrid education is complicated and not practical for Arts and Design program.

6.2 Recommendation

Researchers have explored the core factors of behavioral intention to adopt hybrid education of undergraduate students in Arts and Design. The design and reform of future hybrid education programs for Arts and Design program are needed to achieve more desirable teaching and learning outcomes. For universities and academic executives in Arts and Design faculty, they should fully consider students' behavioral intentions in order to improve the hybrid education to be suitable and practical.

The curriculum of Arts and Design major is designed to provide students with new and fresh contents, emphasizing practical skills and active learning. Hybrid education plays an important role to encourage students' interests and to develop a curriculum that matches their personalities. The results show that perceived ease of use had the strongest impact on perceived usefulness which educator should select the system that easy and appropriate to the nature of Arts and Design program. Moreover, universities should promote benefits of hybrid education such as flexibility, convenience, and study and life balance.

Perceived usefulness has the strongest significant impact on behavioral intention, followed by perceived ease of use, self-efficacy, effort expectancy, and social influence. Universities are recommended to measure and monitor on learning performance of students in using hybrid learning. The survey could be given to students for their feedbacks for improvement, regarding to ease-of-use system, benefits, and self-control over the system. Additionally, teachers and parents could be encouraged to monitoring student's motivation in using hybrid education.

Performance expectancy has no significant impact on behavioral intention, which can be assumed that students are not able to reconcile the relationship between theory and practice during the learning process. In the nature of Arts and Design program, students majorly learning from practice. Online classroom can lessen practice and interaction to the design task. Therefore, educators are

required to deploy learning format per appropriate to learning styles that match with students' learning and development.

6.3 Limitation and Further Study

The limitations of this study are guided. Firstly, the population and sample selection are only from three public universities in Chongqing, China. Thus, future scholars should consider to expand the study to other regions of China. Second is to extend the model to include other potential variables such as trust, perceived interaction, learning motivation, performance expectations, and facilitation conditions. Finally, qualitative study could be useful for the future researchers to determine better interpretation of the results.

References

- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Al-Mamary, Y. H., & Shamsuddin, A. (2015). Testing of the Technology Acceptance Model in Context of Yemen. *Mediterranean Journal of Social Sciences*, 6(4), 268-273.
- Asiri, M. J. (2019). Do teachers' attitudes, perception of usefulness, and perceived social influences predict their behavioral intentions to use gamification in EFL classrooms? Evidence from the Middle East. *International Journal of Education and Practice*, 7(3), 112-122.
- Attuquayefio, S. N., & Addo, H. (2014). Using the UTAUT model to analyze students' ICT adoption. *International Journal of Education and Development using Information and Communication Technology (IJEDICT)*, 10(3), 75-86.
- Awang, Z. (2012). *A Handbook on SEM Structural Equation Modelling: SEM Using AMOS Graphic* (5th ed.). Universiti Teknologi Mara Kelantan.
- Bandura, A. (1982). Self-Efficacy Mechanism in Human Agency. *American Psychologist*, 37(2), 122-147.
- Bardakci, S. (2019). Exploring High School Students' Educational Use of YouTube. *International Review of Research in Open and Distributed Learning*, 20(2), 260-278.
- Barr, R. B., & Tagg, J. (1995). From teaching to learning: A new paradigm for undergraduate education. *Change*, 27(6), 13-25.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246. <https://doi.org/10.1037/0033-2909.107.2.238>
- Bervell, B., Nyagorme, P., & Arkorful, V. (2017). LMS-enabled hybrid learning use intentions among distance education tutors: Examining the mediation role of attitude based on technology-related stimulus-response theoretical framework. *Contemporary Educational Technology*, 12(2), 1-21.
- Bhattacharjee, A., & Sanford, C. (2006). Influence processes for information technology acceptance: An elaboration likelihood model. *MIS Quarterly*, 30(4), 805-825.
- Buzzetto-Moore, N. A., & Sweat-Guy, R. (2006). Incorporating the Hybrid Learning Model into Minority Education at A Historically Black University. *Journal of Information Technology Education*, 5(1), 153-164.
- Chang, C., Yan, C., & Tseng, J. (2012). Perceived Convenience in An Extended Technology Acceptance Model: Mobile Technology and English Learning for College Students. *Australasian Journal of Educational Technology*, 28(5), 809-826.
- Chauhan, S. (2015). Acceptance of mobile money by poor citizens of India: Integrating trust into the technology acceptance model. *Info*, 17(3), 58-68. <https://doi.org/10.1108/info-02-2015-0018>
- Cheung, R., & Vogel, D. (2013). Predicting user acceptance of collaborative technologies: An extension of the technology acceptance model for e-learning. *Computers & Education*, 63, 160-175. <https://doi.org/10.1016/j.compedu.2012.12.003>
- Clark-Carter, D. (2010). *Quantitative Psychological Research: The Complete Student's Companion* (3rd ed.). Taylor & Francis.
- Davis, F. (1989). Perceived Usefulness, Perceived Ease of Use, And User Acceptance of Information Technology. *MIS Quarterly*, 13(3), 319-340.
- Davis, F. D. (1986). *A Technology Acceptance Model for Empirically Testing New End-User Information Systems: Theory and Results* (1st ed.). Sloan School of Management, Massachusetts Institute of Technology.
- Duangkanong, S. (2022). Applications of Artificial Intelligence for Strategic Management of Organization. *ABAC ODI JOURNAL Vision. Action. Outcome*, 9(2), 202-217. <https://doi.org/10.14456/abacodijournal.2022.13>
- Fishbein, M., & Ajzen, I. (1975). *Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research* (1st ed.). Addison-Wesley.
- Fokides, E. (2017). Greek Pre-service Teachers' Intentions to Use Computers as In-service Teachers. *Contemporary Educational Technology*, 8(1), 56-75.
- Hair, J., Black, W., Babin, B., Anderson, R., & Tatham, R. (2006). *Multivariate Data Analysis* (6th ed.). Pearson Education.
- Hochberg, J. M. (2006). Online Distance Education Pedagogy: Emulating the Practice of Global Business. *Distance Education*, 27(1), 129-133.
- Huang, J. H., Lin, Y. R., & Chuang, S. T. (2007). Elucidating User Behavior of Mobile Learning. *The Electronic Library*, 25(5), 585-598.
- Israel, D. (1992). *Determining Sample Size. University of Florida Cooperative Extension Service*. Institute of Food and Agriculture Sciences, EDIS.
- Jaruwanakul, T. (2021). Key Influencers of Innovative Work Behavior in Leading Thai Property Developers. *AU-GSB E-JOURNAL*, 14(1), 61-70. <https://doi.org/10.14456/augsbejr.2021.7>
- Kesharwani, A., & Tripathy, T. (2012). Dimensionality of Perceived Risk and Its Impact on Internet Banking Adoption: An Empirical Investigation. *Services Marketing Quarterly*, 33(2), 177-193.
- Lai, L. (2008). Technology Readiness, Internet Self-Efficacy and Computing Experience of Professional Accounting Students. *Campus-Wide Information Systems*, 25(1), 18-29.

- Lee, C. (2009). Factors Influencing the Adoption of Internet Banking: An Integration of TAM and TPB with Perceived Risk and Perceived Benefit. *Electronic Commerce Research and Applications*, 8(3), 130-141.
- Majdalawi, Y., Almarabeh, T., & Mohammad, H. (2014). Factors Affecting Students' Usage of Learning Management System at the University of Jordan. *Life Science Journal*, 11(6), 666-671.
- Mtebe, J., & Raisamo, R. (2014). Challenges and Instructors' Intention to Adopt and Use Open Educational Resources in Higher Education in Tanzania. *International Review of Research in Open and Distance Learning*, 15(1), 249-271.
- Ngampornchai, A., & Adams, J. (2016). Students' Acceptance and Readiness for e-Learning in Northeastern Thailand. *International Journal of Educational Technology in Higher Education*, 13(34), 1-13.
- Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.
- Pedroso, R., Zanetello, L., Guimaraes, L., Pettenon, M., Goncalves, V., Scherer, J., Kessler, F., & Pechansky, F. (2016). Confirmatory factor analysis (CFA) of the crack use relapse scale (CURS). *Archives of Clinical Psychiatry*, 43(3), 37-40.
- Phyu, K. K., & Vongurai, R. (2020). Impacts on Adaptation Intention Towards Using Accounting Software in Terms of Technology Advancement at Work in Myanmar. *AU-GSB E-JOURNAL*, 12(2), 98-111.
- Popma, J. (2012). Is Hybrid Education and Videoconferencing the Wave of the Future for Online Courses?. *Journal of Instructional Research*, 1, 67-72.
- Qin, C., Liu, Y., Mou, J., & Chen, J. (2019). User Adoption of a Hybrid Social Tagging Approach in an Online Knowledge Community. *Aslib Journal of Information Management*, 71(2), 155-175. <https://doi.org/10.1108/AJIM-09-2018-0212>.
- Salkind, J. (2017). *Exploring Research* (9th ed.). Pearson Press.
- Sharma, G. P., Verma, R. C., & Pathare, P. (2005). Mathematical modeling of infrared radiation thin layer drying of onion slices. *Journal of Food Engineering*, 71(3), 282-286.
- Shin, W., & Kang, M. (2015). The Use of a Mobile Learning Management System at an Online University and Its Effect on Learning Satisfaction and Achievement. *International Review of Research in Open and Distributed Learning*, 16(3), 110-130.
- Sica, C., & Ghisi, M. (2007). The Italian versions of the Beck Anxiety Inventory and the Beck Depression Inventory-II: Psychometric properties and discriminant power. In M. A. Lange (Ed.), *Leading - Edge Psychological Tests and Testing Research* (pp. 27-50). Nova
- Ssekakubo, G., Suleman, H., & Marsden, G. (2011). Issues of Adoption: Have E-Learning Management Systems Fulfilled their Potential in Developing Countries?. In *Proceedings of the South African Institute of Computer Scientists and Information Technologists Conference on Knowledge, Innovation and Leadership in a Diverse, Multidisciplinary Environment*, 23, 1-238.
- Teo, T., & Noyes, J. (2014). Explaining the Intention to Use Technology among Pre-Service Teachers: A Multi-Group Analysis of the Unified Theory of Acceptance and Use of Technology. *Interactive Learning Environments*, 22(1), 51-66.
- Venkatesh, V. (2000). Determinants of Perceived Ease of Use: Integrating Perceived Behavioral Control, Computer Anxiety and Enjoyment into the Technology Acceptance Model. *Information Systems Research*, 11(4), 342-365.
- Venkatesh, V., Morris, M. G., Hall, M., Davis, G. B., Davis, F. D., & Walton, S. M. (2003). User Acceptance of Information Technology: Toward A Unified View 1. *MIS Quarterly*, 27(3), 425-478.
- Vermeir, I., & Verbeke, W. (2006). Sustainable Food Consumption: Exploring the Consumer "Attitude-Behavioral Intention" Gap. *Journal of Agricultural and Environmental Ethics*, 19(2), 169-194.
- Voß, H., Scholz-Kreisel, P., Richter, C., Ringel, F., Singer, S., & Renovanz, M. (2021). Development of Screening Questions for Doctor-Patient Consultation Assessing the Quality of Life and Psychosocial Burden of Glioma Patients: An Explorative Study. *Quality of Life Research*, 4(1), 1513-1522.
- Wang, C., Jeng, Y., & Huang, Y. (2016). What Influences Teachers to Continue Using Cloud Services? The Role of Facilitating Conditions and Social Influence. *The Electronic Library*, 35(3), 520-533.
- Wang, Y., Wu, M., & Wang, H. (2009). Investigating the Determinants and Age and Gender Differences in The Acceptance of Mobile Learning. *British Journal of Educational Technology*, 40(1), 92-119.
- Wu, J. H., & Wang, Y. M. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information and Management*, 43(6), 728-739. <https://doi.org/10.1016/j.im.2006.05.002>