



Research on the Design Application of Cantonese Opera Art in Primary School from the CTML: An Example of Guangzhou Huadu Qixing

Ya-Hui Hsieh¹, Xiaoman Geng², Ruei-Yuan Wang³

^{1,2}College of Fine Arts, Guangdong Polytechnic Normal University (GPNU)

³School of Sciences, Guangdong University of Petrochem Technology (GDUPT),

(Corresponding author: Ruei-Yuan Wang PhD)

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Abstract— *With the progress of the times and social changes, more and more people are realizing the necessity of inheriting intangible cultural heritage and their contribution to the content of school art education. This study aims to explore the integration and development of the design and application of Cantonese opera art in primary school art education. Drawing on the cognitive framework of American psychologist Richard Mayer's multimedia learning theory, this study takes Guangzhou Huadu Qixing Primary School as the research object and conducts pilot teaching in the form of extracurricular activities recruited by art interest groups. Empirical research is conducted through questionnaires and participatory observation methods. Research has shown that integrating Cantonese opera art into primary school art classrooms not only enhances students' sense of identification and pride in traditional culture, but also enhances their creativity in applying Cantonese opera art design. During the experimental teaching process, it was found that the current integration and development of Cantonese opera art through art education is still weak, due to insufficient protection of school art teaching resources and a serious lack of school art teachers. Therefore, optimization strategies for experimental teaching are proposed: firstly, to strengthen the promotion of school culture and resource sharing with local art museums; secondly, to adopt diverse teaching methods to increase students' interest in learning Cantonese opera; and third, to build excellent teacher training for Cantonese opera art.*



Keywords— *Cognitive theory of multimedia learning (CTML); Primary school art education; Cantonese opera art; Design Applications*

I. INTRODUCTION

Chinese culture has a glorious history of five thousand years. Throughout its long history, Cantonese opera has been a representative of Lingnan culture. Also

known as Cantonese opera, it is the largest art form in the Lingnan region and has rich historical and cultural connotations. With the development of social changes, Cantonese opera has not been scientifically disseminated

and inherited in some areas, and the number of inheritors and audiences is also decreasing. Which is resulting in Cantonese opera not receiving the attention and love of most young people and even facing the crisis of a lack of successors.

In recent years, the government has successively issued documents and measures for the inheritance and protection of Cantonese opera, increasing protection policies for the revitalization of Cantonese opera. In 2009, Cantonese opera was successfully listed on the World Intangible Cultural Heritage List by UNESCO. Subsequently, local governments successively issued protection documents, such as the "Regulations on the Protection and Inheritance of Guangdong Opera" issued by the Guangdong Provincial People's Government in 2017; In 2018, the Office of the People's Government of Zhongshan City issued the "Implementation Opinions on Strengthening the Protection, Inheritance, and Development of Cantonese Opera", which clearly stated the need to vigorously protect, inherit, and develop Cantonese opera culture, promote the prosperity of Cantonese opera industry, vigorously promote the popularization and education of Cantonese opera, strengthen the integration of Cantonese opera culture and educational resources, strengthen Cantonese opera general education, promote the entry of Cantonese opera into schools, and include students watching Cantonese opera performances in the content of primary and secondary school aesthetic education. Encourage students to enter theaters and art troupes to watch performances, with the expectation that every primary school student can enjoy at least one Cantonese opera performance per year. Actively build a youth extracurricular Cantonese opera art practice base and cultivate a young audience. Encourage schools to establish Cantonese opera clubs and collaborate with Cantonese opera performance groups to carry out campus Cantonese opera popularization activities (Zhongshan Municipal People's Government, 2024).

On the other hand, the concept of "cultivating socialist builders and successors with comprehensive development in morality, intelligence, physical fitness, aesthetics, and labor" is proposed, and the concept of "integration of five educations" is advocated. Especially after the release of the "Double Reduction" document,

according to the "Opinions on Comprehensively Strengthening and Improving the Art Education Work in Schools in the New Era," the state encourages the integration of disciplines and cross-disciplinary development as the core, promotes the high-quality development of art disciplines such as drama, opera, film, and television, enhances students' practical literacy in aesthetic education, humanistic literacy, and creative thinking, and enhances the art education mainly based on the inheritance and development of excellent traditional Chinese culture. These development backgrounds have provided new guidance paths for the development of integrated art education in Cantonese opera (Ministry of Education of the People's Republic of China, 2024).

Since responding to the national policy, more and more schools have attempted to integrate Cantonese opera with school education. In order to help students experience the artistic connotation and charm of Cantonese opera, most schools regard Cantonese opera as a specialized activity class that is interspersed throughout the semester. Approximately once or twice a semester, there are dedicated venues and time for inviting professional Cantonese opera performers to perform on campus or literary researchers with expertise in Cantonese opera learning to educate students on traditional culture so that students can improve and affirm themselves through continuous learning and appreciation of Cantonese opera.

Nowadays, the inheritance and development of traditional intangible cultural heritage is a hot topic, and schools have set up relevant interest groups to choose one or more traditional intangible cultural heritages for teaching, such as plant dyeing, filigree enamel, leather carving, etc. Through preliminary research, this study found that students still have a minority understanding of traditional Cantonese opera culture, and even many students have not heard of Cantonese opera culture. Even more so, when they first appreciate Cantonese opera, they find it difficult to listen to opera and feel that Cantonese opera makeup is exaggerated and unsightly. These phenomena are very sad about the spread of Cantonese opera culture.

Currently, very few schools integrate Cantonese opera culture into art education. Therefore, how can we make Cantonese opera more relatable to daily life and enhance

students' awareness of incorporating Cantonese opera elements into their daily lives? The survey will be conducted using Guangzhou Huadu Qixing Primary School as the research object. Currently, the school's promotion of Cantonese opera cultural knowledge is limited to theoretical discussions without a systematic teaching plan. There is no corresponding attention paid to extracurricular knowledge expansion, traditional culture dissemination, etc., and students' understanding of Cantonese opera art is only limited to books and oral descriptions.

A survey shows that the current cultural activities in the school have low efficiency in promoting Cantonese opera art, lack innovation in traditional opera, fail to pay attention to age differences among students, fail to summarize and reconstruct the obscure and difficult-to-understand character psychology and complex and lengthy historical background in Cantonese opera, and adapt them into songs that are suitable for the primary school age group. As a result, when students participate in Cantonese opera-related activities, their cultural awareness level does not meet the expected requirements. This makes the overall value of incorporating Cantonese opera culture into campus activities low and cannot reflect the impact of Cantonese opera, a traditional cultural dissemination, on primary education. Therefore, this study will organize art interest groups to carry out application activities of Cantonese opera art design, supplemented by questionnaire and participation observation methods, to analyze the experimental teaching of "redesign of Cantonese opera elements" in primary school art classrooms and explore a set of characteristic Cantonese opera classrooms that are truly suitable for contemporary teenagers to accept and love in order to solve the current development problems.

II. LITERATURE REVIEW AND THEORETICAL EXPLORATION

2.1 Literature Review

With the continuous development of modern society, people are increasingly aware of the importance of protecting and inheriting traditional culture. "Traditional Intangible Cultural Heritage: Inheritance and Development of Cantonese Opera" frequently appears in people's vision

as a popular term. The introduction of Cantonese opera into schools can not only promote the dissemination of traditional intangible cultural heritage and cultivate cultural inheritors, but also cultivate the cultural confidence and identity of contemporary youth and play a role in aesthetic education.

This study conducted a search on CNKI with the theme keyword "The Inheritance and Development of Cantonese Opera," and a total of 124 search results were displayed. Among them, there are 88 academic journals, 10 doctoral and master's theses, and 5 conference papers. Subsequently, a search with the theme keyword "Cantonese Opera Education" was conducted, displaying a total of 58 search results. Among them, there are 43 academic journals, 2 doctoral and master's theses, and 1 conference paper. Next, the author conducted a search with the theme keyword "Cantonese Opera on Campus," and a total of 28 articles were displayed. 21 academic journals, 1 doctoral and master's thesis, and 4 featured journals. The research mainly focuses on how to successfully achieve the goal of spreading and inheriting Cantonese opera among students.

2.1.1 Research on the Inheritance and Development of Cantonese Opera

Yuan and Zhou (2019) believe that Cantonese opera is a very important component of traditional culture, and Cantonese opera, Cantonese language, and Cantonese opera are the core elements of Lingnan culture. With the continuous development of information technology in recent years, Cantonese opera has been severely impacted, resulting in a shortage of young and old audiences and a shrinking audience. From the actual investigations of many researchers, it can be seen that younger students are often more susceptible to cultural influence. Thus, in order to ensure the inheritance and development of Cantonese opera in the new era, it is of great significance to carry out the "Cantonese Opera on Campus" activity in combination with the actual situation of the region. Nowadays, Cantonese opera has become a component of intangible cultural heritage, but its inheritance cannot be effectively carried out in this era of rapid information development. Traditional natural inheritance methods obviously cannot protect it reasonably. Therefore, many local schools have launched "Cantonese opera on campus" activities to

integrate Cantonese opera into school education activities.

Ma (2019) believes that with the diversified development of modern art and the increasing diversity of entertainment methods, the evolutionary environment of Cantonese opera has greatly changed, facing significant impacts and challenges, and the living space has been compressed. Protecting and inheriting Cantonese opera art has become an important task for the government and all sectors of society. To effectively protect and inherit Cantonese opera, it is necessary to have a profound understanding of its historical origins, cultural connotations, artistic characteristics, and heritage value. The protection and inheritance of Cantonese opera require work from multiple aspects, such as research, collection, protection, display, dissemination, innovation, and inheritance.

2.1.2 Research on Cantonese Opera Education

Ji (2023) agrees with the role of art education in the inheritance of intangible cultural heritage. Intangible cultural heritage belongs to a living culture with characteristics such as inheritance and variability, highlighting the subjectivity of human beings in their inheritance and development processes. Inheritance is an effective way to protect intangible cultural heritage. As the driving force for cultural and artistic inheritance and development, children play an important role in the inheritance of intangible cultural heritage. Art education is an important link and bridge between young people and children and the inheritance of intangible cultural heritage.

Wang (2022) believes that Cantonese opera culture is a regional culture that combines the characteristics of Lingnan culture and traditional cultural elements in literary form. Cantonese opera, hailed by Premier Zhou as the "red bean of the southern country," is an important component of China's excellent traditional culture. Introducing Cantonese opera culture to campuses is an important way to inherit and promote folk culture.

Guo (2022) believes that the integration of traditional culture and campus culture is a popular educational trend, allowing Cantonese opera art to nourish children's lives. It not only allows children to receive the influence of traditional culture from a young age, but more importantly, it implants the national spirit in their hearts and cultivates modern teenagers with patriotism, emotional

and intellectual cultivation, and a strong sense of character and learning. This further protects, inherits, and spreads Cantonese opera culture.

As early as 2017, Guangdong Province issued the "Regulations on the Protection and Inheritance of Guangdong Opera" for the protection and inheritance of Guangdong opera culture in Lingnan, which proposed the protection and inheritance of objects, including any traditional cultural expressions of Cantonese opera with historical, aesthetic, and artistic value, as well as related physical objects and places. It also strongly supports the cultivation and introduction of Cantonese opera talents and continuously promotes the research, promotion, and education of Cantonese opera (Guangdong Provincial People's Government, 2024).

In summary, there is a current situation of progress and development in schools regarding the introduction of Cantonese opera into the classroom, but there are also shortcomings. Many schools in certain regions only offer an appreciation of Cantonese opera-related operas without allowing students to truly participate. Most of the existing research focuses on the integration of Cantonese opera into the classroom and music teaching, with few cases of its integration with art education. This study involves the redesign of Cantonese opera and the integration of art classrooms, and it plans to conduct experimental teaching results through empirical research to supplement previous research in related fields. It is hoped that this study can provide some reference and inspiration for the integration of Cantonese opera and art education.

2.2 Theoretical Exploration

Mayer (2001) has repeatedly proposed the Cognitive Theory of Multimedia Learning (CTML) since the 1980s. Through extensive empirical research, it has gradually improved and expanded its application at different levels, providing an important theoretical basis for learners to utilize multimedia learning. This study will cite Mayer's multimedia learning cognitive theory as the research framework of this article, and its theoretical research hypotheses mainly have three aspects: first, dual track; second, limited capacity; and third, active processing.

2.2.1 Dual Channels

Mayer (2001), based on the theory of dual channels, believes that the learning process of learners will be

carried out through the working memory of the brain, which includes two information processing tracks. The senses receive two tracks, namely the speech track and the image track. For the information received by both trajectories, the brain's operational memory can automatically convert and communicate, both of which can enhance the information received by both trajectories.

2.2.2 Limited Capacity

Human beings have limited information capacity to process the information they receive at the same time. Therefore, careful attention should be paid to the degree of connection between external information, and limited cognitive resources that can help learners operate should be provided in subsequent design strategies.

Mayer (2001) proposed the "superfluous principle" effect in the learning process of learners. He believes that when learners receive the same content through their senses, they will acquire information through subtitles and oral communication. Media cannot provide learners with the function of controlling or playing speed. However, when presenting subtitles and oral communication at the same time, there may be a problem of cognitive overload that cannot be handled, which may reduce the willingness to learn meaningfully. However, if learning is done in multimedia contexts, having subtitles and oral communication can help learners learn effectively.

On the other hand, Sweller (1998) addresses the issue of cognitive load on learners. From the perspective of instructional design, it can be divided into three types: intrinsic cognitive load, extrinsic cognitive load, and effective cognitive load. Intrinsic load can simultaneously

process the amount of information in operational memory, and the larger the information, the greater the learner's intrinsic cognitive load. External cognitive load refers to the varying strength of external cognitive load in different presentations of textbook organizations. Effective cognitive load can be influenced by instructional designers, and through different instructional designs or textbook presentation methods, it can attract learners to pay more attention to the serious process of learning content. According to Sweller's (1994) theory of cognitive load, learners are able to remove excess information from textbooks in multimedia contexts, which is more conducive to learning outcomes. Therefore, Mayer's principle of redundancy is that in multimedia learning environments, learners who only use animations or illustrations with narration will have better learning effects than those who use subtitles and narration.

2.2.3 Active Processing

CTML advocates that learners can actively process cognitive information, including paying attention to selecting information. Learners will actively select information from the learning materials they receive and bring it into their operational memory. The second is to organize the information of operational memory. Learners organize information in their operational memory and re-establish correlations between information, The third is to integrate information from operational memory into prior knowledge. Therefore, the three stages from receiving information to finally generating the meaning of the information are a process of knowledge construction, and ultimately, meaningful learning can also be formed.

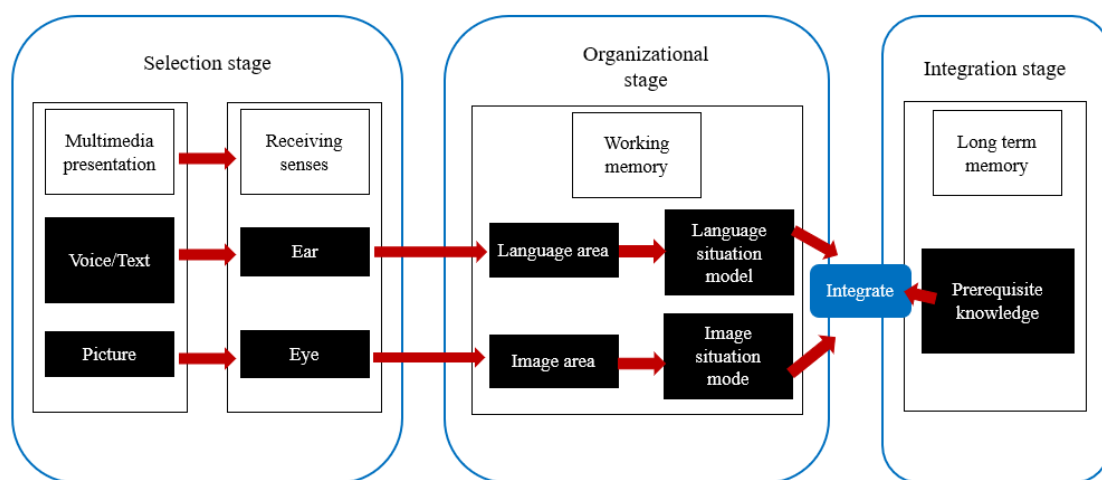


Fig.1 CTML Theoretical Model

Overall, the CTML process mainly consists of three stages: the first stage is the selection stage, where learners receive information through their eyes, select images, and then enter the image regions of the brain that operate memory; The second stage is the organizational stage, where learners receive their senses and then organize them into image contextual patterns; The third stage is the integration stage, where learners integrate the knowledge they have learned after organization, becoming preexisting knowledge in long-term memory, as shown in Figure 1.

III. THE TEACHING PATH

This article uses students from Qixing Primary School in Huadu, Guangzhou, as the research object. As the school does not have a specific art course, the art interest group model is used to recruit members of the "Cantonese Opera Characteristic Classroom." Two classes of sixth grade students are randomly selected. The senior students are in a period of strong interest in new things and have the ability to understand knowledge, which can help them complete course tasks. A total of 75 questionnaires were distributed in this survey, and 68 valid questionnaires were collected, with an effective response rate of 91%.

3.1 Pre Class Investigation and Analysis

According to the questionnaire survey, there are 38 male students, accounting for 56%, and 30 girls, accounting for 44%. Regarding the level of understanding of Cantonese opera art, students have a diverse understanding of its forms of expression, mainly manifested in singing, makeup, clothing, and songs. 28% of people expressed a strong understanding of Cantonese

opera as an intangible cultural heritage; 25% of people generally understand; 26% of people have heard of it, but only 21% are very unfamiliar with it. It can be seen that most students have a general understanding of Cantonese opera as an intangible cultural heritage before class.

From the perspective of access to art information for Cantonese opera, Internet access accounts for 26%; watching Cantonese opera with parents accounts for 23%; 11% obtained it from school classrooms; 16% obtained it through tourism; and 6% learned it from family and friends. Obtain a proportion of 5% from school-style decoration. The proportion of students who do not understand Cantonese opera at all is 13%. It can be seen from this that most of the current students understand relevant knowledge from the Internet and their home environment, which contains elements of Cantonese opera. They have less knowledge of the campus, so the school should increase the promotion of Cantonese opera art.

3.2 Teaching Path of Cantonese Opera Art of CTML

The Cantonese opera-characteristic classroom this time is an extracurricular teaching activity recruited by the school through art interest groups, emphasizing the interactive teaching mode of course learning. This study uses CTML as a theoretical support to explore the experimental teaching path of Cantonese opera art. It is believed that the application teaching path of Cantonese opera art design should be based on the selection, organization, and integration stages of CTML and then extended to the innovation stage, as shown in Figure 2. The following will be a stage analysis of the teaching path:

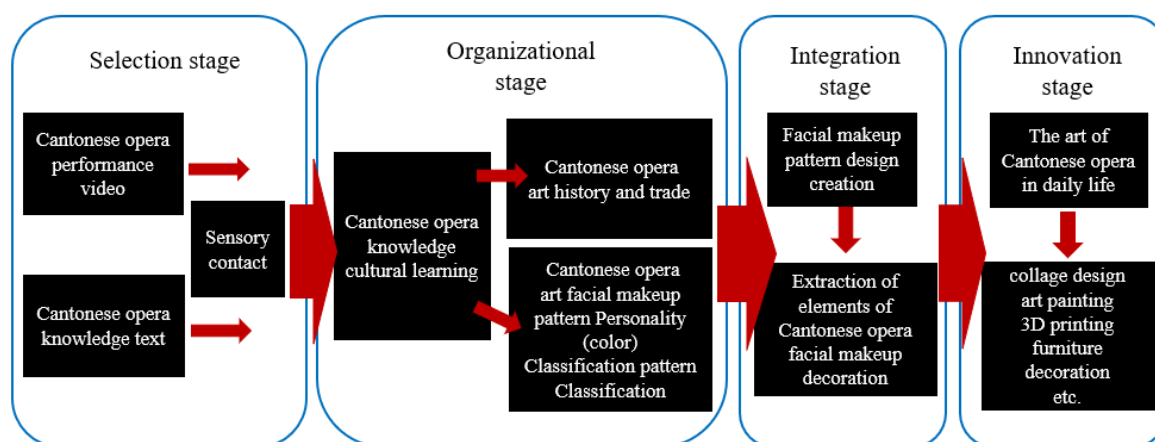


Fig.2 Teaching Path of Cantonese Opera Art of CTML

3.2.1 Selection Stage: Reading Cantonese Opera Performance Videos and Cantonese Opera Knowledge Texts

In the selection stage, sensory contact learning of student teaching design is carried out through two "dual track" information processing methods: "Cantonese opera performance videos" and "Cantonese opera knowledge texts." Firstly, in terms of "Cantonese opera performance videos," three classic song segments were selected as classroom teaching content: first, the female character played the role of "Empress Flower"; second, "Yang Men Women's Generals," starring the heroic Dao Ma Dan; and third, "Huang Feihu Passing Five Levels," starring Jing Jiao. In order to enhance the acceptance of Cantonese opera art among primary school students, this study specifically selected works that are closely related to their daily lives, such as starring a female character in "Empress Flower." The selected segments have familiar melodies, and some students can even sing along with their mouths open, unconsciously bringing students closer to Cantonese opera and making them feel that Cantonese opera is not far from life.

For example, "Yang Men Women's Generals," starring Dao Ma Dan Yang Guiying, dressed in gorgeous and Lingnan cultural costumes, performed the entire drama in the classic Cantonese opera style of "singing, reciting, doing, and hitting." The excerpts were incredibly exciting, allowing students to become slightly familiar with the singing style and melody of Cantonese opera. Furthermore, further combining the "knowledge text of Cantonese opera" will help us understand the performance methods and clothing characteristics of Cantonese opera. Finally, the performance of Huang Feihu, played by Hua Lian Jing Jiao, showcases the distinctive facial patterns of Cantonese opera performers. Step by step, elevate students' interest in learning to the highest level.

3.2.2 Organization Stage: Cantonese Opera Knowledge and Culture Learning

In the organizational stage, in order to enhance students' effective access to cognitive resources during the learning process, facial makeup patterns are taken as the research core, and teaching design for "Cantonese Opera Art Learning" is carried out through color and facial patterns. A small game called "Guessing Characters by

Looking at Facebook" has been set up in the main color scheme of Facebook as an important medium for connecting students' brain operations and memory learning. Students actively participate in the game, and most students can answer the representative meanings of "White Face Cao Cao," "Black Face Bao Zheng," and "Red Face Guan Yu" correctly. This stage can effectively enhance students' accumulation of historical and cultural learning.

In terms of facial pattern classification, there are no small games set up. Instead, diversified facial masks are used to guide teaching, and classification is carried out through whole face masks, three tiles face masks, cross door face masks, floral face masks, and crooked face masks. The rules, features, and innovative designs of each face mask are introduced in detail. Finally, various white background patterns of different facial masks, as well as solid color masks with five main colors of white, black, red, blue, and yellow, will be displayed on multimedia screens. Through manual collage by students, more emerging combinations will be formed.

Research has shown that students, through hands-on participation in Cantonese opera games, have found that they prefer crooked facial makeup patterns without specific rules and complex and diverse floral facial makeup patterns.

3.2.3 Integration Stage: Facial Makeup Pattern Design and Creation

In the integration stage, by sorting out the traditional elements of Cantonese opera patterns through "facial makeup pattern design," students can better identify "what is the cultural symbol of facial makeup patterns?" and "does facial makeup pattern design represent symbolic meaning?" In this stage, the rules and decorative characteristics of Cantonese opera art facial makeup, as well as the significance of the main color tone of Cantonese opera characters, are repeatedly analyzed for students to refer to. Enhance students' understanding of their design applications, enabling them to have a more complete understanding and extended application of the knowledge points of Cantonese opera art and cultural symbols while using facial makeup patterns for subsequent design and creation. Before preparing for creation, they

can integrate their information into preliminary knowledge for brain operation and memory.

3.2.4 Innovation Stage: the Life-oriented Art of Cantonese Opera

In the innovation stage, by showcasing the different applications of facial makeup patterns in daily life through multimedia videos and showcasing related products, students show a high interest in integrating Cantonese opera art into life design applications. 25% of people believe that patterns can be applied to clothes, 16% think they can be applied to handmade lamps, 21% think they can be used to decorate cups, 24% think they can be painted as art, 14% think they can be used as wall painting decoration, etc. Most students propose the creative idea of "activating Cantonese opera students," which promotes the classroom atmosphere goal of Cantonese opera art teaching to broaden students' creative thinking and creative inspiration.

In terms of the category of post-Cantonese opera art creation, 48% of students hope to create in the classroom through painting and coloring; 27% of the respondents choose clay-shaping materials; the art appreciation category accounts for 20%; and collage design courses account for 5%. Research shows that most students show a great interest in learning about the application of Cantonese opera art in the future. In terms of learning effectiveness, 34% of people believe that the design of decorative patterns in classroom presentations is interesting; 32% of people think that the teacher's teaching is vivid and interesting; 19% of people have had a general understanding of Cantonese opera since childhood; and 15% of people think that their own drawing skills are solid and that Cantonese opera creation and application are relatively easy. Most students believe that learning Cantonese opera art is not difficult and have a high willingness to continue learning.

In summary, using multimedia technology in teaching can enhance students' learning effectiveness in Cantonese opera art, especially by using intuitive images such as pictures and videos in the classroom, which can enhance students' sensory and imaginative abilities.

IV. EXISTING PROBLEMS IN RESEARCH AND OPTIMIZATION STRATEGIES FOR

EXPERIMENTAL TEACHING

Through experimental teaching, it was found that with the changes and development of modern society, the problem of Cantonese opera is becoming increasingly serious, and the school has many shortcomings in the dissemination and inheritance of Cantonese opera. However, compared to previous stage activities of appreciating Cantonese opera, students are more interested in making cultural and creative works related to Cantonese opera and learning about its history. This shows that the integration of Cantonese opera art into school education and development has great potential. Therefore, this study proposes the existing problems and optimization strategies for experimental teaching of Cantonese opera art in schools.

4.1 Problems in Teaching Cantonese Opera Art in Schools

4.1.1 Insufficient Protection of School Art Teaching Resources

After investigation, it was found that the art area of the school is relatively small, and the display of works is mainly based on ultra-light clay or creative art works. The theme of the works is not related to traditional intangible heritage culture, indicating that the school has made insufficient efforts to inherit intangible cultural heritage art. In addition, the school often purchases ready-made works of art decoration from outside the school rather than original works, and most of them are arranged by teachers without the participation of students, indicating that the current school's emphasis on cultivating student art creation is relatively weak. There are many defects in the hardware facilities at the school. The large white board screen in the teaching classroom is located on the far left side of the classroom, and the screen is small. Students in the back row and the right half of the classroom cannot see the content displayed on the white board clearly, which greatly limits art teaching. Although the school has set up a special classroom for fine arts, the investigation before the Cantonese Opera class started found that the classroom has been used as a sundry room for a long time, and the teaching equipment cannot be opened normally.

4.1.2 There is a Serious Shortage of Art Teachers in the School

School art teachers often hold multiple positions or have the main subject teachers of Chinese, mathematics, and English teach art classes on their behalf, resulting in a lower level of professionalism in the art subject. A few professional art teachers who graduated from art schools often take over art classes from multiple grades and classes on their own. The weekly schedule is almost full and personal time for further learning, updating knowledge, and researching art knowledge beyond textbooks is even more limited. Not to mention the effectiveness of inheriting and promoting the integration of intangible cultural heritage into art education.

4.2 Optimization Strategies for the Inheritance of Cantonese Opera Art

4.2.1 Strengthen the Promotion of Campus Culture and Resource Sharing of Local Art Museums

Traditional Cantonese opera often suffers from a lack of connections in modern society, and it is necessary to focus on cultivating the new generation of Cantonese opera, enabling young people to take on the responsibility of developing Cantonese opera, and continuously expanding the area occupied by Cantonese opera in the construction of school culture. By declaring various types of campus activities with distinctive features, such as campus Cantonese opera art festivals, Cantonese opera and opera clubs, Cantonese opera interest groups, Cantonese opera adaptation exercises, etc., we aim to promote the improvement of the cultural and artistic education level of Cantonese opera in schools. It is also necessary to incorporate knowledge related to Cantonese opera art into textbooks, introduce Cantonese opera into school classrooms, and establish Cantonese opera characteristic training centers on campus to achieve the popularization of Cantonese opera knowledge and talent cultivation for young students in compulsory education from early childhood to middle and high school.

Due to the long and difficult time required for the inheritance and dissemination of traditional Cantonese opera culture, schools should actively respond and cooperate with national policies to share resources with society. For example, schools can establish friendly contacts with the Guangdong Cantonese Opera Troupe and regularly organize students to participate in the troupe's performance activities, achieving the goal of face-to-face

communication and hands-on learning between students and Cantonese opera performers. Schools can also closely monitor local art museums for exhibitions featuring Cantonese opera, purchase tickets for students, and ensure that children from different family backgrounds can equally receive the baptism of Cantonese opera art.

4.2.2 Use Diversified Teaching Methods to Increase Students' Interest in Learning Cantonese Opera

Cantonese opera contains various characteristics of traditional Chinese opera, including singing, recitation, acting, theatrical skills, performance music, costumes, headgear, and other elements. A series of distinctive and systematic teaching systems can be formed around Cantonese opera. In order to enhance students' interest in learning Cantonese opera culture, it is necessary to reform the traditional and conventional teaching of Cantonese opera so that its teaching content and objectives can better fit the students' learning situation. Combining the different characteristics of different industries in Cantonese opera, we aim to cultivate different abilities in different directions for students of different grades.

For example, lower-grade students have weaker learning and aesthetic abilities, and their teaching can focus on the singing of Cantonese opera songs and the copying and painting of simple Cantonese opera patterns. Lower-grade students have relatively soft body bones and can receive appropriate training in Cantonese opera dance. The teaching method also needs to adopt a combination of demonstration, practice, demonstration, and other forms, changing the traditional teacher-centered teaching mode, using activities and performances as carriers, stimulating more students' interest in learning, and allowing them to learn Cantonese opera knowledge in a fun and enjoyable atmosphere.

4.2.3 Establishing Training for Excellent Teachers in Cantonese Opera Art

The shortage of teaching staff is currently the biggest problem facing Cantonese opera education. To solve this problem, efforts need to be made in the cultivation of the teaching staff. By constructing a teaching staff cultivation system, we can build a high-quality teaching staff through the construction of a full-time teaching staff, a part-time teaching staff echelon, and flexible group teacher training. Firstly, schools should vigorously cooperate with the

"Guangzhou Cantonese Opera Talent Training Project" to build a team of full-time Cantonese opera teachers. Relying on the government to establish relevant recruitment channels, establish professional, educational, and skill thresholds, and through the establishment of job recruitment, focus on recruiting talents for Cantonese opera creation and research, and build a stable, multi-dimensional, and professional teaching staff. Furthermore, hiring Cantonese opera experts, performers, and inheritors of intangible cultural heritage to teach on campus is currently the backbone of the Cantonese opera industry, with a profound theoretical foundation and solid performance skills, and is an important force leading the development of the industry.

5. Conclusion

This paper aims to integrate the intangible cultural heritage of Cantonese opera into the design and application teaching of primary school art in order to strengthen students' inheritance and protection of the excellent traditional Chinese culture of Cantonese opera art. Using the CTML framework of American educational psychologist Mayer as a framework for experimental teaching design, a phased exploration is conducted on the history and industry of Cantonese opera art, as well as the classification of facial makeup patterns and color personalities, in conjunction with pre- and post-class questionnaire surveys. Research has shown that most students have gone through the teaching stage of multimedia learning cognition, from the selection stage, to the organization stage, to the integration stage, and finally to the innovation stage, which has indeed enhanced their cultural awareness of Cantonese opera art and also enhanced their interest in learning the application of Cantonese opera art design. They have high expectations for the subsequent extension of artistic creation. Integrating Cantonese opera culture into the development of primary school art education and enhancing the dissemination concept of "life-oriented Cantonese opera art" can better enhance students' sense of identification with traditional Cantonese opera's intangible cultural heritage and effectively expand the inheritance and protection of Cantonese opera's "youthfulness".

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