Research on the Current Situation, Existing Problems and Countermeasures of Informationized Teaching in Higher Vocational Education ——Take Wedding Planning Courses as an Example

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Abstract. This study is based on the broader context of the Chinese wedding industry, wedding education, and the development of information technology in education. The scope of the research focuses on higher vocational education courses related to wedding planning. Through the front-line teaching of researchers, the empirical method is used to conduct process research; at the same time, the interview method is used to obtain relevant information and data; Repertory Grid Analysis and text analysis are used for data compilation and analysis. It has been found that there are a large number of information technology teaching platforms, but the coverage of informationized teaching is insufficient. Furthermore, the level of teachers' information technology skills still needs improvement, and informationized teaching has not fully aligned with the needs of the industry. Therefore, relevant suggestions and countermeasures are proposed: standardize the construction of information technology platforms, increase investment in information technology teaching, enhance teachers' information technology literacy, and strengthen communication with enterprises.

Keywords: Higher vocational education; Informationized teaching; Existing problems; Countermeasure research

1 Introduction

1.1 Current Situation and Research Significance of Vocational Education Informatization in China

In 2022, China fully implemented the national education digitalization strategic action. In February 2023, Huai Jinpeng, the Minister of Education of China, delivered a keynote speech titled "Digital Transformation and the Future of Education" at the World Digital Education Conference. He emphasized that the Chinese government highly values the development of digital education and considers it an integral part of the digitalization efforts in China[1].Digital education is a trend of the times and a focal point of national educational development. Therefore, studying the research on information technology in teaching holds significant practical significance.

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1.2 Current situation and Research Significance of wedding education in China

According to the latest "Undergraduate Major Directory of Regular Higher Education Institutions" released by the Ministry of Education of China in 2023, there is no specific major in wedding planning at the undergraduate level[2]. At the higher vocational education stage, a major in wedding services and management has been established[3]. In China, Beijing Vocational College of Social Management was the first school to establish a major in wedding services, which was established in 2007. Other majors such as exhibition planning and management, cultural creativity and planning, hotel management, and digital operations may also offer wedding-related courses based on demand. Wedding education in China is relatively developed at the higher vocational education stage, making it a typical sample for research purposes.

According to data from Tianyancha, as reported by The Paper, there are over 1.05 million existing wedding-related enterprises in China in 2023[4]. China has a large population base and a vast number of wedding planning enterprises. Therefore, conducting research on wedding education and teaching issues is of significant importance for enhancing the professional quality of practitioners and improving the quality of talent cultivation.

2 Review of research

2.1 Domestic and international research

Domestic research. (CNKI) database using the keyword "informationized teaching in higher vocational education" yielded 3,692 literature articles. Ma Guixiang employed thematic statistical clustering and empirical methods to conduct a comprehensive review and analysis of vocational education informationization literature in China over the past 40 years. The research categorized the digitalization of vocational education into three developmental stages: computer-based, internet-based, and big data-based[5]. Zhou Ping et al. conducted an analysis of the current status of informationized teaching in project-based courses in vocational colleges using SPSS software. The study revealed issues such as poor teaching effectiveness and untimely feedback on instructional information[6]. Yang Yang believes that relying on information technology teaching methods, such as using online open courses, developing and utilizing MOOC resources, and combining online and offline teaching, can enhance teaching effectiveness and enhance learners' sense of wedding culture identity. At the same time, he also believes that in the curriculum design of wedding planning majors, there has always been a focus on Western and modern weddings, emphasizing the cultivation of professional skills in hand drawing, design, videography, makeup, and hosting. This has led to students not realizing the importance of theoretical courses and skills-based courses in cultural subjects[7]. Wang Yuhan's research focuses on the application of wedding virtual simulation experiments in junior high school intangible cultural heritage education[8].

International Research.The concept of Information Literacy originated in the library and information science field. In 1974, Paul Zurkowski, the President of the American Information Industry Association, proposed the term "information literacy" in his report titled

"Information Industry Environment, Relationships, and Order." He defined information literacy as "the ability to acquire relevant information, solve practical problems, and master information tools through training" [9]. Li Yanfen et al. suggest the popularization of teaching information technology applications, improvement of teachers' information literacy, the development of teachers' instructional technology capabilities, and the establishment of evaluation criteria for information literacy among vocational college teachers, incorporating information literacy into the teacher assessment system [10].

2.2 Research Review and Evaluation

In the literature research on teaching wedding planning courses, scholars have primarily focused on the practical aspects of curriculum instruction. They often employ project-based teaching methods or task-driven approaches, and analyze and summarize practical teaching forms such as wedding showcases and industry internships. The mastery of information technology is equally important for practical wedding planning skills, and integrating information technology into teaching is also a current trend. However, this topic has received little attention in research. Regarding the issue of information technology in teaching wedding planning courses, the literature mostly mentions online learning conducted through web platforms, with limited research on the design of wedding planning software. Overall, the existing literature shows insufficient emphasis on the information technology literacy of teachers and students in wedding planning courses.

3 Materials and Methods

This study utilized an empirical approach based on the researcher's frontline teaching experience, as well as a semi-structured interview method, to analyze the collected data through textual content analysis. The Repertory Grid Analysis was employed to compile key conceptual information, thereby summarizing the current status and existing issues of information technology-based teaching in wedding planning courses. Additionally, improvement suggestions were proposed.

3.1 Establishment of research samples

The establishment of research samples primarily utilized non-probability sampling. The specific interviewees included teachers and students from 6 different higher vocational schools offering wedding-related courses. A total of 38 individuals were interviewed, with 37 valid samples, resulting in an effective response rate of 97.37%. To enhance the validity of the interviews, the interviewees were required to have relevant work experience, teaching experience, or systematic learning experience. Details are provided in Table 1.

Table 1. Overview of Interview Samples

Serial number	Interviewee type	Interviewees qualifications	Valid samples	Sample proportion (%)
1	Wedding planning course teachers	Taught wedding planning courses for more than 2 semesters	7	16.92%

2	Students studying wedding planning courses	Received systematic learning of more than 3 wedding planning courses	30	81.08%
Total			37	100%

3.2 Interview data acquisition

Pre-interview: establish an interview outline. The interview questions include the extent of information technology teaching in wedding planning courses, the specific embodiment and acceptance of information technology, common information technology tools, teaching problems and suggestions for improvement, etc. Meanwhile, the interviewees were determined and a rapport was established. The interview questions were formulated and a small-scale test was conducted to revise the interview questions and improve the validity of the interviews.

Interview execution: The interviews were conducted from January to May 2023, with an average duration of 15 minutes per interviewee. Test-retest method was used to assess reliability. The researcher conducted two interviews with the same interviewee, with a 3-month interval. If there were inconsistent responses from the interviewee between the two interviews, the interview sample was invalidated.

3.3 Interview Data Analysis

Key constructs acquisition. The interview content is classified and coded, and the interview data of teachers and students are represented by codes T and S respectively. Using Repertory Grid Analysis to compile information on the constructs, 66 T ideas and 81 S ideas were initially obtained. Different interviewers may have used different expressions for the same construct, such as "struggling to learn" and "difficult to master". The researcher agreed to categorize them according to their meaning, and after content text analysis, 35 T key ideas and 40 S key ideas were obtained.

High-frequency constructs screening. This study draws on the two-eight law proposed by the Italian economist Pareto in the late 19th and early 20th centuries, by ranking key constructs by frequency and selecting the top 20% of frequency as high-frequency constructs for analysis.

Conceptual classification. High frequency constructs are classified according to the "cognitive-emotional" framework. Among them, cognitive constructs mainly refer to the objective existence of things in wedding information technology teaching, while emotional constructs mainly refer to teachers' and students' subjective understanding and evaluation of course information technology teaching. The classification table is shown in Table 2.

Table 2. Classification of Constructs

Serial number	Construct type	Conceptual content
1	Cognitive construct	Names of the wedding information technology teaching tools
2	Emotional construct	Wedding information technology teaching fondness, competence evaluation, problems, suggestions, etc.

4 Results & Discussion

4.1 Results

Cognitive constructs: classification of information technology teaching tools and their advantages and disadvantages.

Through data compilation and analysis, a total of 22 cognitive constructs of information technology teaching tools for wedding planning courses were obtained. The researchers categorized them into four main types and conducted a strengths and weaknesses analysis with the following results.

Category 1: informatization platforms, including the National Smart Education Public Service Platform, Smart Vocational Education, China University MOOC, Xuexi.cn, Zhishu Tree, Superstar Study. The information-based platform has obvious advantages, with access to a huge amount of structured, semi-structured and unstructured data types, data collection is accompanied, automated and multi-sourced, and teaching data, especially student learning behavior data, is intelligently analyzed and results are obtained instantly. The interface of the data results is simple and clear, which is important for teachers' teaching interaction and teaching diagnosis, as well as for students' learning monitoring and evaluation. The downside is that there are a large number of information technology platforms and no unified standard.

Category 2: informationized teaching systems.At present, there is only the VR wedding planning simulation teaching system developed by Xunhu in the information teaching system of wedding development, client and cloud platform. The software is connected based on the UNITY3D virtual simulation platform, and the data is updated in real time. The teaching system consists of 13 module systems and more than 1200 models. The system function is modularized, the module function is informatized, and the information function is scene-based, which is simple and easy to learn and use. The disadvantage is that the purchase cost is high, and it can only meet the teaching time of 28 hours.

Category 3: information design software, including 7 specialized design software such as 3DMAX, CAD, Photoshop, Sketchup, V-ray, Canva, Lightroom.The advantages of professional wedding design software are wide range of applications, the high level of technical refinement of information technology and excellent design of finished products, but the disadvantage is that it is difficult to learn to operate and requires a long time to learn and practice.

Category 4: information teaching aids, such as Wedding Jie, Daoxila, Wedding Bazaar, Wedding Assistant, Wedding Invitation, Official Wedding Expo Websites, 720 Panorama Websites. These information tools are zero cost, easy to access and simple to operate, but the downside is that there are so many types and so much information that they need to be sifted through.

Emotional Constructs: A Compilation of the Current Situation and Existing Problems of Information Technology Teaching.

Through analysis, 7 emotional high-frequency T constructs and 8 S constructs were obtained, as shown in Table 3 and Table 4.

Table 3. High-frequency Emotional Construal Form for Teachers' Information-based Teaching Interviews

Coding	Teachers' High Frequency Emotional Constructs	Frequency
T1	Insufficient investment in information technology teaching	7
T2	Level of information technology should be strengthened	7
T3	Students with weak foundation	7
T4	Insufficient degree of teaching information technology	7
T5	High cost of information technology teaching tools	5
T6	Insufficient teaching hours	5
T7	Lack of practical experience in enterprises	5

Table 4. High-frequency Emotional Construal Form for Students' Information-based Learning Interviews

Coding	Students' High Frequency Emotional Constructs	Frequency
S1	Necessity to learn information technology tools	25
S2	Insufficient depth of learning in information technology software	23
S3	High difficulty in learning information technology software	20
S4	Insufficient degree of teaching information technology	19
S5	Lack of VR teaching system for wedding planning	15
S6	Dislike for learning information technology tools	9
S7	Dislike for learning information technology tools	7
S8	Insufficient level of teachers' information technology skills	6

4.2 Discussion

The research has identified several issues with the current information technology teaching in higher vocational wedding planning courses. Details are as follows.

First, there are a large number of information-based teaching platforms. Different platforms have different algorithms and operating systems in the background of the system, which is not conducive to users' in-depth grasp of platform operating technologies. Students need to register on different platforms for different courses, which will increase the redundancy of learning and is not conducive to the integration of teaching resources.

Second, the coverage of informatization teaching is insufficient, and the duration of informatization learning is insufficient. Insufficient investment in school informatization construction, especially private schools, is the norm for school-running hardware to lag behind public schools. The level of classroom information teaching is not high enough, and some schools also lack the financial budget to purchase the wedding teaching system. There are many information software in the wedding industry, but not all vocational colleges and universities have opened relevant courses to learn, and the information teaching of some schools simply stays on the online learning platform, and students cannot master at least one wedding information software technology. At the same time, wedding design courses are usually only offered for one semester, and students lack the foundation of design learning, so they often feel that it is difficult to learn and cannot master software technology in depth.

Third, the information technology level of teachers still needs to be improved. Some teachers have not kept up with the pace of the information technology teaching era to continue their

studies, and their learning lags behind. For some non-design teachers, the practical use of wedding software, information platform, and the skills of using teaching system are still lacking.

Fourth, information technology teaching is not fully aligned with the needs of enterprises. Some teachers lack practical experience in the industry and have not conducted thorough research on talent development. They have limited knowledge of wedding planning software, which leads to a disconnect between teaching and the industry reality.

5 Conclusions

To address the current situation and issues in the informatization teaching of wedding planning courses, the following strategies are proposed.

First, standardize the construction of information technology platforms. Relevant education departments should unify information-based teaching platforms and categorize them according to subject types or learning levels. Streamline the number of platforms, strengthen platform system algorithms, and improve the breadth and depth of data intelligent analysis.

Second, increase funding for information technology teaching. Huai Jinpeng, the current Minister of Education of China, proposed that digital education should be fair and inclusive, and that digital technology should not aggravate the injustice of education. Therefore, it is suggested that the government should increase support for private education funds, and schools should increase investment in information-based teaching, build information-based smart campuses and smart classrooms, reasonably collect teaching and learning behaviors, conduct in-depth analysis, and use information technology to improve management , teaching and learning quality.

Thirdly, enhance teachers' information technology literacy. In December 2022, the Ministry of Education issued the "Digital Literacy for Teachers" standards for the education industry. It sets requirements in five aspects: digital awareness, knowledge and skills of digital technology, digital application, digital social responsibility, and professional development[11]. Therefore, management departments, schools, and teachers themselves should adhere to these five requirements to improve and adapt to the digital society and industry's development.

Fourthly, strengthen communication with enterprises. Enterprises' specialists can be hired to teach at schools, conduct in-depth research in enterprises, and jointly develop talent training programs to ensure that information technology education meets industry needs. According to the actual situation, the number of design course hours is appropriately increased to improve the industry suitability of talent training as well as to enhance the feedback of graduates' work and adopt reasonable suggestions.

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