

The Level of Implementation of Online Education of Chinese Painting in Terms of Resources Investment in Junior High Schools

Yongfen Wang, Ramir S. Austria

University of the Cordilleras, Philippines

Abstract: This study focuses on the level of implementation of online Chinese painting education in terms of resources investment in junior high schools. Adopting a quantitative method, the research targets Chinese painting teachers and school administrators from five junior high schools in Jinan's High-tech Zone, with a total of 130 respondents. Data were collected via an online questionnaire using a 4-point Likert scale, and analyzed through weighted mean calculations to assess implementation levels. The findings reveal that the overall implementation of online Chinese painting education is at a moderately implemented level (overall mean = 3.22). Among the key indicators, "abundant financial support from government or social organizations" (mean = 3.38), "specialized online Chinese painting teaching effect evaluation system" (mean = 3.35), and "online platforms for displaying and exchanging Chinese painting works" (mean = 3.27) are fully implemented, providing a solid foundation for online teaching. In contrast, "special online Chinese painting classrooms for teachers' Chinese painting teaching" (mean = 2.92) is the lowest-rated indicator, indicating moderate implementation and room for improvement in dedicated teaching spaces and equipment. Based on the results, the study recommends maintaining current resource investment, strengthening teacher professional development, optimizing course design, and establishing regular monitoring mechanisms. These strategies aim to enhance the quality and sustainability of online Chinese painting education, facilitating the integration of traditional cultural heritage with digital technology in junior high school settings.

Keywords: Online education, Chinese painting, resources investment.

1. Background of Study

Zheng (2020) indicated that "In this modern, fast-paced world, online teaching has evolved as an increasingly prevalent method of instruction. Furthermore, with the advent of the latest technology, students can now attend online classes and acquire education from the convenience of their schools or homes. As a result, online teaching platforms have expanded to fulfill the rising demand for virtual education [1]."

Li (2022) also explained this phenomenon. "With the rapid development of high technology in the new era, the speed and cycle of knowledge renewal are getting faster and faster, and the continuous progress of society makes school education more and more valued by people. It has become an important subject for each school to study the education that people are satisfied with and cultivate high-quality talents for the society. In social education, school education, as institutionalized, organized and targeted education, accounts for a large proportion and has a very special and important status. Therefore, it plays a pivotal role in the cultivation and development of people and meets the expectations of society. To this end, schools should learn from the experience in the development process of students, constantly explore and make continuous progress, and do education that people are satisfied with [2]."

The rapid development of online education has provided a favorable foundation for online Chinese painting teaching. This thesis aims to study the level of implementation of online education of Chinese painting in terms of resources investment in junior high schools. The Quantitative Method will be used to determine the level of implementation of online education of Chinese painting in terms of resources investment.

2. Population and Locale of the Study

There are five senior high schools in Gaoxin District, Jinan City of Shandong Province. The researcher will choose these five senior high schools as the research object. Considering the ethical reason that the young age of these five junior high school students, the researcher will choose the total enumeration of the Chinese painting teachers and school administrators from these five junior schools as respondents of the questionnaire. The total enumeration of Chinese painting teachers is seventy six, and the total enumeration of school administrators is fifty four. Therefore, the total enumeration of the respondents of questionnaire is one hundred and thirty.

The total respondents of questionnaire are shown in the following table.

Table 1. Respondents of Questionnaire

Schools	Total number of Chinese painting teachers	Total number of school administrators
Jinan High-tech Zone Experimental Middle School	10	9
Jinan High-tech Zone First Experimental School	17	11
High School Attached to Shandong Normal University	18	12
Jinan High-tech Zone Licheng No. 2 Middle School	11	9
Jinan High-tech Zone Quancheng Road No. 1 Middle school	20	13
Total	76	54
Total Respondents	130	

3. Data Gathering Procedure

Before collecting data, the researcher will contact with the presidents of five junior schools. After explaining the purpose and content of this study in detail, obtain the consent of the presidents, and then the researcher will send the online questionnaire to the chosen respondents.

The questionnaire of this study will be distributed and collected through “Questionnaire Star Applet”. And considering the large number of respondents, it may not be

possible to complete the collection of all questionnaire data in a short time, so the data gathering period of questionnaire is one week.

4. Treatment of Data

The 4-point Likert Scale and overall weighted mean will be used to treat the questionnaire data. The weighted mean will be calculated to indicate the level of implementation of online education of Chinese painting in schools in terms of resources investment.

Table 2. Likert Scale for the Level of Implementation of Online Education of Chinese Painting in Schools

Statistical Limit	Qualified Value	Interpretation
3.26-4.00	Fully Implemented	Students can fully enjoy the convenience of the online Chinese painting education provided by the school in terms of resources investment.
2.51-3.25	Moderately Implemented	Students feel that there are some deficiencies in the online education of Chinese painting at the school, particularly in terms of resources investment.
1.76-2.50	Partially Implemented	Students believe that the online education of Chinese painting at the school has made no significant investment in terms of resources investment.
1.00-1.75	Not Implemented	Students consider that the school has made no investment for online education in Chinese painting, in terms of resources investment.

5. Presentation, Analysis and Interpretation of Data

The following table 3 shows the different level of

implementation of online education of Chinese painting in schools along resources investment.

Table 3. The level of implementation of online education of Chinese painting in schools along resources investment

Indicator	Mean	Description
abundant financial support from government or social organizations for students to learn Chinese painting online	3.38	Fully Implemented
specialized online Chinese painting teaching effect evaluation system	3.35	Fully Implemented
online platforms for displaying and exchanging Chinese painting works	3.27	Fully Implemented
online material library to support for online Chinese painting teaching and learning	3.19	Moderately Implemented
special online Chinese painting classrooms for teachers' Chinese painting teaching	2.92	Moderately Implemented
Overall Mean	3.22	Moderately Implemented

As can be seen from the above table, “abundant financial support from government or social organizations for students to learn Chinese painting online” (3.38) is the highest mean among the five indicators. It is fully implemented in the aspect of resources investment in the level of implementation of online education of Chinese painting in schools in these five junior high schools, which means the respondents have enough confidence in abundant financial support from government or social organizations for students to learn Chinese painting online.

It indicates that these five schools are equipped with an adequate number of financial support from government or

social organizations for students to learn Chinese painting online, which serves as a solid foundation for carrying out this type of education.

As Lu (2023) said that “The financial support from the government and social organizations is of great significance for online Chinese painting education in high schools, mainly manifested in aspects such as resource development, technology application, teacher training, and popularization and promotion. Financial support can facilitate the construction of the national digital education resource public service system, providing funding for the development of high-quality online Chinese painting courses, virtual

simulation experiments, and multimedia textbooks, thereby addressing the issue of resource scarcity in remote areas [3].”

It also can be concluded from the above table, “specialized online Chinese painting teaching effect evaluation system.” (3.35) peaks at No.2 highest in the five indicators, which is also fully implemented in the five high schools. It shows that the respondents think they have specialized online Chinese painting teaching effect evaluation system in their schools.

For example, on the official website of Jinan High-tech Zone Experimental Middle School, there is a module specifically designed for online Chinese painting education. This system includes a module for evaluating teaching effectiveness, and both teachers and students can conduct anonymous evaluations by logging into their respective accounts. The online Chinese painting education at Jinan High-tech Zone First Experimental School is conducted on the Superstar Learning Platform.

Superstar Learning Platform, as a comprehensive learning platform specifically designed for mobile terminals, integrates a variety of teaching and learning functions. It enables users to manage courses, view course details, submit assignments, and have objective questions automatically scored by the system, with subjective questions being graded by teachers.

Additionally, it supports online examinations and has abundant resource-sharing functions. Users can upload and download learning materials such as documents, images, and videos. The interactive communication function allows students and teachers to discuss and answer questions in real time during the course, while the learning record function enables users to check their learning progress and grades at any time.

This app also has a function for course evaluation. All teachers and students can make evaluations under their real names, and can fully express their opinions and suggestions about this course. The relevant online Chinese painting teachers can also see these suggestions and, based on the students’ demands, design the course teaching and improve the teaching methods.

Liu (2025) express his opinion on the significance of the evaluation system for online Chinese painting education to schools, students and teachers.

The evaluation system for online Chinese painting education is a core supporting mechanism for promoting the standardized, high-quality and sustainable development of this emerging teaching model. Its value is not limited to simple assessment but penetrates into the entire teaching process, bringing profound and multi-dimensional significance to schools, students and teachers, and effectively optimizing the ecological balance of online Chinese painting education [4].

For schools, this evaluation system serves as both a “measurement scale” for teaching effectiveness and a “decision-making basis” for educational reform. On one hand, it helps schools objectively judge whether their online Chinese painting courses meet the requirements of inheriting traditional culture and adapting to modern educational concepts—for example, evaluating whether the curriculum content covers core techniques (such as line drawing, ink wash, and composition) and cultural connotations (such as the artistic conception of traditional paintings and the stories of famous artists), and whether the teaching methods (live broadcasts, pre-recorded videos, interactive workshops) can effectively improve students’ learning engagement. On the

other hand, through the analysis of evaluation data (including students’ attendance rate, homework completion quality, skill mastery level, and satisfaction with courses), schools can accurately identify shortcomings in teaching, such as insufficient display of painting details in video courses or lack of real-time interaction in live classes.

Based on this, schools can adjust resource allocation: increasing investment in high-definition shooting equipment to present ink blending effects more clearly, or organizing training for teachers’ online teaching skills to enhance interactive design. In the long run, a sound evaluation system can also help schools form their own characteristics in online Chinese painting education, improve their influence in the field of traditional culture education, and lay a solid foundation for the integration of online and offline Chinese painting teaching.

In conclusion, the evaluation system for online Chinese painting education is an indispensable part of promoting the healthy development of this field. It provides clear directions for schools’ educational management, personalized guidance for students’ learning, and strong support for teachers’ professional growth, ultimately contributing to the inheritance and innovation of Chinese painting art in the digital age.

Next is “special online Chinese painting classrooms for teachers’ Chinese painting teaching.”(2.92), which is the lowest mean among the five indicators. It is moderately implemented in the level of implementation of online education of Chinese painting in five schools. Some respondents stated that their schools do not have dedicated online classrooms for traditional Chinese painting teaching and learning, for example, teachers of High School Attached to Shandong Normal University conduct online traditional Chinese painting classes in the school’s multimedia classrooms, where some painting materials and equipment are not fully equipped.

Cai (2024) indicated the importance of teaching equipment in traditional Chinese Painting. Teaching equipment exerts a decisive impact on the quality of traditional Chinese painting (TCP) teaching, especially in online contexts, as it directly determines whether core technical guidance and practical learning can be effectively carried out. For high-quality and comprehensive equipment, it serves as a critical bridge connecting teachers’ demonstrations and students’ learning: during online TCP classes, high-definition cameras and professional projection systems allow teachers to clearly present subtle brushwork techniques—such as the light and heavy strokes in freehand brushwork or the fine line drawing in meticulous painting—on students’ screens, ensuring that every detail of ink application and color blending is visible [5].

Additionally, digital drawing tablets and specialized painting software can help teachers modify works in real time, intuitively pointing out problems in students’ drafts shared online; while sufficient physical materials (e.g., various types of rice paper, ink sticks, and traditional pigments) in multimedia classrooms enable teachers to demonstrate material characteristics on camera, helping students understand how different tools affect the final effect of works. In contrast, insufficient or inappropriate equipment will severely hinder TCP teaching effectiveness. If multimedia classrooms only have low-resolution cameras or poor audio-visual systems, teachers’ demonstrations of key techniques (like dry brush and wet brush transitions) will become blurred,

leading students to misunderstand or fail to grasp essential skills. The lack of professional tools—such as the absence of different grades of brushes for demonstration—also makes it impossible for teachers to fully explain the diversity of TCP expressions, limiting students’ understanding of traditional art forms (Cai, 2024).

Moreover, outdated equipment may cause technical glitches (e.g., screen freezes or unclear audio) during online classes, disrupting the teaching rhythm and reducing students’ engagement in practice. In summary, complete and professional teaching equipment is not only a basic prerequisite for smooth online TCP teaching but also a key factor in helping students master traditional techniques, inherit cultural connotations, and improve their artistic literacy. (Cai, 2024) [5].

6. Conclusions and Recommendations

From the above study, the level of implementation of online education of Chinese painting in schools is moderately implemented. Schools should keep the high implementation level of resources investment.

Based on the above analysis, this study concludes that the current implementation level of online education for Chinese painting in schools is moderate. While schools have achieved relatively high performance in resource investment, there remains considerable room for improvement in teaching design, teacher training, and student engagement. To further elevate the quality and effectiveness of online Chinese painting education, schools are recommended to:

(1) Maintain the current high level of resource investment, ensuring stable support in hardware, platforms, and digital course materials.

(2) Strengthen professional development for teachers, focusing on online teaching skills, digital media application, and interactive instructional design.

(3) Optimize course structures and learning activities, integrating real-time demonstration, peer evaluation, and project-based learning to enhance student participation and practical ability.

(4) Establish a regular monitoring and evaluation mechanism to dynamically assess implementation effects and adjust strategies accordingly.

Sustained and targeted improvement in these areas will help promote the deep integration of traditional Chinese painting education with digital technology, better inheriting and innovating this cultural heritage in the online learning environment.

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