

Exploring the Effect of Lesson Study Integrating Digital Storytelling on Enhancing Creative Thinking of Art Teachers

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ABSTRACT

Digital storytelling is an emerging teaching method that combines digital technology with narrative to provide students with a more vivid and interactive learning experience. In this study, the impact of incorporating digital storytelling into lesson study on enhancing innovative thinking among art teachers was explored. 40 music and art teachers were trained, surveyed, and interviewed using questionnaire survey and semi-structured interview methods. The results indicated that incorporating digital storytelling into lesson study can significantly enhance the innovative thinking ability of art teachers, improve their teaching level and effectiveness, and develop more innovative curriculum concepts and practices.

Keywords: *Digital storytelling, Lesson study, Innovative thinking, Music art teachers, Innovative education.*

1. INTRODUCTION

Currently, improving the quality of talents has become an important guiding ideology and strategic decision for China's development of education in the new century. In quality education, music art plays a crucial role, helping to improve students' aesthetic ability, cultivate emotional expression and understanding abilities, enhance comprehensive quality, shape their personality, and promote the development of intelligence and creativity. In response to the current low level of music education, it is necessary to further strengthen music and art education from multiple aspects to better play its role in quality education (Zhang Kexue, 2004).

1.1 Research Background

In recent years, with the further requirements of the country for art education, colleges and universities have increasingly attached importance to art education. Art education plays a significant role in cultivating the thinking ability and artistic literacy of college students. However, the existing music education focuses more on the cultivation of skills, and less on the creative thinking abilities of

teachers and students. Creative thinking is a key factor in achieving success in all disciplines, and therefore has long been a focus of attention for educators (Tam, Chan, Cheng, Rogers, & Tan, 2022). Scholars have many different definitions and perspectives on creative thinking. For example, Kong Qingxin and Kong Xianyi (2008) pointed out that creative thinking refers to thinking activities with innovative functions from a functional perspective, and thinking activities that produce creative new results from a result perspective. Among them, creativity, novelty, non-repetition, transcendence, and value are the common characteristics of all creative thinking. Some scholars believe that creativity is the ability of a person to produce any form of thinking result, which is fundamentally novel and unknown to the person who produced them (Cheng Xi, 1986).

The existing research on creative thinking is mainly conducted abroad (such as Minton, 2003; Ritter, Gu, Crijns, & Biekens, 2022; Zubaidah, Fuad, Mahanal, & Suarsini, 2017), while relatively little has been done in mainland China. In addition, existing research focuses more on students' creative thinking. For example, Liu Chengqun (2008) explored three major factors that affect the creative

thinking of college students, mainly the lack of solid basic knowledge, herd mentality, and habitual thinking. Yi Dan (2017) explored the development of students' creative thinking ability from the perspective of art studies, and the research results pointed out that students' creative thinking directly affects the success or failure of art and design works. However, relatively little attention is paid to the training and development of teachers' creative thinking. At the same time, most of the existing research is exploring the importance, current situation, influencing factors, and analysis of the innovation ability of teachers in other disciplines. However, there is relatively little research exploring how to effectively enhance the creative thinking of art teachers.

Through literature review, it was found that Digital storytelling is a relatively novel method, which, combined with multimedia narrative, enriches the expression methods of stories and provides a more authentic interactive experience for audiences in different fields (Xu Lifang, Zeng Li, 2016). It is a method with the potential to help enhance innovation capabilities. In addition, the commonly used and effective training method in teacher training is lesson study (Cheng, 2019). Therefore, this study explores how to combine Digital storytelling and classroom research to enhance the innovative thinking ability of art teachers.

1.2 Research Purpose and Significance

This study has three main research objectives. The first is to train music teachers through classroom research using digital storytelling. The second is to explore whether classroom research on digital storytelling can effectively enhance the creative thinking ability of music teachers. Finally, this study will also examine the experience and evaluation of art teachers on the classroom research of digital storytelling as a training method from their perspective. This study will use a mixed research method, using questionnaire survey method and semi-structured interview method.

The significance of this study is to make up for existing research deficiencies, and to combine relatively novel digital storytelling methods and classroom research to train art teachers and enhance their creative thinking. Art teachers are a special group in the field of education, who need to possess high innovative thinking abilities in order to effectively guide students' artistic creation. Therefore, the integration of digital storytelling

lesson study into this study has significant theoretical and practical implications for enhancing the creative thinking of art teachers, as well as promoting student development and innovative education reform.

2. LITERATURE REVIEW

A literature review on digital storytelling, innovation ability, and teacher innovation ability indicates that digital storytelling has practical effectiveness in many fields and has a positive effect on improving students' innovation ability. There are also many studies exploring the innovative thinking ability of teachers, but few studies focus on cultivating the innovative ability of art teachers. Therefore, incorporating digital storytelling into classroom research has a strong feasibility for enhancing the innovative thinking of art teachers.

2.1 Definition and Development of Digital Storytelling

In today's era of pursuing innovation, digital storytelling, as an extension of traditional narratology, plays a crucial role in various fields and has been more clearly elaborated. "Digital storytelling is a brief form of digital media production that allows ordinary people to share all aspects of their lives." (Xu Lifang, Zeng Li, 2016) Fu Yaming et al. (2022) believed that digital storytelling is a practice or method that uses digital tools and multimedia forms to create, express, explain, and share stories, literary and artistic works, personal experiences, etc., which is different from traditional oral traditions and written storytelling. With the emergence of more interactive tools and platforms, as well as the increasing number of immersive and participatory electronic games and online art activities, digital storytelling has also emerged with more practical possibilities. People can use their own voice to narrate, combine audio, and various artistic forms to express and tell stories. In addition, digital storytelling is first developed in the form of movies, and later developed into forms such as hypertext novels, interactive novels, and digital games. It has now gradually been used in the field of teaching.

In the field of education, digital storytelling originated in the United States and studied the role of multimedia and video in the teaching process. Later, it gradually developed into "educational narrative", where teachers or students use digital

tools to write their own teaching or learning stories (Zhang Jiong, 2016). Digital storytelling is an interesting way of self-creation, closely following the current multimedia methods of recording, creating, and telling stories. In fact, digital storytelling is not a completely new concept. It has always existed in people lives and plays an important role, with the core concept of using digital tools to tell stories.

Many existing studies have shown the effectiveness of digital storytelling, which utilizes technology, aligns with current market characteristics, has strong interactivity, flexibility, facilitate dissemination, and can resonate more widely (Alexander, 2017). In addition, studies have shown that this open mindedness approach not only allows for interesting expression of one's personal stories, but also helps enhance innovation abilities (Nordmark & Milrad, 2012). This study will focus on the relationship between digital storytelling and innovation ability, and it has strong feasibility.

2.2 Digital Storytelling and Innovation Ability

There are some existing studies exploring the relationship between digital storytelling and innovation ability. For example, Nordmark & Milrad (2012) pointed out that mobile digital storytelling promotes creative collaborative learning. This study introduces methods for mobile storytelling to support alternative learning of cultural heritage. By working together to promote creative collaborative learning, it is aimed to involve a group of Swedish school children in mobile education digital storytelling. This approach can help children enhance their creativity and collaborative learning abilities.

In addition, Tackvic (2012) suggested that telling stories through digital means using technology to inspire creativity. This approach can involve any field, including the field of writing courses. This study showed that through digital storytelling, students can change their opinions and practical abilities through written language. By using two websites, this study helped students stimulate creativity.

In China, Xu Lifang and Zeng Li (2016) applied digital storytelling to education and training, and explored the issues of teaching and learning through the combination of digital storytelling theory and others. This study explored how learning to handle multimedia factors affects

students during this process. The research results suggested that digital storytelling is effective in education and training, and also contributes to enhancing students' innovative abilities. Moreover, both undergraduate and master's programs in digital storytelling have emerged, which are also applicable to teaching modules and courses in digital media majors in colleges and universities.

The above research indicates that digital storytelling has a positive effect on enhancing students' innovation ability. However, few studies have explored whether digital storytelling can enhance teachers' innovation ability. Therefore, this study will explore the impact of digital storytelling on teachers' innovation ability with certain feasibility.

2.3 Research on Teachers' Innovative Ability

In today's era of progress, innovation is a highlight and a constantly discussed topic, serving as the soul and inexhaustible driving force for promoting development (Conway, Waage, & Delaney, 2010). The transformation of innovation from abstract concepts to practice cannot be separated from innovative education, and innovative education cannot be separated from innovative teachers, let alone the training of teachers' innovative abilities (Song Qiong, 2006). Innovation ability refers to the ability to gradually or fundamentally improve capabilities by participating in activities that trigger the supply of innovative resources and transforming them into a knowledge base in an interactive environment (Szeto, 2000). Wang Dan (2022) pointed out that innovation ability refers to the ability to think and solve problems in new ways through operation, practice, reflection, etc. based on knowledge and experience, which can generate new insights and create new things. In addition, she also pointed out that innovation ability includes innovative consciousness, innovative personality, innovative thinking, innovative skills, etc., and its core is innovative thinking. However, innovative thinking plays a crucial role in the development of teachers.

There are also some existing studies on teachers' innovative abilities. For example, Yang Yuhao et al. (2014) analyzed the survey data of 385 young teachers under the age of 35 in colleges and universities in Guangdong Province and found that the innovation ability of young teachers in colleges and universities is composed of four dimensions: knowledge accumulation, awareness of change,

innovation atmosphere, and balance. There are significant differences in the innovation ability of young teachers in different groups.

In addition, Wang Dan (2022) conducted a research project to effectively train teachers' thinking patterns and cultivate their personality quality. This study mainly demonstrates through literature research, design, and analysis that emphasizing the cultivation of innovative thinking promotes the development of teachers' innovative abilities, thereby improving their thinking level, firming their research interests, and exercising their willpower.

Similarly, Han Yingchun et al. (2022) studied 866 compulsory education stage teachers and explored the current status of teachers' educational innovation ability, as well as the impact of factors such as academic age, teaching experience, and teaching subject type on teachers' educational innovation ability. The research conclusion indicated that in the process of cultivating teachers' educational innovation ability, it is necessary to comprehensively consider the influence of factors such as academic stage, teaching experience, and teaching subject type, seize the sensitive period of development and changes in teachers' educational innovation ability (teaching experience 7-15 years), and cultivate teachers' educational innovation ability through multiple channels such as creative thinking training, creative teaching behavior cultivation, improvement of creative teaching efficacy, and creation of creative class atmosphere.

Gu Changfeng and Liao Qunying (2022) used statistical methods to analyze the data based on a questionnaire survey, and established a data model to provide a comprehensive evaluation of the current situation of innovation ability of teachers in humanities, science, and engineering, and to identify the determining factors that affect the innovation ability of vocational education teachers.

Wu Gaixia (2021) conducted a survey on teachers' innovation ability from the perspectives of innovation preparation, innovation willingness, and innovation practice, promoting the development of teachers' innovation ability. Research has found that teachers exhibit good willingness to innovate, while their preparation and practice for innovation are poor. Teachers' age and teaching experience have a significant impact on their innovation ability. In addition, teaching subjects significantly affects their innovation readiness and willingness.

The above research mainly explores the innovative ability of teachers and the factors that affect their innovative thinking ability. However, most of the analysis is based on the humanities, science, and engineering disciplines, with little research focusing on the cultivation of innovative abilities among art teachers. Therefore, this study will explore the improvement of music and art teachers' innovative ability and creative thinking.

3. THE ORETICAL FRAMEWORK: CLASSROOM RESEARCH

In order to better promote teacher development, this study will utilize classroom research methods. Firstly, classroom research refers to providing a knowledge sharing platform for teachers to communicate and share their teaching content knowledge, in order to strengthen their mutual teaching practices. This process involves a group of teachers collaborating to design courses, engage in discussions, practice courses, and then reflect after class, thereby promoting the development of teachers (Cheng, 2019). Therefore, this practical model of cooperation can help teachers understand the shortcomings of the classroom and the advantages and disadvantages of their own teaching more deeply and better. Many studies have shown that less study can help improve teachers' professional development abilities. Therefore, this method will also be used in this study.

In addition, classroom research methods only provide a model for collaborative learning among teachers, but specific teaching methods are needed to enhance teachers' innovative thinking. According to the literature introduction in section 2.1, it can be concluded that digital storytelling is a good way to enhance teachers' innovative thinking. Therefore, this study will combine digital storytelling with classroom research to enhance the innovative thinking of art teachers.

4. RESEARCH QUESTIONS AND METHODS

The specific research questions of this study are as follows:

- 1) How to use digital storytelling and classroom research to train music and art teachers?
- 2) Can the combination of digital storytelling and classroom research effectively enhance the creative thinking of music and art teachers?

- 3) How do music and art teachers perceive the impact of training methods that combine digital storytelling and classroom research on their creative thinking and the development of innovative courses?

This study mainly adopts qualitative research methods to train, investigate, and interview 40 in-service music teachers from a school in Fujian Province. Among them, 20 music teachers come from urban areas and 20 music teachers come from rural areas. These music teachers are divided into five groups for group collaborative learning. Secondly, the researchers have designed a questionnaire consisting of 20 questions to collect information on the basic situation of music art teachers and their attitudes towards digital storytelling. Thirdly, the researchers have also conducted semi-structured interviews to gain a deeper understanding of music art teachers' understanding and application of digital storytelling, and to explore whether incorporating a combination of digital storytelling and classroom research can help music and art teachers enhance their creative thinking. Moreover, all participants will be informed of the purpose of this study and voluntarily participate. After signing the consent form, data collection for this study will be conducted. In addition, the results of this study will be reported anonymously to protect the privacy of participants.

5. TRAINING PROGRAM

This study will provide thematic training for these music teachers, including classical music appreciation, music skill innovation, popular music creation, and choir song analysis. Taking classical music appreciation as an example, each group of musicians can select a music sample for digital storytelling creation. For example, taking the appreciation of Beethoven's works as an example, the true Beethoven's personality and creative background recorded in Western music history, such as "Moonlight" and "Dedicated to Alice", are different from those described in most textbooks. Divergent thinking can be used to develop better music stories, giving music more imagination, creative background, and emotional resonance. According to the lesson study model, the music teachers in each group discuss and design more interesting digital videos based on their own developed story content, shoot and produce them, and then share them in the training classroom. Other music teachers observe and provide feedback

on their sharing. The entire training lasts for one semester, with a total of 4 themed training sessions.

6. CONCLUSIONS DRAWN THROUGH QUESTIONNAIRE SURVEYS AND SEMI-STRUCTURED INTERVIEWS

Music art teachers generally have a positive attitude towards digital storytelling, believing that digital storytelling can enhance students' learning interest and effectiveness.

Integrating digital storytelling into lesson study can significantly enhance the innovative thinking ability of art teachers, improve their teaching level and effectiveness.

There are differences in the application of digital storytelling between music art teachers in urban and rural areas. Art teachers in urban areas tend to integrate classroom research training methods of digital storytelling, while music and art teachers in rural areas tend to use traditional methods.

7. CONCLUSION

The results of this study indicate that incorporating digital storytelling into lesson study can significantly enhance the innovative thinking ability of music and art teachers, improve their teaching level and effectiveness. Integrating digital storytelling into classroom research can not only provide teachers with a more vivid and interactive learning experience, but also promote the development of innovative thinking among teachers.

However, there are differences in the application of digital storytelling between urban and rural areas. Art teachers in urban areas tend to integrate classroom research training methods of digital storytelling, while music art teachers in rural areas tend to use traditional methods. Therefore, when conducting research on digital storytelling courses, regional differences should be considered and appropriate methods and approaches should be adopted to improve the teaching level and effectiveness of art teachers.

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