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Exploring What Drives Satisfaction in Online Dance Courses: Insights from Public Universities in Nanjing, China

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Abstract

Purpose: This study investigates the factors influencing dance students' satisfaction with online courses and develops interventions to enhance their satisfaction in a public university in Nanjing, China. The independent variables include curriculum, teaching quality, assurance, empathy, and learning environment, while the dependent variable is students' satisfaction with online courses. **Research design, data, and methodology:** The research assesses the current levels of these variables, designs and implements Intervention Design Implementations (IDI) to improve them, and evaluates their changes pre- and post-IDI. The study employs a sequential exploratory mixed-methods design, combining qualitative and quantitative methods to develop a data collection instrument. The target population consists of dance majors at a Nanjing public university, with a sample size of 360 students. **Results:** Preliminary findings indicate low curriculum levels, teaching quality, assurance, empathy, and learning environment in online courses. Multiple regression analysis reveals that curriculum (β=0.170, p=0.001<0.05), teaching quality (β=0.223, p=0.000<0.05), assurance (β=0.165, p=0.002<0.05), empathy (β=0.118, p=0.022<0.05), and learning environment (β=0.134, p=0.014<0.05) significantly predict students' satisfaction with online courses, with an R-square value of 0.361, suggesting that these variables account for 36.1% of the variance in students' satisfaction with online courses. **Conclusions:** The study contributes to understanding factors affecting dance students' satisfaction with online learning and offers practical implications for improving online dance education in Chinese universities.

Keywords: Students' Satisfaction, Online Course, Teaching Quality, Assurance, Public University

JEL Classification Code: I23, J28, L2

1. Introduction

The evolution of online education, intrinsically linked to the advent and proliferation of the internet, has witnessed exponential growth over the past two decades. Initially conceived as a supplementary tool to traditional learning, online education has undergone a significant paradigm shift, evolving into a primary mode of knowledge dissemination and acquisition. This transformation has been propelled by rapid technological advancements and further accelerated by the unprecedented challenges posed by the COVID-19 pandemic, necessitating a global shift towards virtual learning environments. This transition has presented unique challenges and opportunities across academic disciplines, prompting a fundamental reassessment of traditional pedagogical approaches and their adaptability to the digital realm (Hodges et al., 2020).

This reassessment is particularly relevant within the field of dance education, which has evolved alongside broader educational trends. As Risner (2007) observes, issues surrounding the evolving nature of dance pedagogy, the integration of technology, and the professional expectations of dance students have become central to the discourse of arts education.

With its inherent emphasis on physical embodiment, nuanced kinesthetic feedback, and the development of artistic expression through movement, dance education presents a compelling case study within this evolving landscape. The translation of such a deeply embodied and interactive art form into the virtual sphere necessitates

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careful consideration of both the pedagogical principles underpinning dance training and the affordances and limitations of online learning environments (Broadbent & Poon, 2015).

Existing literature on online education emphasizes the critical role of several factors in shaping student satisfaction and learning outcomes. Lee and Kim (2018) highlight the importance of well-structured curricula designed for online delivery, incorporating interactive elements, multimedia resources, and clearly defined learning objectives. Similarly, the quality of teaching remains paramount in virtual settings, requiring instructors to possess strong communication skills, the ability to foster a sense of community, and the adeptness to leverage technology effectively for content delivery and feedback (Broadbent & Poon, 2015).

Beyond pedagogical approaches, creating a supportive and engaging online learning environment is essential. Foster and Roberts (2019) emphasize the significance of instructor assurance, achieved through clear communication, prompt responsiveness, and establishing transparent expectations, in fostering student confidence and trust. Moreover, cultivating empathy in the absence of traditional in-person interactions is crucial. Instructors who demonstrate understanding, responsiveness, and sensitivity to their students' individual needs and challenges contribute significantly to a positive and supportive online learning experience (Hodges et al., 2020). Finally, fostering a sense of community and belonging is paramount in mitigating the isolating potential of online learning. This can be achieved through interactive platforms, synchronous sessions encouraging real-time interaction, and opportunities for peer-to-peer learning and support (Crisp et al., 2016).

Dance education has expanded significantly, embracing diverse dance forms, techniques, and cultural contexts, gaining recognition as a globally valuable component of education systems (Risner, 2007). This recognition stems from the understanding that dance is not merely a medium of artistic and cultural expression but also a powerful tool for promoting physical fitness, emotional well-being (Bresler, 2004), and cognitive, motor, and social development, as evidenced by its incorporation into national curricula in several countries (Fortin et al., 2013). However, this expansion and recognition also bring forth new challenges. As Alterowitz and Stinson (2015) argue, dance education faces the ongoing challenge of balancing rigorous technical training with the cultivation of creative and critical thinking skills, deemed essential for student satisfaction and future success in the professional world. Furthermore, as Risner (2007) posits, the quality of the educational experience within dance programs is increasingly evaluated through the lens of student satisfaction, encompassing a range of factors from pedagogical approaches to the infrastructural facilities provided by institutions.

In China, the importance of dance education has been increasingly acknowledged over the past few decades (Chen, 2016). The Chinese government has implemented policies promoting arts and physical education, with dance as a crucial intersection. Given China's rich history and diversity in dance forms, dance education is seen as a key component in fostering cultural awareness and national identity. The Chinese government's emphasis on cultural education has led to significant investments in arts and dance education, spotlighting the role of academic institutions in nurturing future generations of dancers (Wang et al., 2018). National policies have been crafted to preserve the rich tapestry of Chinese dance traditions and promote innovation and global competitiveness within the sector (Zhuang et al., 2012). Consequently, Chinese universities have been scrutinized for cultivating student satisfaction within their dance programs, considering factors such as curriculum relevance, teaching quality, and post-graduate success (Li & Zhao, 2019).

Nanjing, with its profound cultural heritage, offers a distinctive vantage point for investigating dance education at the tertiary level. Public universities in Nanjing increasingly recognize the importance of student satisfaction as a benchmark for educational quality and institutional success (Chen & Chen, 2020). This study seeks to identify and analyze the specific factors influencing dance students' satisfaction at a public university in Nanjing, offering a granular look at how local traditions, modern educational practices, and the pressures of the global dance community interact to shape the student experience (Jiang & Zhang, 2021). The city's public universities have been investing in dance programs, attracting local and national students. One such institution is the focus of our study.

2. Literature Review

2.1 Students' Satisfaction with Online Course

Student satisfaction is a crucial indicator of the effectiveness and quality of online learning experiences. It is a complex construct encompassing various aspects of the learning process, including course design, instructional quality, student engagement, and learning outcomes (Bolliger & Martindale, 2004; Moore, 2005).

In the field of dance education, factors influencing students' satisfaction with online courses may include the relevance and appropriateness of course content, the expertise and support provided by instructors, the assurance of learning outcomes, the empathy and understanding demonstrated by teachers, and the overall learning environment (Pham et al., 2019; Sun et al., 2008).

Course design plays a vital role in shaping students'

satisfaction with online dance courses. A well-designed course that aligns with students' learning needs, interests, and career aspirations can enhance their engagement and motivation to learn (Eom & Ashill, 2016; Swan, 2001). Incorporating interactive learning activities, multimedia resources, and authentic assessments can further boost students' satisfaction and sense of achievement (Kuo et al., 2013; Sher, 2009;). However, it is the instructors who bring these designs to life. Their subject matter expertise, effective communication skills, and the ability to facilitate meaningful learning experiences can significantly impact students' perceptions of the value and relevance of the course (Paechter et al., 2010; Shea et al., 2003). Timely feedback, clear expectations, and personalized support from instructors can foster a positive and satisfying learning environment (Gray & DiLoreto, 2016; Ladyshewsky, 2013). Student engagement is closely linked to satisfaction in online learning contexts. When students actively participate in learning activities, interact with their peers and instructors, and feel a sense of belonging to the learning community, they are more likely to experience higher levels of satisfaction (Dixson, 2010; Kuo et al., 2013). Collaborative projects, discussion forums, and synchronous sessions can promote student engagement and contribute to a more satisfying online learning experience (Alqurashi, 2019; Sher, 2009).

Learning outcomes are another essential aspect of student satisfaction in online dance courses. They serve as a compass, guiding students toward their learning goals. Students who perceive that they have achieved the intended learning objectives acquired new knowledge and skills, and can apply what they have learned in real-world contexts tend to report higher satisfaction with their online learning experience (Alqurashi, 2019; Eom & Ashill, 2016). Clear articulation of learning goals, alignment of instructional activities with these goals, and using authentic assessment strategies can enhance students' satisfaction by demonstrating the value and relevance of the course (Sher, 2009; Swan, 2001).

2.2 Curriculum

Curriculum design and content are crucial in shaping students' satisfaction with online courses, particularly in dance education. A well-designed curriculum that aligns with students' learning needs, interests, and career aspirations can significantly enhance their engagement and satisfaction with the online learning experience (Eom & Ashill, 2016; Sher, 2009).

The curriculum should provide students with a comprehensive understanding of dance techniques, theories, and practices in dance education. It should include a balance of theoretical knowledge and practical skills, enabling students to develop their artistic abilities and prepare for professional careers (Kahlich, 2001; Warburton, 2004). The relevance and appropriateness of course content are key factors influencing students' satisfaction with online dance courses. When the curriculum is perceived as relevant to students' learning goals and applicable to real-world scenarios, they are more likely to find value in the course and experience higher levels of satisfaction (Pham et al., 2019; Sun et al., 2008). Incorporating industry-relevant content, such as current dance trends, emerging choreographic techniques, and professional development strategies, can further enhance the perceived relevance of the curriculum (Kahlich, 2001; Leijen et al., 2008).

The structure and organization of the curriculum also impact students' satisfaction with online dance courses. A clearly defined course structure with logical sequencing of topics, well-paced delivery of content, and clear communication of expectations can facilitate student learning and contribute to a more satisfying online experience (Moore, 2005; Swan, 2001). Incorporating multimedia resources, such as video demonstrations, interactive exercises, and virtual performances, can further enhance the engagement and effectiveness of the online dance curriculum (Leijen et al., 2008; Warburton, 2004). Authentic assessment strategies that align with the curriculum and reflect real-world dance practices can also influence students' satisfaction with online courses. When assessments are designed to measure students' mastery of key dance skills, techniques, and concepts and provide meaningful feedback for improvement, students are more likely to perceive the value and relevance of the curriculum (Eom & Ashill, 2016; Sher, 2009). Incorporating performance-based assessments, such as virtual dance showcases or collaborative choreography projects, can further enhance the authenticity and satisfaction of the online dance learning experience (Kahlich, 2001; Warburton, 2004).
H1: Curriculum has a significant impact on student satisfaction with online course.

2.3 Teaching Quality

The quality of teaching is another critical factor influencing student satisfaction. High teaching quality can promote a deeper understanding of the subject material, create an engaging learning environment, and foster positive relationships between students and faculty.

The knowledge and expertise of teachers are fundamental to teaching quality. Teachers with deep subject matter knowledge and a clear understanding of how to convey that knowledge can greatly enhance student satisfaction (Marsh & Roche, 1997).

The methodologies used for instruction can significantly impact student satisfaction. Active and participatory teaching methods that encourage student engagement and

collaboration can lead to higher levels of student satisfaction (Prince, 2004).

The way teachers provide feedback and assess student progress also influences satisfaction. Timely, constructive, and fair feedback and assessment can enhance student satisfaction by helping students understand their progress and areas for improvement (Gibbs & Simpson, 2004).

Positive interactions between teachers and students can improve student satisfaction. Teachers who are approachable, supportive, and responsive can create a positive learning environment that enhances student satisfaction (Umbach & Wawrzynski, 2005).

H2: Teaching quality has a significant impact on student satisfaction with online course.

2.4 Assurance

Assurance, defined as employees' knowledge, courtesy, and ability to convey trust and confidence, is another significant factor that can impact student satisfaction. In higher education, assurance can be seen in the reliability and credibility of the academic and administrative staff, the security of the campus environment, and the institution's commitment to delivering on its promises.

Academic and administrative staff's knowledge, expertise, and professionalism can significantly influence student satisfaction. Students who feel that staff are reliable, credible, and capable will likely be more satisfied (Parasuraman et al., 1988).

Ensuring a secure and safe campus environment can also impact student satisfaction. Institutions that effectively implement and communicate safety measures can enhance student satisfaction (DeShields et al., 2005).

The institution's ability to fulfill its promises, from course delivery to student support services, affects student satisfaction. Institutions that consistently deliver on their promises assure students and can thereby increase student satisfaction (Sultan & Wong, 2013).

H3: Assurance has a significant impact on student satisfaction with online course.

2.5 Empathy

Empathy in the context of higher education refers to the ability of faculty and staff to understand and respond to the needs and concerns of students. It is a key element in creating a supportive and inclusive learning environment and can profoundly impact student satisfaction.

Faculty and staff demonstrating a strong understanding of student needs can significantly improve student satisfaction. This includes understanding the academic, social, and personal challenges that students may face and providing appropriate support (Clemes et al., 2008).

Personal attention to students, such as individualized feedback and one-on-one consultations, can significantly enhance student satisfaction. When students feel that their individual needs and concerns are acknowledged and addressed, their satisfaction levels are likely to increase (Parasuraman et al., 1988).

Responsive and open communication with students is another aspect of empathy that can improve student satisfaction. Faculty and staff who are responsive to student inquiries and provide clear and timely communication can enhance student satisfaction (Kuo et al., 2013).

H4: Empathy has a significant impact on student satisfaction with online course.

2.6 Learning Environment

The learning environment, both physical and virtual, plays a pivotal role in student satisfaction. A conducive, engaging, and supportive learning environment can foster a sense of belonging and significantly enhance the academic experience, influencing student satisfaction.

The physical environment, encompassing the infrastructure and resources of the educational institution, significantly impacts student satisfaction. Facilities such as libraries, laboratories, classrooms, and recreational areas that are well-equipped and accessible can create a conducive learning environment, thereby enhancing student satisfaction (Ayuk & Jacobs, 2018).

With the rise of online learning, the virtual learning environment has become increasingly important. A user-friendly interface, reliable technology, and supportive online resources can enhance the online learning experience and increase student satisfaction (Sun et al., 2008).

The psychosocial environment, characterized by positive teacher-student and peer relationships, is another significant factor in student satisfaction. A sense of belonging, mutual respect, and effective communication can foster a positive learning environment, thereby increasing student satisfaction (Kuh et al., 2008).

H5: Learning environment has a significant impact on student satisfaction with online course.

3. Research Methods and Materials

3.1 Research Framework

The researcher applied three model theories from Farahmandian et al. (2013), Butt and Ur Rehman (2010), and Son et al. (2018); all three theoretical frameworks mentioned above supported and developed a conceptual framework in Figure 1.

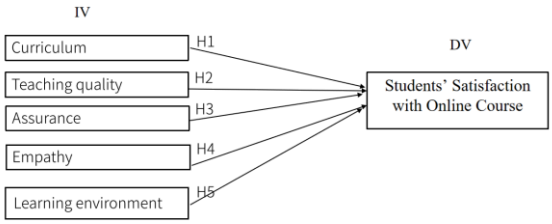

Figure 1: Conceptual Framework

H1: Curriculum has a significant impact on student satisfaction with online course.
H2: Teaching quality has a significant impact on student satisfaction with online course.
H3: Assurance has a significant impact on student satisfaction with online course.
H4: Empathy has a significant impact on student satisfaction with online course.
H5: Learning environment has a significant impact on student satisfaction with online course.

3.2 Research Methodology

The research process consists of four distinct stages. The entire research population (n=360) was initially surveyed to collect data for the proposed conceptual framework. Subsequently, all hypotheses underwent rigorous testing using multiple linear regression to determine their significance at a p-value threshold of < 0.05. As a result, hypotheses that received support were retained, while those that did not meet the criteria were eliminated.

Pre-IDI surveys were conducted on the remaining 360 students within the supported hypotheses in the second stage. The third pivotal phase introduced the Instructional Design Intervention (IDI). This intervention, specifically implemented with 30 participants selected from the original sample, played a significant role in the research process.

In the final stage, the 30 IDI participants completed a survey, generating the necessary data for conducting a paired-sample t-test analysis to compare the pre-and post-IDI results.

3.3. Research Population, Sample Size, and Sampling Procedures

3.3.1 Research Population

This study's subjects are full-time dance students from a public university in Nanjing, China. Four hundred one dance students are currently enrolled in the university, distributed across four grades: 107 first-year students, 104 second-year students, 94 third-year students, and 96 fourth-year students.

3.3.2 Sample size

According to the Morgan table, a sample size of 322 students will be selected from this population. Specifically, 86 students will be selected from the first year, 83 from the second year, 76 from the third year, and 77 from the fourth year. These students can be seen as the research sample of this study.

3.3.3 Sampling Procedures

The researcher conducted several sampling procedures, which were as follows:

Sampling 1: Sampling for the pilot survey and pilot test

The researcher randomly sampled 30 students by asking them to complete the questionnaire and provide feedback for the pilot survey and pilot test.

Sampling 2: Sampling for the pre-survey

For the pre-survey, the researcher sampled 401 students from different years at a public university in Nanjing, China, by distributing survey questionnaires on printed paper. Afterward, the researcher checked all responses and confirmed that 360 responses were valid.

Sampling 3: Sampling for IDI

The researcher randomly selected and sampled 30 voluntary students from the original sample to implement the Instructional Design Intervention (IDI).

Sampling 4: Sampling for the post-IDI survey

The 30 students who participated in the IDI were asked to complete a post-IDI survey questionnaire. All 30 responses were collected and confirmed as valid for further analysis.

3.4 Research Instruments

3.4.1 Design of Questionnaire

Step 1: Identifying questionnaire sources from three openly published articles (Butt & Ur Rehman, 2010; Farahmandian et al., 2013; Son et al., 2018).

Step 2: Adjusting and Presenting survey questionnaires on Chinese university students' Context.

Step 3: Implementing IOC.

3.4.2 Components of Questionnaire

Survey questionnaire items were composed of the following two parts:

Part 1: Basic information Questions. There were questions to gain basic info on the research population, including gender, age, and so on.

Part 2: A total of 22 questions are divided into six dimensions: curriculum (5 questions), teaching quality (4 questions), assurance (4 questions), empathy (3 questions),

learning environment (3 questions), and student satisfaction (3 questions).

3.4.3 IOC Results

To ensure the questionnaire's validity and reliability, the researcher invited five independent experts, scholars, or doctors from China to implement the Index of Item-Objective Congruence (IOC) evaluation. During the IOC assessment process, these independent experts, scholars, or doctors rated each questionnaire item, with +1 indicating congruence, 0 indicating questionable, and -1 indicating incongruence.

In this research, all questionnaire items had an IOC value greater than 0.67; therefore, the researcher retained all questionnaire items. This process ensured that the questionnaire content was consistent with the research objectives and had good content validity. By inviting experts from different backgrounds within China to participate in the IOC evaluation, the researcher further enhanced the applicability and reliability of the questionnaire in the Chinese context.

3.4.4 Pilot survey and Pilot test results

To assess the reliability of the questionnaire, the researcher conducted a pilot survey with 30 randomly selected students, asking them to complete the survey questionnaire and provide feedback. Following the pilot survey, the researcher employed Cronbach's Alpha internal consistency reliability test, which requires values to be equal to or greater than 0.7 (Nunnally & Bernstein, 1994). The Cronbach's Alpha test results demonstrated high reliability for each construct in the questionnaire, confirming its internal consistency. This process ensures that the questionnaire items within each construct are closely related and that the intended variables are measured accurately.

Table 1: Pilot Test Result

Variables	No. of items	Sources	Cronbach's Alpha	Strength of association
Students' satisfaction	3	Farahmandian et al. (2013)	0.914	Excellent
Curriculum	5	Farahmandian et al. (2013)	0.814	Good
Teaching quality	4	Farahmandian et al. (2013)	0.827	Good
Assurance	4	Son et al., (2018)	0.863	Good
Empathy	3	Son et al., (2018)	0.947	Excellent
Learning environment	3	Butt and Ur Rehman (2010)	0.953	Excellent

4. Results and Discussion

4.1 Results

4.1.1 Demographic Profile

The researcher demonstrated the demographic profile of the entire research population (n=360), followed by a selected students' group (n=30), who participated in the IDI plan, as shown in Table 2.

Table 2: Demographic Profile

Entire Research Population (n=360)		Frequency	Percent
Gender	Male	171	47.5%
	Female	189	52.5%
Year	Freshman	117	32.50%
	Sophomore	100	27.78%
	Junior	87	24.16%
	Senior	56	15.56%
Age	18-19	117	32.5%
	20-21	126	35%
	22-23	93	25.56%
	24 years and above	24	6.94%
Total		**360**	**100%**
IDI Participants (n=30)		**Frequency**	**Percent**
Gender	Male	10	66.67%
	Female	20	33.33%
Year	Freshman	6	20%
	Sophomore	7	23.33%
	Junior	8	26.67%
	Senior	9	30%
Age	18-19	12	40%
	20-21	18	60%
	22-23	0	0%
	24 years and above	0	0%
Total		**30**	**100%**

4.1.2 Results of multiple linear regression

The researcher conducted a multiple linear regression (MLR) analysis on 360 survey questionnaire results to examine the support for each hypothesis. The study included five research hypotheses, all related to the dependent variable of student satisfaction with online courses.

To assess the presence of multicollinearity, the researcher conducted a variance inflation factor (VIF) analysis. The results indicated that multicollinearity is not a concern, as the VIF values were below 5, ranging from 1.440 to 1.638, which is considered acceptable (Hair et al., 1995).

The R-squared (R^2) value in the multiple linear regression model, which included five independent variables (Curriculum, Teaching Quality, Assurance, Empathy, and Learning environment), was found to be 0.361. This

indicates that the model can account for 36.1% of the variability in student satisfaction with online courses, thus demonstrating its ability to explain a significant portion of the variance in student satisfaction with online courses.

The MLR analysis revealed that all five independent variables significantly impacted student satisfaction with online courses. Curriculum ($\beta = 0.170$, $t = 3.342$, $p = 0.001$), Teaching quality ($\beta = 0.223$, $t = 4.340$, $p = 0.000$), and Assurance ($\beta = 0.165$, $t = 3.174$, $p = 0.002$) were significant at the $p < 0.01$ level, while Empathy ($\beta = 0.118$, $t = 2.300$, $p = 0.022$) and Learning environment ($\beta = 0.134$, $t = 2.471$, $p = 0.014$) were significant at the $p < 0.05$ level.

Table 3: The multiple linear regression of five independent variables on students' satisfaction with online course

Variables	Standardized Coefficients Beta value	t-value	p-value	VIF	R^2
Curriculum	0.170	3.342	0.001**	1.440	0.361
Teaching quality	0.223	4.340	0.000*	1.459	
Assurance	0.165	3.174	0.002*	1.503	
Empathy	0.118	2.300	0.022*	1.458	
Learning environment	0.134	2.471	0.014*	1.638	

Note: p-value <0.05*, p-value <0.001**

In summary, the results of the multiple linear regression analysis supported hypotheses H1, H2, H3, H4, and H5; based on the results of the multiple linear regression analysis, the following hypotheses were developed for the subsequent (IDI):

H6: There is a significant mean difference in curriculum between pre-IDI and post-IDI.

H7: There is a significant mean difference in teaching quality between pre-IDI and post-IDI.

H8: There is a significant mean difference in assurance between pre-IDI and post-IDI.

H9: There is a significant mean difference in empathy between pre-IDI and post-IDI.

H10: There is a significant mean difference in learning environment between pre- and post-IDI.

H11: There is a significant mean difference in students' satisfaction between pre- and post-IDI.

4.2 IDI Design Process

The Instructional Design Intervention (IDI) was implemented over 14 weeks and was based on quantitative and qualitative data collected during the pre-IDI stage. The purpose of this research was to enhance student satisfaction with online dance courses at a public university in Nanjing, China. The IDI was conducted in chronological order, as illustrated in Figure 2.

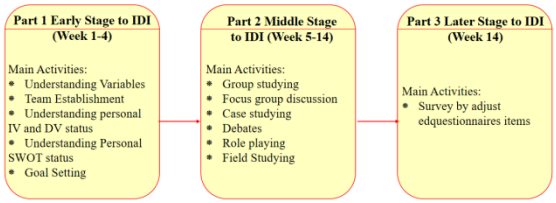

Figure 2: IDI Design Process

4.3 Results Comparison between Pre-IDI and Post-IDI

The researcher conducted a paired-sample t-test analysis on all five variables (Curriculum, Teaching Quality, Assurance, Empathy, and Learning environment) to identify significant differences in student satisfaction with online dance courses between the pre-and post-IDI phases. This analysis aimed to evaluate the effectiveness of the Instructional Design Intervention (IDI) in enhancing student satisfaction.

The paired-sample t-test was chosen as the appropriate statistical method because it allows for comparing means between two related groups, in this case, the same group of students before and after the intervention. By comparing the pre-and post-IDI scores, the researcher could determine whether the IDI significantly impacted student satisfaction with online courses across the five dimensions.

The tables below illustrate the results of the paired-sample t-test analysis for each of the five variables: Table 4: Paired-Sample T-Test Results.

Table 4: Paired-Sample T-Test Results

Variables	Mean	SD	SE	p-value
Curriculum				
Pre-IDI	3.253	0.992	0.181	P<0.05
Post-IDI	3.287	1.037	0.189	
Teaching quality				
Pre-IDI	3.383	0.827	0.151	P<0.05
Post-IDI	3.567	0.944	0.172	
Assurance				
Pre-IDI	3.342	0.997	0.182	P<0.01
Post-IDI	3.458	1.079	0.197	
Empathy				
Pre-IDI	3.289	1.031	0.188	P<0.05
Post-IDI	3.333	1.021	0.186	
Learning environment				
Pre-IDI	3.311	0.986	0.180	P<0.01

Variables	Mean	SD	SE	p-value
Post-IDI	3.689	1.042	0.190	
Students' satisfaction with online course				
Pre-IDI	3.456	1.034	0.189	P<0.01
Post-IDI	3.778	1.053	0.192	

Table 4 illustrates the results of the paired-sample t-test analysis comparing pre-IDI and post-IDI stages for the five variables related to student satisfaction with online courses.

The analysis revealed a significant increase in Curriculum between pre-IDI (M=3.253, SD=0.992, SE=0.181) and post-IDI (M=3.287, SD=1.037, SE=0.189), with P<0.05. Therefore, the results support the hypothesis that there is a significant difference in Curriculum between pre- and post-IDI stages, with a mean value difference of 0.034.

Similarly, there was a significant increase in Teaching quality between pre-IDI (M=3.383, SD=0.827, SE=0.151) and post-IDI (M=3.567, SD=0.944, SE=0.172), with P<0.05 and a mean value difference of 0.184. This supports the hypothesis that there is a significant difference in Teaching quality between pre- and post-IDI stages.

Assurance also showed a significant increase between pre-IDI (M=3.342, SD=0.997, SE=0.182) and post-IDI (M=3.458, SD=1.079, SE=0.197), with P<0.01 and a mean value difference of 0.116. This finding supports the hypothesis that there is a significant difference in Assurance between pre- and post-IDI stages.

There was a significant increase in Empathy between pre-IDI (M=3.289, SD=1.031, SE=0.188) and post-IDI (M=3.333, SD=1.021, SE=0.186), with P<0.05 and a mean value difference of 0.044. This supports the hypothesis that there is a significant difference in Empathy between pre- and post-IDI stages.

The Learning environment showed a significant increase between pre-IDI (M=3.311, SD=0.986, SE=0.180) and post-IDI (M=3.689, SD=1.042, SE=0.190), with P<0.01 and a mean value difference of 0.378. This finding supports the hypothesis that there is a significant difference in Learning environment between pre-IDI and post-IDI stages.

Finally, there was a significant increase in overall Students' satisfaction with online courses between pre-IDI (M=3.456, SD=1.034, SE=0.189) and post-IDI (M=3.778, SD=1.053, SE=0.192), with P<0.01 and a mean value difference of 0.322. This supports the hypothesis that there is a significant difference in overall Students' satisfaction with online courses between pre- and post-IDI stages.

The researcher drew the following conclusions according to the paired-sample t-test results demonstrated above. First, all five variables and overall student satisfaction significantly improved between the pre-and post-IDI stages. Second, the researcher found a significant increase in student satisfaction with the Learning environment and overall Student satisfaction with online courses between the pre-IDI and post-IDI phases.

These findings suggest that the Instructional Design Intervention (IDI) effectively enhanced student satisfaction with online dance courses at a public university in Nanjing, China, particularly regarding the Learning environment and overall satisfaction.

5. Conclusions, Recommendations and Limitations

5.1 Conclusions & Discussions

The study investigated the influence of five independent variables, namely Curriculum, Teaching Quality, Assurance, Empathy, and Learning environment, on the dependent variable, Students' satisfaction with online courses. The research employed a comprehensive research design, data collection, and methodology to draw meaningful conclusions.

The study's results demonstrated that certain factors significantly impacted student satisfaction with online courses. Specifically, curriculum, teaching quality, assurance, empathy, and learning environment significantly influence students' satisfaction with online courses. This suggests that focusing on these five factors can enhance student satisfaction among those enrolled in online dance courses at the university.

The findings from the paired-sample t-test comparison showed a significant difference in student satisfaction with online courses between the post-IDI and pre-IDI stages. This suggests that the 14-week Instructional Design Intervention significantly impacted student satisfaction with online courses.

In conclusion, the study provides valuable insights into the factors that influence student satisfaction with online courses in the context of dance education at a public university in Nanjing, China. The research highlights the importance of Curriculum, Teaching Quality, Assurance, Empathy, and Learning environment in shaping student satisfaction. It demonstrates the effectiveness of targeted interventions in improving the online learning experience. These findings can inform the design and delivery of online courses in dance education and contribute to the broader understanding of factors that influence student satisfaction in online learning environments.

5.2 Recommendations

The findings of this study underscore the importance of various factors in enhancing student satisfaction within online dance courses at the university level. Therefore,

educational institutions should consider strategies that improve the Curriculum, Teaching Quality, Assurance, Empathy, and Learning environment, which are crucial for student satisfaction and success. To achieve this, institutions could regularly review and update their curricula to ensure they remain relevant, engaging, and aligned with industry standards and student needs.

Further, the study highlights the need for high-quality teaching in online dance courses. Instructors should be encouraged to adopt best practices in online pedagogy, such as fostering interactive discussions, providing timely feedback, and using diverse teaching methods to cater to different learning styles. Institutions should also invest in professional development opportunities for faculty to enhance their online teaching skills and stay current with emerging technologies and trends in dance education.

Another critical aspect of student satisfaction is assurance, which encompasses clear communication, well-organized course materials, and reliable technology. Institutions should prioritize developing and maintaining robust online learning platforms, provide clear guidelines and expectations for online courses, and offer adequate technical support to students and faculty.

Empathy, which involves understanding and addressing students' needs and concerns, is essential for creating a supportive and inclusive online learning environment. Instructors should be encouraged to adopt a caring and empathetic approach, regularly check in with students, and provide assistance and accommodations when needed. Institutions can also offer counseling and mentoring services to support students' emotional well-being and academic success.

The Learning environment, which encompasses course design, interactivity, and collaboration, significantly influences student satisfaction. Online dance courses should promote active learning, encourage peer interaction, and allow students to apply their knowledge and skills in authentic contexts. Institutions can also explore innovative ways to incorporate virtual performances, guest lectures, and industry partnerships to enrich the online learning experience.

The 14-week Instructional Design Intervention (IDI) positive impact in this study indicates that similar interventions could be beneficial if adopted more widely. Therefore, it is recommended that such interventions be trialed across various online dance courses and institutions to validate their effectiveness and establish best practices for online dance education.

Finally, ongoing research and evaluation are essential for understanding and improving student satisfaction in online dance courses. Institutions should regularly collect and analyze data on student satisfaction, learning outcomes, and course effectiveness to inform continuous improvement efforts. By prioritizing these recommendations, educational institutions can create high-quality online dance courses that meet students' needs and expectations, ultimately leading to greater student satisfaction and success.

5.3 Limitations for Future Research

While this study contributes to our understanding of the factors influencing student satisfaction in online dance courses, it has limitations. The sample size, particularly for the IDI, was relatively small and confined to a single university in Nanjing, China, which may limit the generalizability of the results. Future research could benefit from a larger and more diverse sample that includes multiple institutions and geographical regions to provide a more comprehensive understanding of student satisfaction in online dance education.

Additionally, the study was conducted over a single academic term; a longitudinal approach could offer a richer perspective on the sustainability of the observed effects over time. Tracking student satisfaction and the impact of interventions across multiple terms or even years could provide valuable insights into the long-term effectiveness of the strategies employed.

The absence of a control group in the IDI phase is also a limitation; future research should include control groups to establish more robust causal relationships between the interventions and student satisfaction. This would allow researchers to attribute satisfaction level changes to the interventions implemented more confidently.

Another area for future research is the inclusion of qualitative analyses to complement the quantitative data. Qualitative data, such as interviews or focus groups, could provide richer insights into the students' perspectives, experiences, and challenges within online dance courses. This information could help identify areas for improvement and guide the development of more targeted interventions.

Furthermore, as technology advances, the tools and platforms used for online learning are likely to evolve. Subsequent studies should explore how new technologies, such as virtual or augmented reality, affect student satisfaction and learning outcomes in online dance courses. Researchers should also investigate how these technologies can be effectively integrated into the curriculum to enhance the learning experience.

Lastly, future research could explore the perspectives of faculty members and administrators involved in online dance education. Understanding their experiences, challenges, and best practices could provide a more holistic view of the factors contributing to student satisfaction and inform the development of more effective online dance programs.

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