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Determinants Affecting Satisfaction and Behavioral Intention Toward Blended Education Among Art and Design Undergraduates in Sichuan, China

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Abstract

Purpose: This study applied a quantitative approach to examine factors influencing Satisfaction (SAT) and Behavioral Intention (BI) toward blended learning among undergraduate art design students using the Rain-Classroom Teaching System (RCTS) at Sichuan Conservatory of Music (SCM), China. **Research design, data and methodology:** A structured questionnaire was administered to a sample of 484 students using judgmental and quota sampling strategies. Confirmatory Factor Analysis (CFA) was used to validate construct reliability and convergent/discriminant validity, followed by Structural Equation Modeling (SEM) to assess causal relationships among constructs. **Results:** All six proposed hypotheses were supported. System Quality (SYQ) had the strongest effect on SAT ($\beta = 0.616$), while Effort Expectancy (EE) showed the most significant influence on BI ($\beta = 0.408$). Other factors, including Perceived Ease of Use (PEOU), Perceived Usefulness (PU), and Performance Expectancy (PE), also demonstrated meaningful contributions to the model. The overall explanatory power reached 49.4% for SAT and 34.9% for BI. **Conclusions:** The findings affirm the relevance of UTAUT-based constructs in creative education settings and underscore the importance of platform usability and workload clarity. The study offers theoretical insights and practical recommendations to enhance blended learning adoption in art and design disciplines through targeted instructional and system enhancements.

Keywords: Satisfaction, Behavioral Intention, Blended Education, Art Design, Undergraduates

JEL Classification Code: A22, C12, D91, I23, O30

1. Introduction

Blended learning, also referred to as hybrid learning or mixed-mode instruction, combines online digital content with face-to-face classroom teaching (Friesen & Lowe, 2012; Martyn, 2003). This approach uses diverse strategies to improve learning effectiveness (Boyle et al., 2003; Driscoll, 2002) and has become increasingly common in higher education due to its flexibility and ability to meet varied student needs (Garrison & Kanuka, 2004). Institutions now embed blended formats into core teaching to enhance learning outcomes and reduce costs through digital tools and real-time analytics (Suleri & Zwaal, 2022).

One such tool is the Rain-Classroom Teaching System (RCTS), which integrates mobile access, cloud computing, and AI features to support live interaction via WeChat (Shu et al., 2019). While blended learning offers promise, some argue that its effectiveness depends on alignment with student expectations rather than technology alone (Jackson et al., 2011; Nuamsamrarn & Achwarin, 2023). Recent research highlights growing student interest in blended models, but most studies have focused on postgraduate or general student populations (Anthony et al., 2023; Nazeef et al., 2024).

Few studies have examined how blended learning impacts undergraduate students in creative disciplines such as art and design. These learners often rely on hands-on teaching, which may not align easily with digital platforms. This study addresses this gap by focusing on undergraduate art and design students at Sichuan Conservatory of Music (SCM) in Chengdu, China. The objective is to examine how five factors: Effort Expectancy, System Quality, Perceived Ease of Use, Perceived Usefulness, and Performance

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Expectancy affecting student satisfaction and their intention to continue using blended learning.

The research answers three questions: (1) What factors influence satisfaction with RCTS? (2) How do these factors affect students' intention to continue using RCTS? (3) Which factors are most influential in predicting satisfaction and behavioral intention?

This research contributes to the literature by offering insights into a demographic that has been underexplored in blended learning studies, undergraduate art and design students. The findings aim to support instructional designers, educators, and academic administrators in tailoring blended learning environments to the specific pedagogical needs of creative disciplines.

2. Literature Review

2.1 Effort Expectancy

Effort expectancy refers to students' perception of how easy and intuitive blended learning platforms are to use. When students believe a system is simple to navigate, they are more likely to engage with it in their academic activities (Venkatesh et al., 2003). As part of the Unified Theory of Acceptance and Use of Technology (UTAUT), effort expectancy is a core factor influencing behavioral intention, particularly in digital learning contexts (Sarkam, 2019).

Prior research highlights that students who perceive technology as less complex are more motivated to adopt and continue using it (Patil & Undale, 2023). Perceived ease of use also encourages consistent academic engagement in blended environments (Rudhumbu, 2022). As such, platforms that offer clear interfaces and user-friendly features are more likely to support student adoption and sustained use (Ashraf et al., 2023).

Drawing from both theoretical and empirical support, the following hypothesis is proposed:

H1: Effort expectancy has a significant impact on the behavioral intention of art and design undergraduate students.

2.2 System Quality

System quality refers to the technical performance of a learning platform, including its ease of navigation, reliability, processing speed, and interface design. In blended learning, it reflects how well the system supports instructional delivery and academic engagement (DeLone & McLean, 2003).

This construct encompasses student perceptions of the platform's functionality, flexibility, and accessibility across both synchronous and asynchronous formats (Fu & Jiang, 2024). A high-quality system is expected to operate smoothly, adapt to various teaching approaches, and provide secure, uninterrupted access to learning content (Pyo et al., 2021). Based on the Information Systems Success Model (ISSM), system quality plays a central role in shaping user satisfaction and system usage (Bakar et al., 2023). Research consistently shows that stable, responsive, and visually appealing platforms enhance students' learning experiences and satisfaction with blended education (Al-Hawamleh, 2024).

Drawing on these insights, the following hypothesis is proposed:

H2: System quality has a significant impact on the satisfaction of art and design undergraduate students.

2.3 Perceived Ease of Use

Perceived ease of use refers to students' assessment of how simple it is to interact with a blended learning platform. It reflects their comfort level with using technology for academic purposes and influences how easily the system can be incorporated into daily learning tasks (Tan et al., 2024). The construct is defined as the belief that using the system requires minimal effort, both cognitively and physically (Lazar et al., 2020). It captures whether learners view the platform's functions as intuitive and easy to navigate (Nadlifatin et al., 2020).

Within the Technology Acceptance Model (TAM), perceived ease of use is a core factor that shapes user attitudes and influences behavioral intention. It affects both how students perceive the platform and their readiness to adopt it (Diep et al., 2019). Research shows that systems perceived as easy to use lead to more positive user attitudes and sustained engagement (Anthony et al., 2022).

Based on this understanding, the following hypothesis is proposed:

H3: Perceived ease of use has a significant impact on the attitude of art and design undergraduate students.

2.4 Perceived Usefulness

Perceived usefulness refers to students' belief that blended learning platforms can improve their academic performance. It reflects their perception of how the system supports learning efficiency, conceptual understanding, and achievement of academic goals (Keržič et al., 2019; Nadlifatin et al., 2020).

This construct also highlights the role of digital platforms in providing flexible access to learning content and promoting effective time management (Li et al., 2024). Within the Technology Acceptance Model (TAM), perceived usefulness is identified as a primary factor influencing behavioral intention, often more strongly than

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perceived ease of use, especially in academic settings focused on performance outcomes (Xiao et al., 2020).

Empirical studies consistently support the importance of perceived usefulness in shaping students' willingness to adopt educational technologies. Its impact is most evident when the system offers clear academic benefits (Arpaci, 2019).

Based on this theoretical and empirical foundation, the following hypothesis is proposed:

H4: Perceived usefulness has a significant impact on the attitude of art and design undergraduate students.

2.5 Performance Expectancy

Performance expectancy refers to students' beliefs about how much blended learning technologies can improve their academic performance. It reflects the expectation that using these tools will lead to better grades, faster task completion, and improved understanding of course content (Sarkam, 2019; Venkatesh et al., 2003).

In higher education, performance expectancy captures students' anticipated academic benefits from digital platforms, especially when used alongside traditional instruction (Patil & Undale, 2023). According to the Unified Theory of Acceptance and Use of Technology (UTAUT), this construct is the strongest predictor of behavioral intention when students perceive clear advantages to their learning outcomes (Azizi et al., 2020).

Empirical research consistently shows that students are more likely to adopt blended learning when they believe it directly contributes to academic success and enhanced learning experiences (Yang et al., 2023).

Based on this theoretical and empirical foundation, the following hypothesis is proposed:

H5: Performance expectancy has a significant impact on the behavioral intention of art and design undergraduate students.

2.6 Satisfaction

Satisfaction refers to students' personal evaluations of the effectiveness and usability of blended learning systems. It is shaped by elements such as system reliability, instructional clarity, and the availability of academic and technical support (DeLone & McLean, 2003). In digital education, satisfaction reflects how well blended learning aligns with students' academic needs and learning preferences (Yousry & Azab, 2022).

This construct indicates how effectively the blended environment promotes cognitive engagement and supports self-directed learning through the integration of online tools and face-to-face instruction (Bonilla-Priego et al., 2024). According to the Information System Success Model (ISSM), satisfaction arises from students' cumulative interactions with the system and is a key predictor of continued use in technology-supported education (Bonilla-Priego et al., 2024).

Empirical research shows that satisfied students are more likely to remain engaged, experience less anxiety using educational technology, and develop stronger trust in the platform's value, which supports long-term adoption (Ramírez-Aristizábal & de Oliveira Moraes, 2024).

Based on this foundation, the following hypothesis is proposed:

H6: Satisfaction has a significant impact on the behavioral intention of art and design undergraduate students.

2.7. Behavioral Intention

Behavioral intention refers to students' willingness to use blended learning technologies in future academic tasks. It is widely recognized as the most immediate predictor of actual technology use (Venkatesh et al., 2003). In blended learning environments, this construct captures students' readiness to integrate digital tools into their study routines and instructional activities (Songkram et al., 2023).

Conceptually, behavioral intention reflects learners' attitudes toward adopting technology and serves as a cognitive precursor to usage behavior (Kumar et al., 2020). In the Technology Acceptance Model (TAM), it is shaped primarily by perceived usefulness and perceived ease of use, indicating how likely students are to adopt a specific learning platform (Sarkam, 2019).

The Unified Theory of Acceptance and Use of Technology (UTAUT) expands this by including additional influences such as performance expectancy, effort expectancy, and social factors. Across empirical studies, behavioral intention consistently emerges as a strong predictor of actual engagement in blended learning settings (Zou & Limpapath, 2024).

Building on UTAUT, TAM, and ISSM, this study integrates five key predictors to examine their influence on satisfaction and behavioral intention in blended learning. Satisfaction is positioned as a mediating variable, linking system perceptions to students' intention to adopt RCTS-based instruction.

The following hypotheses are proposed:

H1: Effort expectancy has a significant impact on behavioral intention.

H2: System quality has a significant impact on satisfaction.

H3: Perceived ease of use has a significant impact on satisfaction.

H4: Perceived usefulness has a significant impact on satisfaction.

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H5: Performance expectancy has a significant impact on behavioral intention.

H6: Satisfaction has a significant impact on behavioral intention.

These hypotheses underpin the conceptual model presented in the next section.

3. Research Methods and Materials

3.1 Research Framework

This study quantitatively investigates the key factors influencing art and design undergraduates' satisfaction and behavioral intention toward blended learning implementation via the Rain-Classroom Teaching System (RCTS) at Sichuan Conservatory of Music (SCM) in Chengdu, China.

The research framework incorporates seven theoretical constructs: five independent variable, namely, Effort Expectancy (EE), Performance Expectancy (PE), System Quality (SYQ), Perceived Ease of Use (PEOU), and Perceived Usefulness (PU); one mediating variable, Satisfaction (SAT); and one dependent variable, Behavioral Intention (BI). The model also examines the causal relationships among these constructs to assess their relative influence on behavioral outcomes. The complete conceptual framework is illustrated in Figure 1.

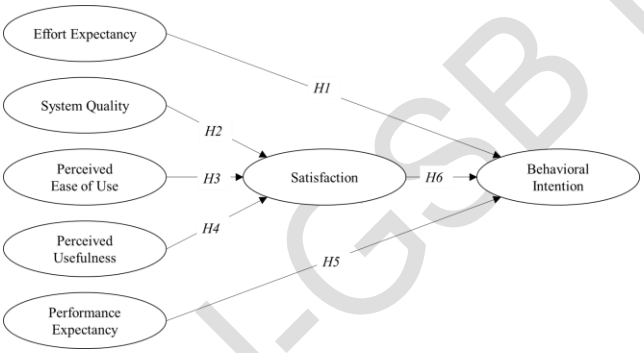

Figure 1: Conceptual Framework

3.2 Research Methodology

This study employed a quantitative research design to examine the key factors influencing satisfaction and behavioral intention among undergraduate art and design students engaged in blended learning at Sichuan Conservatory of Music (SCM), located in Sichuan Province, China. The target population consisted of students with prior experience using the Rain-Classroom Teaching System (RCTS), a mobile-integrated blended learning platform.

The study utilized non-probability sampling methods, judgmental and quota sampling. These approaches were selected to ensure representation across academic levels and course categories, focusing on students actively engaged in RCTS-based instruction. While this sampling strategy supports contextual relevance and targeted data collection, it limits the generalizability of the findings beyond the sampled population.

Data were gathered through an online questionnaire based on validated measurement constructs. All items were measured using a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree), ensuring consistent and interpretable responses.

To ensure content validity, five domain experts—three full professors and two associate professors with over ten years of experience in blended learning research—evaluated the instrument using the item-objective congruence (IOC) method. All items recorded IOC values above the recommended 0.60 threshold (Rovinelli & Hambleton, 1977), confirming strong construct alignment.

A pilot study involving 40 undergraduate students was conducted to assess internal consistency reliability. Cronbach's alpha values ranged from 0.764 to 0.896 across the seven constructs, indicating good to very good reliability (Nunnally & Bernstein, 1994). Specifically, system quality (0.896), perceived ease of use (0.851), and perceived usefulness (0.831) achieved very good reliability, while effort expectancy (0.783), performance expectancy (0.764), satisfaction (0.764), and behavioral intention (0.831) demonstrated good to very good internal consistency.

Following successful validation, the finalized questionnaire was distributed to 500 art and design undergraduates, with 484 valid responses retained for analysis. Confirmatory Factor Analysis (CFA) was used to assess the measurement model, and Structural Equation Modeling (SEM) was employed to test hypothesized relationships, including both direct and indirect effects among variables.

All ethical considerations were fully observed. Prior approval was obtained from the institutional ethics committee. Participants were informed of the study's academic purpose, assured of confidentiality and anonymity, and reminded that participation was voluntary. Informed consent was obtained electronically before completing the survey.

3.3 Population and Sample Size

The target population for this study consisted of undergraduate students enrolled in art and design degree programs at SCM. Based on guidelines for structural equation modeling (SEM), which recommend a minimum sample size of at least 10-20 participants per estimated

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parameter, a sample of at least 425 participants was considered sufficient to ensure statistical robustness and model reliability (Hair et al., 2010). From a total population of 982 eligible students across two major programs, Animation Design and Digital Media Art Design, a final sample of 500 participants was selected using non-probability sampling methods.

A sequential sampling strategy was implemented. First, purposive sampling was used to identify the initial pool of 982 qualified students. Next, quota sampling was applied to ensure proportional representation based on program and academic year. Sub-sample sizes for each subgroup were calculated according to their proportion in the total population. Table 1 presents the full distribution of the study population and the allocated sub-samples. This sampling approach ensured adequate subgroup representation, allowing for meaningful subgroup analysis across both major programs and academic years.

Table 1: Distribution of Population and Quota-Based Sample

Major Program	Grade	Population	Proportional Sample Size
Animation Design	Freshman	120	61
	Sophomore	127	65
	Junior	146	74
	Senior	186	95
Digital Media Art Design	Freshman	90	46
	Sophomore	99	50
	Junior	126	64
	Senior	88	45
Total		**982**	**500**

Source: Sichuan Conservatory of Music (2024)

4. Results and Discussion

4.1 Demographic Information

After excluding incomplete responses, a total of 484 valid questionnaires were analyzed. As shown in Table 2, the sample consisted of a majority of female students (64.3%), which is in line with the gender distribution often observed in creative disciplines such as art and design.

The academic year distribution was relatively balanced, with the highest proportion being juniors (28.3%), followed by senior and sophomores. This suggests that students in the middle stages of their program are more actively engaged in blended learning, possibly due to increased interaction with core disciplinary content during these years.

Regarding program enrollment, 59.1% of the participants were from the Animation Design program, reflecting its larger population size compared to Digital Media Art Design. This distribution ensures proportional representation and strengthens the reliability of subsequent analyses across student subgroups.

Table 2: Demographic Information

Demographic and General Data (N=484)		Frequency	Percentage
Gender	Male	173	35.7
	Female	311	64.3
Grade	Freshman	104	21.5
	Sophomore	112	23.1
	Junior	137	28.3
	Senior	131	27.1
Major	Animation Design	286	59.1
	Digital Media Art Design	198	40.9

Note: Constructed by the Author

4.2 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was conducted to evaluate the validity and reliability of the measurement model by examining the alignment between observed data and theoretical constructs. CFA is widely used in educational and behavioral research to assess construct validity and ensure that the latent variables are accurately represented by their observed indicators (Hair et al., 2010).

As part of the CFA process, model fit was assessed using multiple Goodness of Fit (GoF) indices. These included the chi-square ratio (CMIN/DF), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Tucker-Lewis Index (TLI). As shown in Table 3, all fit indices met the recommended thresholds, indicating an acceptable and robust model fit.

Table 3: Goodness of Fit for Confirmatory Factor Analysis

Index	Criterion	Statistical Value
CMIN/DF	< 5 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	1.953
GFI	≥ 0.80 (Baumgartner & Homburg, 1996)	0.926
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.904
NFI	≥ 0.80 (Wu & Wang, 2006)	0.915
CFI	≥ 0.80 (Wu & Wang, 2006)	0.956
TLI	≥ 0.80 (Wu & Wang, 2006)	0.948
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.044

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

Following model fit evaluation, convergent validity was examined using three criteria: standardized factor loadings (≥ 0.50), Composite Reliability (CR ≥ 0.70), and Average Variance Extracted (AVE ≥ 0.50), as recommended by Fornell and Larcker (1981). Results in Table 4 showed that all factor loadings ranged from 0.621 to 0.869, CR values ranged from 0.775 to 0.883, and AVE values from 0.535 to 0.647. These values confirm adequate convergent validity across all latent constructs.

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Table 4: Confirmatory Factor Analysis (CFA), Composite Reliability (CR), and Average Variance Extracted (AVE) Results

Variable	Source of Questionnaire (Measurement Indicator)	No. of Item	Cronbach's Alpha	Factor Loading	CR	AVE
Effort Expectancy (EE)	Rudhumbu (2022)	3	0.783	0.753 - 0.869	0.880	0.647
System Quality (SYQ)	Pyo et al. (2021)	3	0.896	0.734-0.841	0.883	0.883
Perceived Ease of Use (PEOU)	Nadlifatin et al. (2020)	4	0.851	0.719-0.775	0.795	0.795
Perceived Usefulness (PU)	Keržič et al. (2019)	5	0.831	0.712-0.804	0.796	0.796
Performance Expectancy (PE)	Patil and Undale (2023)	5	0.764	0.621-0.859	0.845	0.581
Satisfaction (SAT)	Bonilla-Priego et al. (2024)	4	0.764	0.673 - 0.790	0.775	0.535
Behavioral Intention (BI)	Anthony et al. (2022)	5	0.831	0.718 - 0.761	0.778	0.539

Note: CR = Composite Reliability, AVE = Average Variance Extracted

Discriminant validity was also assessed by comparing inter-construct correlation coefficients. Based on the criterion that latent variables should not correlate above 0.80 (Kline, 2011), the model demonstrated good discriminant validity, the highest correlation observed at 0.510 between system quality and satisfaction, which remains well below the 0.80 threshold.

In summary, the CFA results confirm that the measurement model possesses satisfactory construct validity, supporting its suitability for subsequent structural model analysis.

Table 5: Discriminant Validity

Variable	EE	SYQ	PEOU	PU	PE	SAT	BI
EE	**0.804**						
SYQ	0.004	**0.777**					
PEOU	0.008	-0.052	**0.751**				
PU	-0.042	0.136	0.228	**0.752**			
PE	0.016	0.143	0.014	0.175	**0.762**		
SAT	-0.025	0.510	0.238	0.223	0.213	**0.731**	
BI	0.335	0.121	0.082	0.051	0.376	0.178	**0.734**

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

4.3 Structural Equation Model (SEM)

Structural Equation Modeling (SEM) was employed to examine the hypothesized relationships among the study's latent variables. SEM is a robust multivariate technique that allows for simultaneous analysis of multiple dependent and independent constructs, making it especially well-suited for educational research involving complex, theory-driven models (Hair et al., 2010). This analysis builds on the validated measurement model established through Confirmatory Factor Analysis (CFA) and extends it by testing the structural paths among the constructs.

As with CFA, the adequacy of the structural model was first evaluated using standard Goodness of Fit (GOF) indices. These included the chi-square ratio (CMIN/DF), Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Normed Fit Index (NFI), and Tucker-Lewis Index (TLI). As shown in Table 6, all values met the recommended thresholds, confirming a satisfactory model fit for the SEM.

Table 6: Goodness of Fit for Structural Equation Modeling

Index	Criterion	Statistical Value
CMIN/DF	< 5 (Al-Mamary & Shamsuddin, 2015; Awang, 2012)	2.134
GFI	≥ 0.80 (Baumgartner & Homburg, 1996)	0.915
AGFI	≥ 0.80 (Sica & Ghisi, 2007)	0.897
NFI	≥ 0.80 (Wu & Wang, 2006)	0.902
CFI	≥ 0.80 (Wu & Wang, 2006)	0.945
TLI	≥ 0.80 (Wu & Wang, 2006)	0.938
RMSEA	< 0.08 (Hu & Bentler, 1999)	0.048

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 = normalized 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 model demonstrated strong explanatory power, accounting for 49.4% of the variance in Satisfaction and 34.9% of the variance in Behavioral Intention. These results indicate that the proposed framework effectively captures the key determinants influencing students' satisfaction with and intention to adopt blended learning systems.

All hypothesized relationships were statistically supported, as shown in Table 7, with significant path coefficients ranging from 0.111 to 0.616. The strongest effect was observed from System Quality to Satisfaction, while all other direct paths also demonstrated acceptable significance levels.

Table 7: Hypothesis Testing Result

Hypothesis	Standardized path coefficients (β)	t-value	Test Result
H1: BI ← EE	0.408	7.701*	Supported
H2: SAT ← SYQ	0.616	11.072*	Supported
H3: SAT ← PEOU	0.321	6.248*	Supported
H4: SAT ← PU	0.111	2.321*	Supported
H5: BI ← PE	0.397	7.117*	Supported
H6: BI ← SAT	0.159	3.104*	Supported

Note: *=p-value<0.05

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H1: Effort Expectancy had a significant impact on Behavioral Intention (β = 0.408). This confirms prior research by Venkatesh et al. (2003) and Tannady and Dewi (2024), highlighting ease of interaction with the system as a major factor driving learners' intent to use blended platforms.

H2: System Quality was the most influential factor affecting Satisfaction (β = 0.616). This aligns with Bhuasiri et al. (2012) and Efiloğlu Kurt (2019), who emphasized the importance of technical reliability and usability in enhancing student experience.

H3: Perceived Ease of Use significantly influenced Satisfaction (β = 0.321), supporting findings by Lu et al. (2022) and Nuryakin et al. (2023), which showed that system usability increases learner comfort and satisfaction in blended environments.

H4: Perceived Usefulness had a smaller yet significant effect on Satisfaction (β = 0.111), consistent with previous work by Bhattacherjee (2001) and Liaw and Huang (2013), who noted that perceived academic benefit, even if secondary, remains an important factor.

H5: Performance Expectancy was a strong predictor of Behavioral Intention (β = 0.397), in line with studies such as Shen et al. (2017) and An et al. (2023), confirming that perceived improvement in academic outcomes motivates adoption of blended learning.

H6: Satisfaction exerted a significant influence on Behavioral Intention (β = 0.159), reaffirming the IS Success Model (DeLone & McLean, 2003) and more recent findings by Hwang and Choi (2019), which emphasized the importance of user satisfaction in shaping continued technology use.

5. Conclusions and Recommendation

5.1 Conclusions

This study examined the key factors influencing student satisfaction and behavioral intention toward blended learning among undergraduate art and design students at the Sichuan Conservatory of Music. Grounded in the Technology Acceptance Model (TAM), the Unified Theory of Acceptance and Use of Technology (UTAUT), and the Information Systems Success Model (ISSM), the research framework incorporated seven constructs: effort expectancy, performance expectancy, system quality, perceived ease of use, perceived usefulness, satisfaction, and behavioral intention.

A quantitative approach was adopted. Data were collected from 500 students using structured questionnaires. After excluding incomplete responses, 484 valid cases were retained. Confirmatory factor analysis confirmed the reliability and validity of the measurement model. Structural equation modeling was then used to examine the proposed causal relationships.

The analysis revealed that system quality had the strongest direct effect on student satisfaction. This aligns with earlier findings by Bhuasiri et al. (2012) and Efiloğlu Kurt (2019), who emphasized the importance of technical performance and interface usability in shaping positive learning experiences. Effort expectancy was the strongest predictor of students' behavioral intention to continue using blended learning. This supports prior work by Venkatesh et al. (2003) and Tannady and Dewi (2024), which found that ease of use plays a critical role in technology acceptance.

Other significant findings include the positive effects of perceived ease of use and perceived usefulness on satisfaction, and the influence of both performance expectancy and satisfaction on behavioral intention. These results confirm the core assumptions of the TAM and UTAUT frameworks, showing that ease of use, perceived usefulness, and expected performance are essential drivers of educational technology adoption.

The study contributes to theory by applying and validating these models in a creative education context. Art and design students may approach technology differently from those in other disciplines, and this research provides a clearer understanding of how blended learning tools are perceived within this group.

Practically, the findings highlight the importance of system design and technical reliability in improving satisfaction. Higher education institutions should focus on simplifying technology platforms, ensuring stable system performance, and aligning system functions with academic performance goals. Providing effective user support and designing user-friendly interfaces can enhance engagement, especially among students in creative fields with varied learning preferences.

This study confirms that system quality and perceived effort play a central role in shaping satisfaction and continued use of blended learning platforms, offering valuable insights for researchers and educational practitioners.

5.2 Recommendations

Based on the empirical findings, several practical recommendations are proposed to enhance student satisfaction and behavioral intention toward blended learning, particularly for art and design students using the Rain-Classroom Teaching System (RCTS) platform.

To improve effort expectancy, the platform should

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implement adaptive learning paths tailored to individual project workflows. Visual dashboards with milestone tracking and AI-powered task sequencing can simplify planning while maintaining creative flexibility. Breaking complex tasks into discipline-specific stages and embedding just-in-time tutorials within the design workflow can reduce cognitive load. These enhancements would make the system more accessible and, in turn, increase students' willingness to use the platform.

Enhancing system quality requires a user-centered design that supports creative academic activities. Key improvements include seamless multimedia integration, high-resolution display support, real-time collaboration tools (such as digital whiteboards), and AI-driven feedback. Ensuring the platform is responsive and accessible across multiple devices is critical. Embedded tutorials based on discipline-specific case studies, along with timely support from instructors and peers, can further strengthen perceived system reliability and overall satisfaction.

To strengthen perceived ease of use, instructors should design courses using scaffolded micro-modules, where each skill builds on the previous one. Context-sensitive support, such as in-task video demonstrations, can minimize technical friction. Alternating between digital tutorials and hands-on studio sessions allows students to build confidence and gradually develop fluency with the platform, improving satisfaction and engagement.

Enhancing perceived usefulness requires showing how RCTS contributes to meaningful skill development. Instructors can utilize digital sketchbooks, portfolio reviews, and reflection activities to help students connect online exercises such as digital sculpting or color simulations, with their studio progress. When students observe tangible creative gains, they are more likely to perceive the platform as valuable.

To improve performance expectancy, educators should clearly link specific RCTS modules to growth in animation and design skills. Tools such as skill maps, progress benchmarks, and formative feedback can help students recognize how digital learning contributes to professional competencies. This visibility enhances students' confidence in the platform's relevance and encourages long-term engagement.

Finally, to foster satisfaction and sustained behavioral intention, integrated learning experiences should be prioritized. Examples include pairing online masterclasses by expert designers with hands-on studio workshops, or using AI-based assessments to personalize instruction. Regular reviews of platform usability and curriculum alignment will also help maintain a cohesive and responsive blended learning environment, essential for supporting continued adoption.

5.3 Limitation and Further Study

This study has several limitations. First, the research was limited to undergraduate art and design students at a single public university in Sichuan Province, which restricts the generalizability of the findings. Student perspectives from other disciplines, institutions, or regions, especially those with different technological or pedagogical contexts, were not considered and may offer additional insights.

Second, the study focused on seven variables primarily derived from the Unified Theory of Acceptance and Use of Technology (UTAUT). While this framework is widely accepted, it does not fully account for the complex and multidimensional nature of technology adoption in education. Additional factors from related theories were not included, potentially narrowing the theoretical scope.

Future studies should broaden the sample to include students from various academic programs, institutional settings, and geographic locations to improve external validity. Incorporating constructs from other models—such as the Technology Acceptance Model (TAM), Expectation-Confirmation Model (ECM), Theory of Planned Behavior (TPB), Theory of Reasoned Action (TRA), and Information Systems Success Model (ISSM), could strengthen the conceptual framework and provide deeper insights into student behavior in blended learning environments.

References

Al-Hawamleh, A. (2024). Exploring the satisfaction and continuance intention to use e-learning systems: An integration of the information systems success model and the technology acceptance model. *International Journal of Electrical and Computer Engineering Systems, 15*(2), 201-214.

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. https://doi.org/10.5901/mjss.2015.v6n4s1p268

An, X., Chai, C. S., Li, Y., Zhou, Y., Shen, X., Zheng, C., & Chen, M. (2023). Modeling English teachers' behavioral intention to use artificial intelligence in middle schools. *Education and Information Technologies, 28*(5), 5187-5208.

Anthony, B., Kamaludin, A., & Romli, A. (2023). Predicting academic staffs behaviour intention and actual use of blended learning in higher education: Model development and validation. *Technology, Knowledge and Learning, 28*(3), 1223-1269.

Anthony, B., Kamaludin, A., Romli, A., Raffei, A. F. M., Phon, D. N. A. E., Abdullah, A., & Ming, G. L. (2022). Blended learning adoption and implementation in higher education: A theoretical and systematic review. *Technology, Knowledge and Learning*, 1-48. https://doi.org/10.1007/s10758-021-09578-2

Arpaci, I. (2019). A hybrid modeling approach for predicting the educational use of mobile cloud computing services in higher education. *Computers in Human Behavior, 90*, 181-187.

AU-GSB E-JOURNAL

Ashraf, M. A., Shabnam, N., Tsegay, S. M., & Huang, G. (2023). Acceptance of smart technologies in blended learning: Perspectives of Chinese medical students. *International Journal of Environmental Research and Public Health, 20*(3), 2756. https://doi.org/10.3390/ijerph20032756

Awang, Z. (2012). *A handbook on SEM: Structural equation modeling using AMOS graphics* (5th ed.). Universiti Teknologi MARA Press.

Azizi, S. M., Roozbahani, N., & Khatony, A. (2020). Factors affecting the acceptance of blended learning in medical education: Application of UTAUT2 model. *BMC Medical Education, 20*(1), 1-9.

Bakar, N. A., Abd Aziz, N., Aziz, I. A., Hussain, M. N. M., & Ishak, N. S. (2023). Measuring student adoption of digital platforms for distance education among university students in Malaysia. *International Journal of Advanced Research in Education and Society, 5*(4), 16-28.

Baumgartner, H., & Homburg, C. (1996). Applications of structural equation modeling in marketing and consumer research: A review. *International Journal of Research in Marketing, 13*(2), 139-161. https://doi.org/10.1016/0167-8116(95)00038-0

Bhattacherjee, A. (2001). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly, 25*(3), 351-370.

Bhuasiri, W., Xaymoungkhoun, O., Zo, H., Rho, J. J., & Ciganek, A. P. (2012). Critical success factors for e-learning in developing countries: A comparative analysis between ICT experts and faculty. *Computers & Education, 58*(2), 843-855.

Bonilla-Priego, M. J., Fernández-Giordano, M., & Pacheco-Olivares, M. R. (2024). Evaluating the success of a learning management system for supplemental learning in accounting. *Accounting Education*, 1-26. https://doi.org/10.1080/09639284.2024.2338794

Boyle, T., Bradley, C., Chalk, P., Jones, R., & Pickard, P. (2003). Using blended learning to improve student success rates in learning to program. *Journal of Educational Media, 28*(2-3), 165-178.

DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems, 19*(4), 9-30.

Diep, A. N., Zhu, C., Cocquyt, C., De Greef, M., Vo, M. H., & Vanwing, T. (2019). Adult learners' needs in online and blended learning. *Australian Journal of Adult Learning, 59*(2), 223-253.

Driscoll, M. (2002). Blended learning: Let's get beyond the hype. *E-learning, 3*(3), 54-56.

Efiloğlu Kurt, Ö. (2019). Examining an e-learning system through the lens of the information systems success model: Empirical evidence from Italy. *Education and Information Technologies, 24*(2), 1173-1184.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, *18*(1), 39-50. https://doi.org/10.1177/002224378101800104

Friesen, N., & Lowe, S. (2012). The questionable promise of social media for education: Connective learning and the commercial imperative. *Journal of Computer Assisted Learning, 28*(3), 183-194.

Fu, J., & Jiang, S. (2024). Using the information systems success model to predict factors affecting intention to adopt blended learning in physical education. *Revista de Psicología del Deporte (Journal of Sport Psychology), 33*(2), 444-457.

Garrison, D. R., & Kanuka, H. (2004). Blended learning: Uncovering its transformative potential in higher education. *The Internet and Higher Education, 7*(2), 95-105.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis* (7th ed.). Pearson.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, *6*(1), 1-55. https://doi.org/10.1080/10705519909540118

Hwang, Y. S., & Choi, Y. K. (2019). Higher education service quality and student satisfaction, institutional image, and behavioral intention. *Social Behavior and Personality: An International Journal, 47*(2), 1-12.

Jackson, M. J., Helms, M. M., Jackson, W. T., & Gum, J. R. (2011). Student expectations of technology-enhanced pedagogy: A ten-year comparison. *Journal of Education for Business, 86*(5), 294-301.

Keržič, D., Tomaževič, N., Aristovnik, A., & Umek, L. (2019). Exploring critical factors of the perceived usefulness of blended learning for higher education students. *PLOS ONE, 14*(11), e0223767. https://doi.org/10.1371/journal.pone.0223767

Kline, R. B. (2011). *Principles and practice of structural equation modeling* (3rd ed.). Guilford Press.

Kumar, J. A., Bervell, B., Annamalai, N., & Osman, S. (2020). Behavioral intention to use mobile learning: Evaluating the role of self-efficacy, subjective norm, and WhatsApp use habit. *IEEE Access, 8*, 208058-208074. https://doi.org/10.1109/ACCESS.2020.3038269

Lazar, I. M., Panisoara, G., & Panisoara, I. O. (2020). Digital technology adoption scale in the blended learning context in higher education: Development, validation and testing of a specific tool. *PLOS ONE, 15*(7), e0235957. https://doi.org/10.1371/journal.pone.0235957

Li, N., Purwanto, E., Zhang, X., Cao, F., Wong, K. H., & Chen, X. (2024). Understanding the perceived pedagogical value of JazzQuiz in interactive hybrid learning among university students: A technology acceptance analysis. *Interactive Learning Environments, 32*(5), 1860-1876.

Liaw, S. S., & Huang, H. M. (2013). Perceived satisfaction, perceived usefulness and interactive learning environments as predictors to self-regulation in e-learning environments. *Computers & Education, 60*(1), 14-24.

Lu, A., Deng, R., Huang, Y., Song, T., Shen, Y., Fan, Z., & Zhang, J. (2022). The roles of mobile app perceived usefulness and perceived ease of use in app-based Chinese and English learning flow and satisfaction. *Education and Information Technologies, 27*(7), 10349-10370.

Martyn, M. (2003). The hybrid online model: Good practice. *Educause Quarterly, 26*(1), 18-23.

AU-GSB E-JOURNAL

Nadlifatin, R., Miraja, B., Persada, S., Belgiawan, P., Redi, A. A. N., & Lin, S. C. (2020). The measurement of university students' intention to use blended learning system through technology acceptance model (TAM) and theory of planned behavior (TPB) at developed and developing regions: Lessons learned from Taiwan and Indonesia. *International Journal of Emerging Technologies in Learning (iJET), 15*(9), 219-230.

Nazeef, N. M., Hamid, S., & Ahmed, S. (2024). Investigating factors influencing learning satisfaction in blended learning environments: A PLS-SEM approach. *Journal of Asian Development Studies, 13*(2), 726-738.

Nuamsamrarn, S., & Achwarin, N. (2023). A structural equation model of the determinants affecting students' behavioral intention and satisfaction towards blended learning of English as a foreign language at a Bangkok public university. *Journal of Education and Innovation, 25*(1), 36-45.

Nunnally, J. C., & Bernstein, I. H. (1994). *Psychometric theory* (3rd ed.). McGraw-Hill.

Nuryakin, N., Rakotoarizaka, N. L. P., & Musa, H. G. (2023). The effect of perceived usefulness and perceived easy to use on student satisfaction: The mediating role of attitude to use online learning. *Asia Pacific Management and Business Application, 11*(3), 323-336.

Patil, H., & Undale, S. (2023). Willingness of university students to continue using e-learning platforms after compelled adoption of technology: Test of an extended UTAUT model. *Education and Information Technologies, 28*(11), 14943-14965.

Pyo, G., Kim, Y. S., Noh, M., Han, M. M. C., Rahman, T., & Son, J. (2021). The effect of COVID-19 characteristics and transmission risk concerns on smart learning acceptance: Focusing on the application of the integrated model of ISSM and HBM. *Journal of Digital Convergence, 19*(7), 57-70. https://doi.org/10.14400/JDC.2021.19.7.057

Ramírez-Aristizábal, C., & de Oliveira Moraes, R. (2024). Learning management systems success in the Covid-19 post-pandemic blended learning context: Empirical evidence from a Brazilian engineering school. *Education and Information Technologies, 29*(13), 16541-16570. https://doi.org/10.1007/s10639-024-12344-0

Rovinelli, R. J., & Hambleton, R. K. (1977). On the use of content specialists in the assessment of criterion-referenced test item validity. *Dutch Journal of Educational Research, 2*(2), 49-60.

Rudhumbu, N. (2022). Applying the UTAUT2 to predict the acceptance of blended learning by university students. *Asian Association of Open Universities Journal, 17*(1), 15-36. https://doi.org/10.1108/AAOUJ-11-2021-0125

Sarkam, N. A. (2019). Factors affecting levels of acceptance of academicians in using blended learning (BL) system in teaching by using extended model of UTAUT. *Management Academic Research Society, 9*(13), 329-339.

Shen, C. W., Ho, J. T., Kuo, T. C., & Luong, T. H. (2017, April). Behavioral intention of using virtual reality in learning. In *Proceedings of the 26th International Conference on World Wide Web Companion*, 129-137. https://doi.org/10.1145/3041021.3054166

Shu, B., Fan, F., & Zhu, X. (2019). Use of rain classroom as a teaching tool in a biochemistry course. *Journal of Curriculum and Teaching, 8*(3), 15-23. https://doi.org/10.5430/jct.v8n3p15

Sica, C., & Ghisi, M. (2007). *The Italian versions of the Beck Anxiety Inventory and the Beck Depression Inventory-II: Psychometric properties and discriminant power*. Nova Science Publishers.

Sichuan Conservatory of Music. (2024). *Undergraduate enrollment statistics for the Faculty of Art and Design*. Internal institutional document Unpublished.

Songkram, N., Chootongchai, S., Osuwan, H., Chuppunnarat, Y., & Songkram, N. (2023). Students' adoption towards behavioral intention of digital learning platform. *Education and Information Technologies, 28*(9), 11655-11677. https://doi.org/10.1007/s10639-023-11813-z

Suleri, J., & Zwaal, W. (2022). Configuring blended education. *Research in Hospitality Management, 12*(3), 272-277. https://doi.org/10.1080/22243534.2022.2107290

Tan, P. S. H., Seow, A. N., Choong, Y. O., Tan, C. H., Lam, S. Y., & Choong, C. K. (2024). University students' perceived service quality and attitude towards hybrid learning: Ease of use and usefulness as mediators. *Journal of Applied Research in Higher Education, 16*(5), 1500-1514. https://doi.org/10.1108/JARHE-05-2023-0174

Tannady, H., & Dewi, C. S. (2024). Exploring role of technology performance expectancy, application effort expectancy, perceived risk and perceived cost on digital behavioral intention of GoFood users. *Jurnal Informasi Dan Teknologi*, 80-85.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, *27*(3), 425-478. https://doi.org/10.2307/30036540

Wu, J., & Wang, Y. (2006). Measuring KMS success: A respecification of the DeLone and McLean's model. *Information & Management, 43*(6), 728-739. https://doi.org/10.1016/j.im.2006.05.002

Xiao, J., Sun-Lin, H. Z., Lin, T. H., Li, M., Pan, Z., & Cheng, H. C. (2020). What makes learners a good fit for hybrid learning? Learning competences as predictors of experience and satisfaction in hybrid learning space. *British Journal of Educational Technology, 51*(4), 1203-1219. https://doi.org/10.1111/bjet.12918

Yang, H., Cai, J., Yang, H. H., & Wang, X. (2023). Examining key factors of beginner's continuance intention in blended learning in higher education. *Journal of Computing in Higher Education, 35*(1), 126-143. https://doi.org/10.1007/s12528-022-09371-5

Yousry, Y. M., & Azab, M. M. (2022). Hybrid versus distance learning environment for a paediatric dentistry course and its influence on students' satisfaction: A cross-sectional study. *BMC Medical Education, 22*(1), 343. https://doi.org/10.1186/s12909-022-03449-1

Zou, X., & Limpapath, P. (2024). The relationship of factors influencing behavioral intention to participate in hybrid education: Undergraduate university students majoring in English, Chengdu, China. *LEARN Journal: Language Education and Acquisition Research Network, 17*(2), 370-391.

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