THE DEVELOPMENT OF A TEACHING MODEL FOR IMPROVING MUSIC CREATION ABILITY OF MUSIC EDUCATION COLLEGE STUDENTS IN SCIENCE AND TECHNOLOGY COLLEGE GANNAN NORMAL UNIVERSITY

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2024

การพัฒนารูปแบบการสอนที่เสริมสร้างความคิดสร้างสรรค์ทางดนตรีของนักศึกษาสาขาวิชาดนตรี ในมหาวิทยาลัย SCIENCE AND TECHNOLOGY COLLEGE GANNAN NORMAL UNIVERSITY

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ปริญญานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตร
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THE DISSERTATION TITLED

THE DEVELOPMENT OF A TEACHING MODEL FOR IMPROVING MUSIC CREATION ABILITY OF MUSIC EDUCATION COLLEGE STUDENTS IN SCIENCE AND TECHNOLOGY COLLEGE GANNAN NORMAL UNIVERSITY

BY

YINGJIE XING

HAS BEEN APPROVED BY THE GRADUATE SCHOOL IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DOCTOR OF PHILOSOPHY IN CURRICULUM RESEARCH AND DEVELOPMENT AT SRINAKHARINWIROT UNIVERSITY

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Title	THE DEVELOPMENT OF A TEACHING MODEL FOR IMPROVING MUSIC CREATION ABILITY OF MUSIC EDUCATION COLLEGE STUDENTS IN SCIENCE AND TECHNOLOGY COLLEGE GANNAN NORMAL UNIVERSITY
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The objectives of this study were 1) to develop a teaching model that enhances music creativity for third-year students majoring in music education at universities and 2) to evaluate the effectiveness of the teaching model. The sample group consists consisted of 32 third-year music education majors from Gannan Normal University, Ganzhou, Jiangxi, China., selected using Aa multi-stage sampling method was used, and. the experiment was designed as a single-group pre-test post-test study. The instrument used to collect data was the music creativity test paper. The teaching model, developed using constructivist theory, consists of six components: teaching principles, teaching objectives, teaching process, media resources, learning evaluation, and teaching content. The results showed that, indicated a significant improvement in students' music creativity following the implementation of the teaching modelafter implementing the teaching model, the music creativity of third-year students majoring in music education was significantly higher than before, with a statistical significance level of .01.

Keyword : Music creation ability, Teaching model, Music education major, College students

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YINGJIE XING

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER 1
INTRODUCTION

1.Research background

Faced with the challenges of the artificial intelligence era, the World Economic Forum's third edition of the Future Jobs Report describes the employment skills needed for the future (Whiting 2020). Such as analytical thinking and innovation, proactive learning and learning strategies, complex problem-solving, critical thinking and analysis, creative creativity and initiative, leadership and social influence, technology usage monitoring and control, technology design and programming, resilience and flexibility, and problem-solving and ideas (Whiting, 2020). Today, there is a need for experts with flexible thinking, criticality, systematic thinking, the ability to creatively apply skills, analyze information, and solve problems in multiple ways. For students in the 21st century, creativity and innovation are undoubtedly important skills that students should possess (Patphol, 2020). Kaplan (2019) argues that creativity is necessary for creative thinking in any field, but it is not fully valued in many formal educational environments (Patphol 2020). China has issued a document emphasizing the importance of cultivating students' awareness of problems and innovation, proposing to "promote diversified training, explore innovative talent discovery and training methods, and strive to improve students' innovative spirit for exploration and practical ability to solve problems" (China, 2010)

The current situation of music creation ability education in primary and secondary schools in China is not optimistic, and the music creation ability of music teachers is also relatively lacking. Most teachers lack theoretical knowledge and teaching strategies for music creation ability education (Dou, 2020). Students majoring in music education in normal universities have a tendency to prioritize skills and techniques over innovative education to some extent in the past. Therefore, it should be advocated to cultivate well-rounded, comprehensive, and innovative talents (Wang, 2002). Yang Ruimin (2003) believes that it is necessary to accelerate the reform of music education and teaching in normal universities, in order to cultivate high-quality teachers

for basic education. As a talent cultivation work for future music teachers in universities, there is currently a lack of clear training orientation and connection with the reform of basic music education, especially in terms of curriculum system, teaching model, and practical teaching related to music creation education. This has led to music education majors being unable to adapt well to their job positions and effectively adapt to future practice in basic music creation education, especially lacking in music creation ability and quality (Li, 2015). From this, it can be seen that the reform of basic music education and the new social demands and situations have put forward practical demands for the talent cultivation of college music education students, especially in terms of innovation ability and quality.

Innovation refers to the ability to create music and inspire and promote the development of creative spirit through music teaching. As future music teachers, students should pay attention to learning and mastering modelrn innovative education theories, creative music education theories, and advanced teaching methods, in order to explore ways to promote the development of creative abilities through music education (Wang 2002).

The "modelrnization of Education in China 2035" clarifies the long-term goals of China's education in the future, aiming at the forefront of innovative countries in the world, making comprehensive plans for the construction of a high-quality education system, and putting forward high-quality requirements for the development of education in the new era of socialism with Chinese characteristics. The main task of music education majors in universities is to cultivate high-quality teachers for the promotion of music education and social aesthetic education in various levels and types of ordinary schools in the country. In the face of new situations and missions, it is imperative to cultivate high-quality music teachers with innovative abilities.

The development of music education in primary and secondary schools has put forward requirements for the training of future music teachers. As a teacher education for cultivating future primary and secondary school music teachers, it is necessary to

master educational theories and teaching methods that are oriented towards all students, develop individuality, focus on practice, and advocate creativity(Wang 2009).

Jiangxi Province is located in the central region of China and is in an economically underdeveloped stage (Liu, 2007). There are a total of 8 higher normal universities in Jiangxi Province, all of which have established music education majors. Just like the economic situation, the level of music education in Jiangxi universities is relatively low in China, with prominent problems such as outdated teaching concepts, poor teaching content, outdated teaching methods, and weak teaching staff (Liu, 2012). Compared with economically developed regions, there are still many problems in music teaching in normal universities in Jiangxi Province, such as slow progress in teaching reform, outdated teaching concepts, and insufficient student music creativity (Lin, 2009). People mistakenly believe that music education in universities is only about simple activities such as singing and dancing, lacking a profound understanding and recognition of music education in universities. Some universities have monotonous music teaching content arrangements. Most music teachers in universities prioritize lectures over experiences, with a single teaching method and a lack of necessary communication and interaction with students. Teachers engaged in music education have a significant lack of awareness of teaching students music creativity (Liu, 2012).

The cultivation of music creation ability can be achieved not only through school education, but also through education in social, family, and other environments. However, school education is the most important and the main battlefield for improving music education for college students majoring in music education. In school music education, classroom teaching is the main channel, and effective teaching models have a strong guiding role in teaching practice. Traditional teaching methods suffer from outdated and singular teaching methods, a disconnect between theory and practice, and outdated teaching methods (Chen, 2007). Students' understanding of educational philosophy only stays at the theoretical level, lacking practical cognition and understanding (Li, 2015). Li Wei (2015) believes that music education courses in teacher training programs can break away from the theoretical teaching method of

teachers lecturing and students listening, and teach students the initiative in the classroom. In music teaching, teachers should pay attention to students' subjectivity, guide them to actively participate in music learning activities, and cultivate strong music abilities, expand divergent thinking, and engage in creative learning (Tao, 2019). It is necessary to cultivate music education students with music creation ability and develop teaching models that can enhance the music creation ability of college students in response to the lack of music teachers with music creation ability in China. This paper conducted a series of studies in order to develop effective teaching models to address this issue.

The cultivation of music creativity requires the accumulation of certain basic knowledge and skills in music, in order to better engage in higher-level music creation and enrich music creation. Third grade students have gone through the learning of basic music knowledge and skills in the first two grades, which is more suitable for the teaching objects of this study. After improving their music creativity through the teaching model developed by this research institute, students are about to enter their fourth year of university education internship, and their music creativity can be applied to music teaching in primary and secondary schools. Therefore, the research object selected for this study is the development of a teaching model for music creativity among third year students in higher education music education universities.

2.Research questions

2.1 What is the teaching model be developed to which enhance the music creation ability of students majoring in college music education?

2.2 Is the teaching model designed to improve the music creation ability of students majoring in college music education effective?

3.Research objectives

3.1 To develop teaching model designed to enhance music creation ability among third-year students majoring in music education.

3.2 To evaluate the effectiveness of the teaching model developed to enhance music creation abilities among third-year students majoring in music education.

4.Scope of study

4.1 Population

The research object of this study is Jiangxi Province, which has 8 normal universities, each of which has a music education major. The reason for choosing Jiangxi Province as the research population is that Jiangxi Province is an underdeveloped region in central China. According to data from the education department of Jiangxi Province, there are 2400 third-year students in music education in this province, providing a sufficiently large population for sample extraction.

4.2 Sample

The sample for this study comes from students majoring in music education at the School of Science and Technology, Gannan Normal University, Jiangxi Province. The researchers used a multi-stage sampling method to select samples. In the first stage, a simple random sampling method was used to conduct a survey in 8 normal universities in Jiangxi Province, and two normal universities in Ganzhou City were selected. In the second stage, a simple random sampling method was used to select the School of Science and Technology at Gannan Normal University. In the third stage, a designated sampling method was used to select 32 third-year students from the music education major at the School of Science and Technology, Gannan Normal University. There were two classes in this grade, and then a simple random sampling method was used to determine the A class of the music education major at this university. The students in this class are aged 22-24, with 7 males and 25 females.

4.3 Variable

Independent Variable: The enhancement of the teaching model for music creation ability among college students majoring in music education.

Dependent Variable: The Music creation ability of college students majoring in music education.

4.4 Research hypothesis

After the implementation of the teaching model, students' posttest scores for music creation ability were significantly higher than their pretest scores, with the difference reaching statistical significance at the 0.05 level.

5.Research significance

This study aims to clarify the connotation of music creation ability by reading relevant literature, understand the current situation of music creation ability among students majoring in music education in universities, and explore the relevant theories, principles, and strategies for cultivating music creation ability. In depth research on constructivist teaching theory mainly focuses on the issue of music creation ability in music education students, namely future music teachers, and constructs a teaching model for cultivating music creation ability, which can enrich theoretical research on this issue and have certain positive significance for promoting the study of music teachers' music creation ability. Updating the traditional educational concepts of teachers, improving traditional teaching methods, and guiding teachers to use teaching models to cultivate students' music creation ability have important theoretical significance and practical value..

1. This study can not only enrich the theory of music creation ability and practical materials for measuring music creation ability, but also provide theoretical guidance for changing traditional classroom teaching, promoting teaching reform, innovating teachers' teaching methods, and enhancing teachers' teaching abilities.

2. It has certain practical value for cultivating music creation ability among students majoring in music education in universities.

3. It has certain practical significance for the creative education practice of basic music education and the on-the-job training of creative music teachers.

6.Definition

6.1 Creation ability

Creativity is a psychological quality reflected by the human brain in response to the objective world. It is the ability of individuals to engage in creative

activities and achieve creative results in a certain social environment. The process of creativity is the creative process, which is essentially the process of creative psychology. The core of this process is thinking, that is, creative thinking. Creativity refers to the ability of individuals to think creatively during the creative process. Creative thinking refers to the cognitive activity of reorganizing existing knowledge and experience, proposing new solutions or procedures, and creating new results. Creative thinking is the dialectical unity of divergent thinking and convergent thinking, with divergent thinking playing a very important role.

6.2 Music Creative thinking

Music creation ability is the unity of divergent and convergent thinking, forming a comprehensive ability of music creative thinking. It is a comprehensive ability that people must possess to successfully complete music creative activities. It is a unique cognitive process based on sound, time, and emotion, and the unique logic of music language. In music activities, it is the ability to express one's emotional experience smoothly, flexibly, and uniquely through various means. The music creation ability referred to in this study is the ability of students in the process of music creation, such as the ability to improvise rhythm and melody, rhythm, and rhythmic movements. The evaluation is mainly based on three dimensions of students' divergent thinking in creation, namely fluency, flexibility, and uniqueness.

6.3 Divergent thinking

Divergent thinking is a thinking process that unfolds from multiple directions, angles, and levels, capable of thinking about a problem from different perspectives and imagining multiple solutions to solve it. Divergent thinking has the characteristics of fluency, flexibility, and uniqueness, which are the main features of creative thinking.

6.4 Fluency

Fluency is the ability to produce many different ideas and solutions. A fluent thinker can produce a variety of interpretations, rhythmic accompaniment and movements when contact with a piece of music. The fluency referred to in this paper

refers to the dimension of fluency in musical creative thinking, which is the number of music freely created by subjects within the specified time and the number of fixed vocal patterns created.

6.5 Flexibility

Flexibility is the ability to develop a different idea or approach to a particular problem or situation. The flexibility in this paper refers to the flexibility dimension in music creative thinking, that is, the type of different styles of music works created within a certain period of time as the standard, the richer the type, the higher the flexibility of thinking.

6.6 Uniqueness

The measure of the uniqueness dimension in musical creative thinking is whether the musical works created or the musical creativity produced is novel and original.

6.7 Constructivism

Constructivism is the process in which learners construct new ideas and concepts based on their existing knowledge and experience through cognitive learning theory, advocating for a student-centered approach. Throughout the teaching process, teachers are not providers of knowledge, but organizers, guides, helpers, and facilitators.

6.8 Music teaching model

On the basis of combining certain music teaching theories with practice, a teaching paradigm is constructed to achieve specific teaching objectives, with a relatively stable and concise teaching structure framework and operable procedures. The music creation ability teaching model is a relatively stable teaching paradigm formed in a certain environment around the goal of music creation ability under the guidance of certain teaching ideas and theories. The music teaching model in this article is developed under the guidance of constructivist theory. It includes six parts: teaching principles, teaching objectives, teaching process, media resources, learning evaluation, and teaching content, ensuring the accuracy and authenticity of data during

the measurement process. In the research process, teacher evaluation, student interviews, expert interviews, music creation ability measurement forms, self-evaluation, and student peer evaluation were used.

7. Conceptual framework

According to the above definition of the concept, the investigators reviewed the conceptual framework of this study as shown in the figure below:

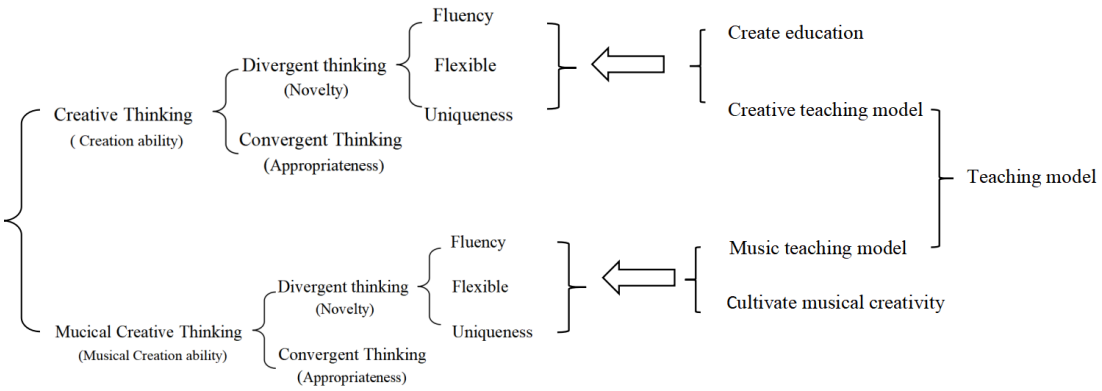


FIGURE 1 Conceptual framework

The definitions in this study primarily encompass three main concepts: creativity (creative thinking), music creation ability (musical creative thinking), and teaching models. Creative thinking includes both divergent thinking and convergent thinking, with an emphasis on divergent thinking. Divergent thinking is characterized by three dimensions: fluency, flexibility, and originality. Similarly, musical creative thinking also includes both divergent thinking and convergent thinking, with a focus on divergent thinking. The dimensions of divergent thinking in this context are also fluency, flexibility, and originality. The main issue addressed in this study is the development of a teaching model to enhance music creation ability. Therefore, the definitions in this paper also cover the concept of teaching models, including explanations of creative education, creation ability teaching models, music creation ability, and music creation ability teaching models.

CHAPTER 2
LITERATURE REVIEW

The main purpose of this study is to develop a teaching model to enhance the music creation ability of students majoring in music education in universities. Based on the research objectives, independent variables, and dependent variables, this study mainly conducts literature review, analysis, and organization on "creativity", "music creation ability", "the connotation of music creation ability", "teaching models", etc., laying a theoretical foundation for this study. The literature review related to this is divided into the following five parts:

1. Creativity
    1.1 Research on creativity in CNKI
    1.2 Research on the concept of creativity
    1.3 Historical review of research on creativity
2. Music creation ability
    2.1 Research on music creation ability in CNKI
    2.2 The scope of music creation ability
    2.3 The structure of music creation ability
    2.4 The measure of music creation ability
    2.5 Development of musical creative thinking measures in this study
3. Create education
    3.1 Creating the history of education
    3.2 Creative education research in CNKI
4. Research on the teaching model of music creation ability cultivation
    4.1 Research on the teaching model of cultivating music creation ability in China
    4.2 Research on teaching models on cultivating music creation ability in other countries
5.Teaching theoretical basis

1. Creativity

1.1 Research on creativity in CNKI

A search for "creativity" in the China National Knowledge Infrastructure (CNKI) database revealed 45,543 Chinese documents and 14,781 foreign documents. Analysis of annual publication trends indicates that interest in creativity research among Chinese scholars surged around the turn of the 21st century and has remained consistent since then. Post-2013, there was a peak in foreign literature publications, with interest stabilizing at a high level (see figure).

In terms of research focus, Chinese literature primarily addresses general creativity and its cultivation, with music teaching creativity ranking 26th. In contrast, foreign literature predominantly explores creativity within the contexts of enterprise economics, psychology, and other disciplines, with creativity in higher education ranking fourth. Publications related to music and dance numbered 395, ranking 14th and accounting for 2.49% of the total.

Overall, the past decade has witnessed an increasing trend in research on creativity and its citation frequency, highlighting its growing prominence as a significant topic in academic research.

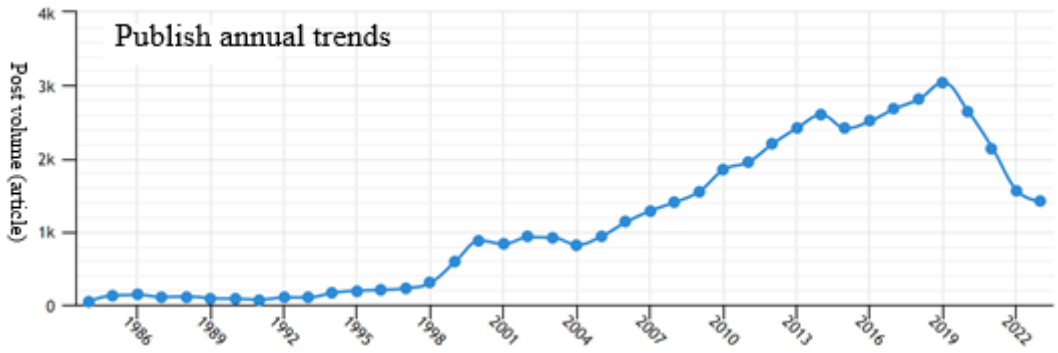


FIGURE 2 Annual trend of "creativity"

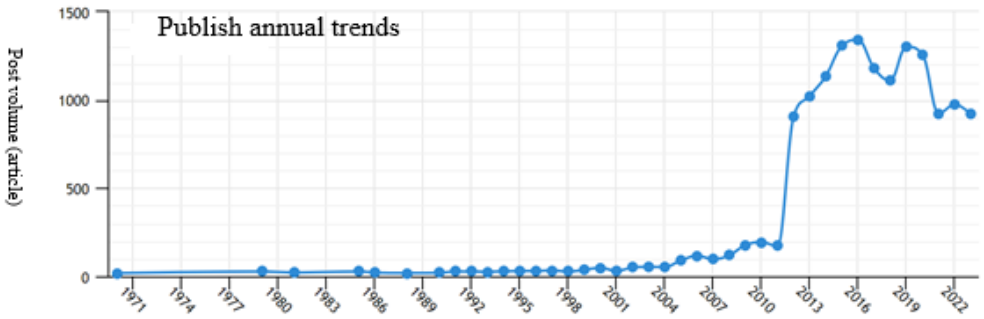


FIGURE 3 The annual trend of "creativity" in foreign language literature publication

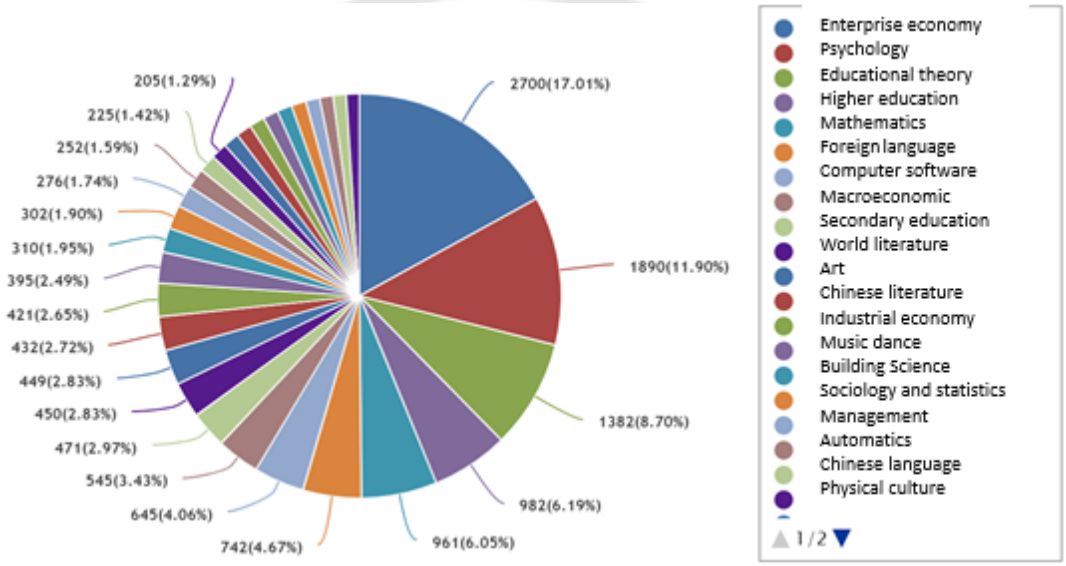


FIGURE 4 "Creativity" literature discipline distribution

1.2 Research on the concept of creativity

The concept of creativity is defined in various ways across different fields. In the context of human creativity, "sea" refers to the capacity of individuals engaged in creative activities to generate new concepts, knowledge, and ideas through the processing and creation of existing knowledge and experiences. This process typically involves perception, memory, thinking, and imagination, and represents a fundamental quality for human self-realization (Xia, 2010).

In the field of pedagogy, creativity is understood as the ability of students to produce both novel and appropriate works within a specific domain (Sternberg &

Lubart, 1996). Some scholars define creativity as the ability to utilize all known information for specific purposes and tasks, engaging in active thinking to produce novel, unique, and intellectually valuable products with social significance (Sun, Mi, & An, 2000). This perspective emphasizes the development of individual initiative, rich creativity, and the pursuit of personal value and significance.

The New Dictionary of Contemporary Western Psychology defines creativity as the collective ability to innovate across various activities. It refers to the novel and unique capacity to solve problems, generating new ideas, theories, products, or technologies that have social value (Che, 2001).

Throughout history, there have been numerous definitions of creativity, and no single, unified definition exists. The understanding of creativity evolves over time, influenced by varying social, cultural contexts, and historical figures. Currently, creativity remains a complex and often debated concept. As such, the human understanding and interpretation of creativity require ongoing exploration.

Despite the diversity in definitions, there is a broad consensus on two core characteristics of creativity: novelty and appropriateness. Creativity encompasses four primary dimensions: human creation, the creative process, creative product development, and the creative environment.

1.3 Historical review of research on creativity

The study of creativity dates back to 1869 when British psychologist Francis Galton published Genetics and Genius, laying the groundwork for understanding creative genius by analyzing the thinking characteristics of 977 eminent individuals (Dou, 2020). In 1920, M. Wertheimer, a pioneer of German Gestalt psychology, explored creativity from an overall structuralist perspective in his book Creative Thinking. Wertheimer examined the creative processes of children, adults, and Nobel Prize winners, contributing significantly to the understanding of creative thinking and methodology (Hu, 2000).

In 1950, J.P. Guilford, often regarded as the "father of creativity," delivered a seminal address on creativity as President of the American Psychological Association

(APA). He introduced the theory of creativity centered around "divergent thinking" and pioneered methods for measuring creativity (Shi, 2006). Following this, numerous scholars, including Torrance, Webster, Aabbel, Hiszantmihigh, Sternberg, Weisberg, and Gardner, have significantly contributed to the field.

Since the turn of the 21st century, research on creativity has increasingly focused on the generation, formation, development, and cultivation of creative abilities, reflecting a trend towards greater diversification and complexity.

2. Music Creation Ability

Following Peter Webster's systematic theoretical and practical decomposition of Music creation ability and the formulation of evaluation methods, numerous scholars have conducted extensive research to define and measure Music creation ability from various perspectives, including cognitive attributes, personality traits, and environmental factors. The literature on Music creation ability includes the following studies:

2.1 Research on Music creation ability in CNKI

A search for the theme "Music creation ability" in the CNKI database yielded 474 Chinese documents and 119 foreign documents. Analysis of annual publication trends reveals that scholarly interest in Music creation ability began to increase in 2010 and has remained significant since then. Interest peaked around 2016, with a subsequent stabilization at a high level (see figure).

In terms of disciplinary focus, Chinese literature predominantly covers music and dance, primary education, and secondary education, with only 46 publications in higher education, accounting for 8.24%. Conversely, foreign literature primarily addresses music and dance, enterprise economics, and psychology, with 11 publications in higher education, representing 6.3%.

Overall, the trend in research on Music creation ability and the frequency of literature citations have shown a rising trajectory, reflecting growing academic attention to the field. Despite this, research on Music creation ability in higher education remains relatively underexplored, indicating substantial opportunities for further investigation in this area.

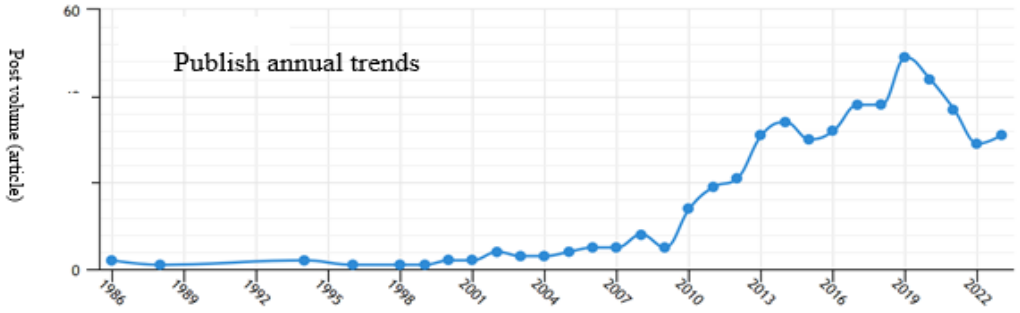


FIGURE 5 The annual trend of the Chinese literature publication of "Music creation ability"

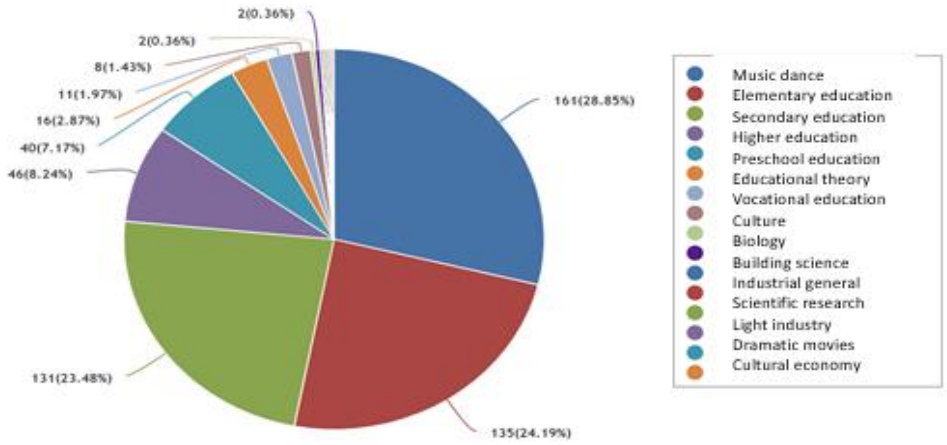


FIGURE 6 The annual trend of the Chinese literature publication of "Music creation ability"

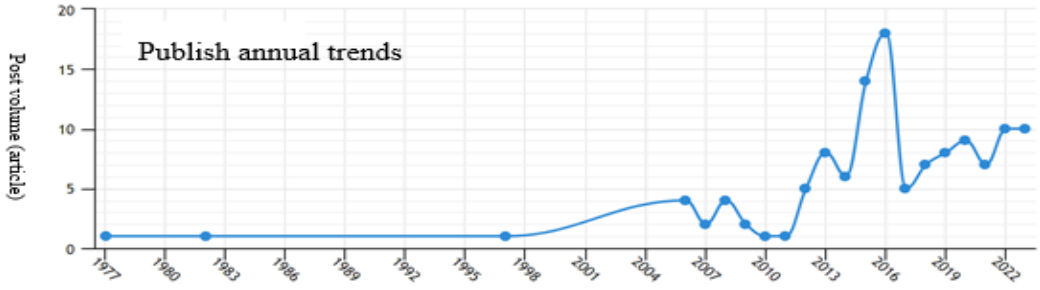


FIGURE 7 The annual trend of foreign literature publication of "Music creation ability"

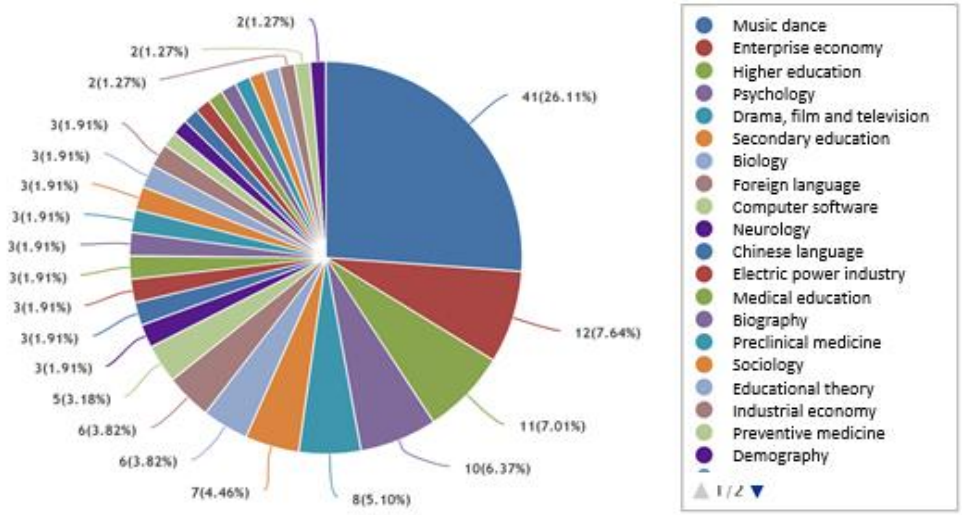


FIGURE 8 "Music creation ability" shows the subject distribution of foreign language literature

2.2 The scope of music creation ability

While the study of general creativity dates back to the early 20th century, research specifically focused on creativity within music education is a relatively recent development. Balkin (1990) initially proposed a framework for understanding Music creation ability that includes three dimensions: the creator, the process, and the product. Webster later expanded this framework to the 4P model, incorporating the dimensions of people, process, products, and places (Hickey & Webster, 2001).

Historically, Music creation ability was often viewed as a specialized ability exclusive to professional composers and performers, focusing primarily on the "product" of creativity. However, contemporary academic perspectives recognize that creativity is a fundamental aspect of human nature, with varying degrees present in everyone (Richards, 2007). This distinction has led to the differentiation between "capital C" creativity, signifying major creative contributions, and "lowercase c" creativity, representing everyday creative activities.

In general music education, the emphasis is on developing well-rounded individuals rather than producing outstanding musicians. Consequently, Music creation ability in this context focuses on everyday creative engagement with music. This

includes all aspects of music practice and permeates the entire music education process.

The research in this study targets students majoring in music education at normal schools. As future music teachers for primary and secondary schools, these students would play a crucial role in providing quality music education and fostering creativity among younger students. Therefore, the Music creation ability referred to in this study pertains to the everyday creativity that future educators should possess to effectively engage in music teaching and enhance the creative abilities of their students, rather than the exceptional creativity of professional musicians.

2.3 The structure of music creation ability

The process of creativity is intrinsically linked to creation itself and is fundamentally a psychological process, with thinking as its core component. Webster (2002) defines musical creative thinking as "a dynamic psychological process alternating between divergent and convergent thinking, driven over time by internal musical skills and external conditions, leading to the production of a final musical product."

Chinese scholar Cao Li (1993) adds that Music creation ability is primarily grounded in divergent thinking, characterized by unique insights into musical activities and expressed fluently.

There is broad consensus regarding the essential characteristics of Music creation ability, which include novelty and appropriateness. Mazzola (2011) emphasizes that Music creation ability involves the ability to create works within the field of music that are either thoughtful or original, as well as appropriate or valuable. This perspective aligns with Dou Junhong's (2020) findings on the implicit structure of Music creation ability among pre-professional music teachers, which confirms this fundamental agreement.

2.4 The measure of Music creation ability

Measuring Music creation ability presents a challenging and intricate task. To assess the impact of teaching methods and patterns on Music creation ability,

researchers have increasingly focused on developing measurement approaches. The predominant approach in the study of Music creation ability has been influenced by the broader trends in creativity research, which typically employ quantitative evaluation methods rooted in psychological frameworks. However, some scholars also utilize qualitative research methods to gain a deeper understanding of Music creation ability.

2.4.1 Quantitative measurement

Quantitative measurement is the primary evaluation method employed in Music creation ability research. This approach aims to assess the effectiveness of various strategies for enhancing creativity and to explore the relationships between creativity and other variables. Existing evaluation scales predominantly focus on the characteristics of creative products, such as fluency, flexibility, and uniqueness, and utilize quantitative statistical methods for scoring. Many of these creative tasks for measurement are centered on improvisation.

Due to the inherent complexity and elusiveness of the creative thinking process, which poses challenges for psychological experimentation, Gilford proposed utilizing divergent thinking as a tool for measuring creativity. He assessed creativity through the dimensions of fluency, flexibility, and uniqueness in creative thinking. Building on this framework, Torrance developed the renowned Torrance Tests of Creative Thinking (Torrance, 1974). Similarly, "Fine" introduced the "Creative Thinking Test" as a means to evaluate creativity. Webster, leveraging these foundational methods, proposed a thinking structure model of Music creation ability and developed a prominent measure for Music creation ability, which remains one of the most widely recognized tools in the field.

The model delineates the process of Music creation ability with its core components and interactions. At the top of the model is the intention behind creating a musical product, while at the bottom lies the actual composition of musical creative outputs, which encompass activities such as composition, improvisation, performance, listening, and analysis. Central to the model is the thinking process,

encompassing both divergent and convergent thinking, interconnected through Wallace's four-stage theory: preparation, incubation, illumination, and verification.

On the left side of the model are the reinforcing skills utilized by the creator, including talent, conceptual understanding, craftsmanship, and aesthetic sensitivity. These skills are influenced by the conditions on the right side of the model, which encompass personal motivation, personality, maturity, socio-cultural environment, tasks, interpersonal relationships, and past experiences.

The model illustrates the fundamental process of Music creation ability: when a creator embarks on creating music, their mind typically begins with an intention related to the musical product (whether composition, improvisation, performance, listening, or analysis). As this intention is established, the creator employs the requisite skills, influenced by various conditions, and navigates through the stages of divergent and convergent thinking. This process ultimately culminates in the production of innovative musical products.

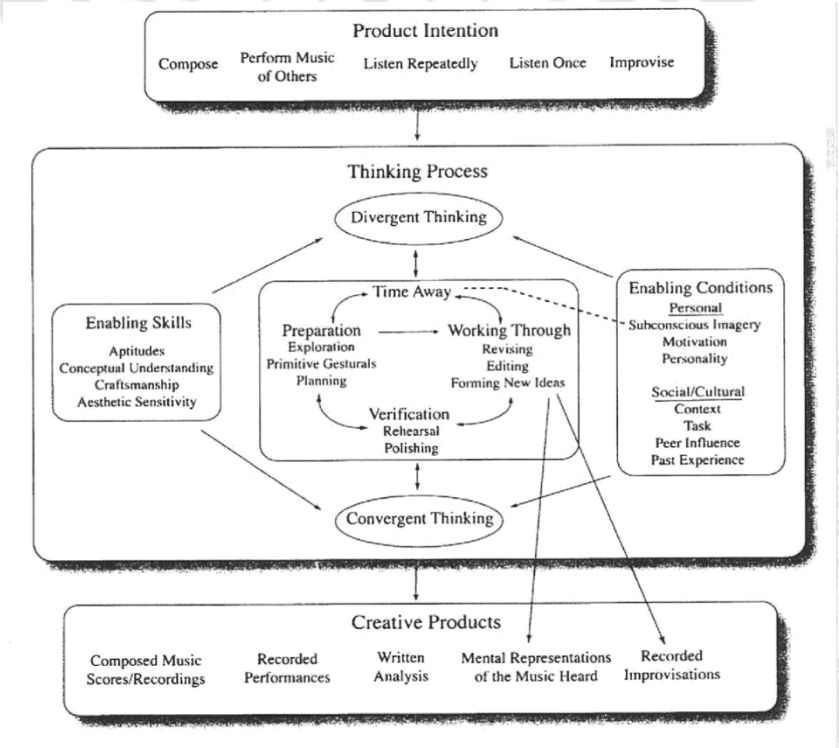


FIGURE 9 Model of Creative Thinking Process in Music(Webster 2002)

Drawing from established methods of creativity assessment, contemporary Music creation ability evaluation scales frequently utilize Webster's "Music creation ability Thinking Measurement" as a foundational framework. This measurement encompasses several key test elements:Musical Fluency: This refers to the duration of time spent on producing musical feedback.Musical Flexibility: This measures the extent of variation in musical elements, such as pitch (from low to high), dynamics (from soft to loud), and tempo (from fast to slow).Musical Originality: This assesses the uniqueness of the musical output.Musical Systematization: This evaluates the degree to which musical events are organized logically and cohesively, emphasizing the overall coherence of the music rather than isolated components.

Additionally, Wald's "Music Problem Solving Measurement" scale categorizes creative thinking tests into two primary dimensions:Fluency: This dimension assesses the volume and diversity of musical outputs produced within a set timeframe using various musical materials (e.g., sand hammer, triangle, microphone) and fixed-type improvisations.Flexibility: This measures the range of variations in musical dynamics, tempo, and pitch, reflecting the adaptive use of musical elements and their transformations.

The measurement of Music creation ability can be approached from several perspectives:Thinking Attributes:Webster defines musical creative thinking as "a dynamic psychological process that alternates between divergent and convergent thinking. Over time, this process, driven by internal musical skills and external conditions, results in the creation of musical products." In this view, cognitive processes play a central role in Music creation ability.Cao Li, a Chinese scholar, posits that Music creation ability is grounded in divergent thinking. This type of thinking provides unique insights into musical activities and can be expressed fluently (Cao, 1993).

Personality Traits:Frank Williams suggests that if creativity is a psychological quality, personality traits are significantly influential. He argues that cognitive behavior and personality traits are interrelated and mutually reinforcing (Williams, 1979).

Environmental Factors:Pamela Burnard introduces the concept of "diverse music creation ability" from a socio-cultural perspective. She asserts that creativity is influenced not only by cognitive processes but also by the social and cultural environment. According to this view, the diverse aspects of music creation, including social, family, and school environments, should be considered in the measurement of Music creation ability (Burnard, 2015).

2.4.2 Qualitative assessment

As quantitative measurement methods have become more prevalent in assessing Music creation ability, their inherent weaknesses and limitations have become increasingly apparent. Criticisms have emerged regarding the efficacy of purely quantitative approaches, prompting scholars to explore and integrate qualitative evaluation methods as a complementary research path.

Quantitative assessments often focus on measurable attributes such as fluency, flexibility, and originality of creative outputs, but they may fall short in capturing the nuanced, subjective aspects of creativity. These methods may not fully account for the context, individual differences, and the complex cognitive processes involved in Music creation ability.

In response to these limitations, researchers have begun to advocate for qualitative approaches that offer deeper insights into the creative process. Qualitative evaluation methods emphasize understanding the context and experiences of individuals, capturing the richness and diversity of creative phenomena. By combining quantitative and qualitative methods, scholars aim to provide a more comprehensive and nuanced assessment of Music creation ability, addressing both measurable outcomes and the underlying processes and experiences.

Coulson and Burke's study, from the perspective of student assessment, involved 118 second- to fourth-grade students who evaluated Music creation ability after listening to various pieces of music. The study identified nine categories that students used to assess creativity in music: rhythm changes, types of instruments, melody variations, engaging lyrics and content, captivating melody and

rhythm, timbre of sound or instruments, appealing style, rhythmic dynamics, and musical harmony.

In addition, Thomas described several elements based on the quality of student evaluations, including: complexity, variety of pitches, melodic appeal or contrast, melodic range, overall melody outline, sound quality, beat, rhythmic diversity or appeal, pleasantness of sound, singability or song-like melody, coherence, flexibility, use of metaphor, minimal performance errors, originality, steady rhythm, and musical or performance skill, among other factors.

The qualitative assessment methods mentioned above offer a more comprehensive and detailed approach compared to those considered in quantitative measurement. These methods have the advantage of evaluating both the characteristics of the created work and the process of creation. They avoid the rigid constraints of quantitative evaluations by incorporating descriptive terms and various indicators, making them more aligned with the unique attributes of Music creation ability.

However, these qualitative methods have limitations. They are well-suited for evaluating works that have been thoroughly developed and are relatively stable. In contrast, they are less applicable for assessing improvisation due to the depth and complexity of the evaluation criteria.

In general, research on Music creation ability in the West began in the 1980s. In China, however, there is a relative scarcity of research on Music creation ability, including its definition, measurement, education, teaching, and influencing factors. Current research on the connotation and measurement of Music creation ability predominantly follows psychological methods used for creativity studies and lacks a definition rooted in music ontology. Additionally, the measurement research tends to be technical, narrow, and one-sided, focusing on a limited range of creative tasks.

Any standard for measurement and definition must be contextualized within the relevant knowledge background and cultural framework. Thus, research on the connotation and measurement of Music creation ability in China must be grounded

in specific practical activities and creative tasks, taking into account particular situations and creative behaviors.

2.5 Development of music creative thinking measures in this study

Music creation ability is based on divergent and convergent thinking, the ability to hold unique insights into musical activities and express them in a fluent form. Music creative thinking is a dynamic psychological process that alternates between divergent and convergent thinking. As mentioned earlier, the process of creative thinking is mysterious and unpredictable. The structure of music creation ability in this study is mainly based on Webster and Cao Li's understanding of the structure of music creation ability, using divergent thinking as a tool to measure specific indicators of music creation ability. The three dimensions of divergent thinking - fluency, flexibility, and uniqueness. In this study, fluency refers to the ability to generate many different ideas and solutions. A fluent thinker can produce various interpretations, rhythmic accompaniments, and movements when exposed to a piece of music. Flexibility is the ability to generate different ideas or methods for specific problems or situations.The uniqueness is novel, unique, whether there is originality.

However, measuring the three dimensions of divergent thinking (fluency, flexibility, and uniqueness) still lacks operability. Therefore, based on the reference to the Torrance Creative Thinking Test and Webster's music creation ability Measurement Method, this study further developed a music creation ability measurement table by using externally observable and operable "products" as specific measurement indicators. The structure of music creation ability (music creative thinking) and corresponding indicators at each level are shown in the following table:

TABLE 1 The structure of music creative thinking and indicators at each level

Data Resource	Music creation ability aspect (Creative thinking)	Dimensions	Behavior indicators
(Webster ,2003) (Torrance,1974)	Divergent Thinking (Novelty)	fluency	Time used to create music (in seconds)
		flexibility	The number of different musical works created in a certain period of time
		unique	Whether the music works created are novel and original

As a research experiment focusing on the development of teaching models, this study mainly uses the core part of creative thinking in music, divergent thinking, as the measurement indicator, and corresponds to three operable and measurable indicators for the three dimensions of divergent thinking. The measurement of fluency dimension in music creative thinking is based on the time used for music creation, specifically the number of music pieces freely created by participants within a specified time frame, as well as the number of fixed patterns created. The measurement of flexibility dimension in music creative thinking is based on the types of music works created in different styles within a certain period of time, and the richer the types, the higher the flexibility of thinking. The measurement of the unique dimension in music creative thinking is whether the created music works or the generated music creation ability are novel and original.

Based on the above content, researchers have refined specific behavioral indicators for measuring music creative thinking. The specific indicators are shown in the following table:

TABLE 2 Music creative thinking measurement standard

Test project	Measurement index	Indicater	Level5 (5point)	Level4 (4point)	Level3 (3point)	Level2 (2point)	Level1 (1point)
Creative Thinking in Music (Divergent Thinking)	Fluency	The number of works created within a specified time.	≥10	8—9	5—7	2—4	≤1
	Flexibility	The number of works created within a specified time that can change different musical styles, forms, and structures.	≥10	8—9	5—7	2—4	≤1
	Unique	Whether the music works created are novel and original	Very unique and perfect	Very unique	General unique	More ordinary	Very normal

Researchers would use this measurement table to design corresponding music creation ability test papers, and test students before and after the experiment. Based on this measurement table, students would be scored to compare their music creation ability levels before and after the experiment.

Researchers would use this measurement table to design corresponding music creation ability test papers to test students' music creation ability (music creation ability thinking), including pre-test and post test, comparing students' music creation ability levels before and after the experiment. The table takes fluency, flexibility, and uniqueness, which are the main dimensions of divergent thinking in music creative thinking, as the main measurement dimensions, and designs corresponding operational indicators that are easy to operate and measure. There are three aspects to

measurement. Measure the fluency of students' creative thinking in music by 5 points, based on the number of music pieces freely created by the subjects within a specified time and the number of fixed pitch patterns created. If 10 or more works are created within the specified time, they would receive a Level 5 score. If 8-9 works are created within the specified time, they would receive a Level 4 score. If 5-7 works are created within the specified time, they would receive a Level 3 score. If 2-4 works are created within the specified time, they would receive a Level 2 score. If 1 or less works are created within the specified time, they would receive a Level 1 score.

Measure the flexibility of students' creative thinking in music by 5 points, and evaluate the score based on the types of music works created by students in different styles within a certain period of time. If more than or equal to 10 different types of works are created within a specified time, a Level5 score would be obtained. If 8-9 different types of works are created within a specified time, a Level4 score would be obtained. If 5-7 different types of works are created within a specified time, a Level3 score would be obtained. If 2-4 different types of works are created within a specified time, a Level2 score would be obtained. If less than or equal to 1 different type of work is created within a specified time, a Level1 score would be obtained.

Measure the uniqueness of students' creative thinking in music by 5 points, and evaluate the score based on the uniqueness of the music works created by students within a certain period of time. The score was assessed by all students and teachers sharing all their subjective qualitative ratings. If the work created within the specified time is very unique and perfect, it would receive a Level 5 score. If the work created within the specified time is very unique, it would receive a Level 4 score. If the work created within the specified time is relatively unique, it would receive a Level 3 score. If the work created within the specified time is more ordinary, it would receive a Level 2 score. If the work created within the specified time is very ordinary, it would receive a Level 1 score.

3. Create education

3.1 The history of creativity education

Creativity education is a branch of creatology, a new discipline that emerged in the 20th century, dedicated to studying the laws of human creative activities and their application. Creativity education began in 1916 when American educator John Dewey first proposed the theory of cultivating creative talents in schools. In 1939, General Electric in the United States introduced the "Creative Engineering" course to enhance employees' creative abilities. Since World War II, creativity education has gained attention worldwide and has gradually formed a theoretical system. The United Nations Educational, Scientific and Cultural Organization (UNESCO), in its 1972 report "Learning to Be," provided a comprehensive and dialectical explanation of the tasks of creativity education. It stated that education has the power to cultivate creative spirit as well as to suppress it. Education's complex task within this scope includes maintaining an individual's originality and creative power while addressing the needs of real life, transmitting culture without stifling it with ready-made patterns, encouraging the development of genius, abilities, and personal expression without fostering individualism, and paying close attention to each person's uniqueness while recognizing that creativity is also a collective activity (UNESCO, 1979).

In China, the first person to clearly propose the concept of creativity education was the renowned educator Tao Zhixing, a pioneer in the field. He not only proposed systematic theories and methods for creativity education but also engaged in extensive practical applications. In the 1930s, he published the "Creativity Manifesto," in which he stated, "Every place is a world of creativity, every day is a time for creativity, and everyone is a person of creativity." He believed that creativity is an activity in which everyone should participate (Tao, 2021).

3.2 Creative education research in CNKI

Due to historical reasons, creativity education in China did not develop until the early 1980s. By searching the CNKI database with the keyword "creativity education," a total of 7,724 Chinese documents and 720 foreign documents were found.

Analyzing the annual distribution, the trend chart of Chinese literature shows that scholars began to pay more attention to creativity education research around 2000, and this attention has remained at a high level since then, as shown in the chart.

A comprehensive analysis of existing research results reveals that, in terms of thematic distribution, Chinese literature mainly focuses on themes such as creativity education, Tao Xingzhi, and the ideology of creativity education. Regarding discipline distribution, the majority of research is found in educational theory and management, secondary education, and primary education, with 856 papers (10.96%) related to innovation education in higher education.

According to the annual publication trend, foreign literature on creativity education also showed an upward trend after 2000, peaking in 2016, and then declining to about 20 papers per year. The disciplinary distribution of foreign literature indicates a significant focus on creativity education in higher education, ranking second and accounting for 15.18%.

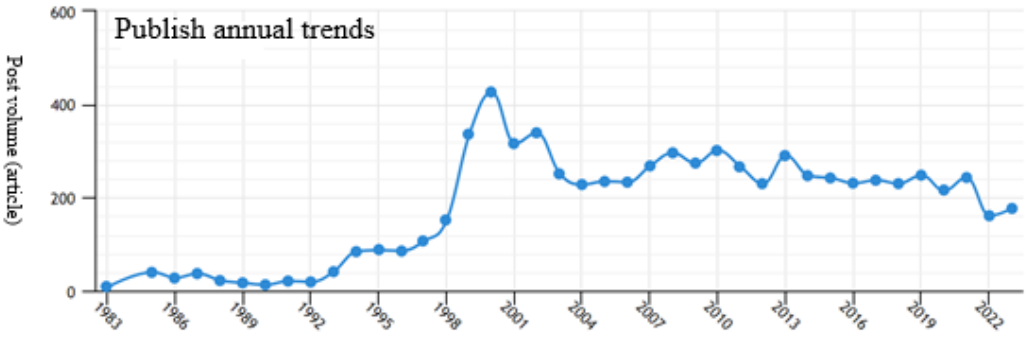


FIGURE 10 Annual trend of Chinese literature on "creating education"

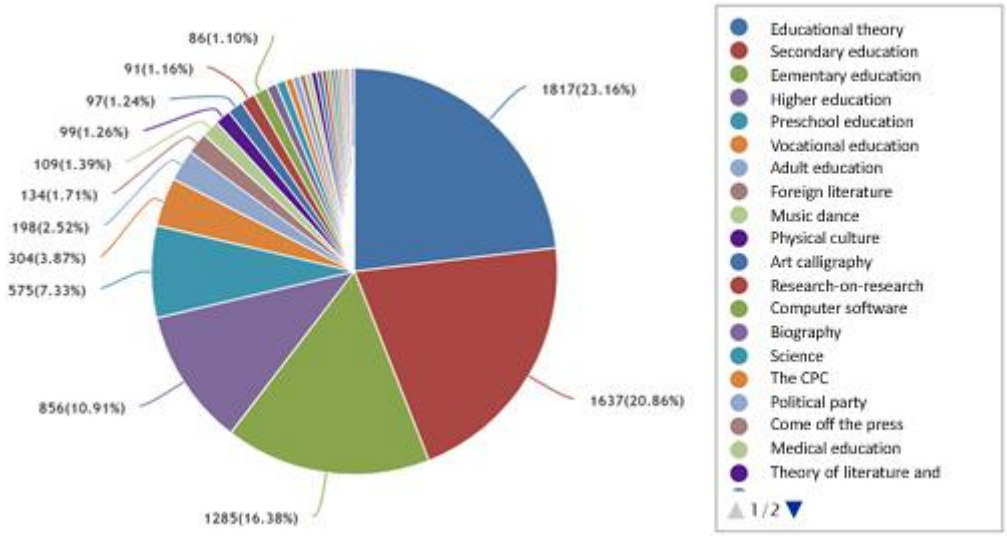


FIGURE 11 "Creative education" of Chinese literature subject distribution

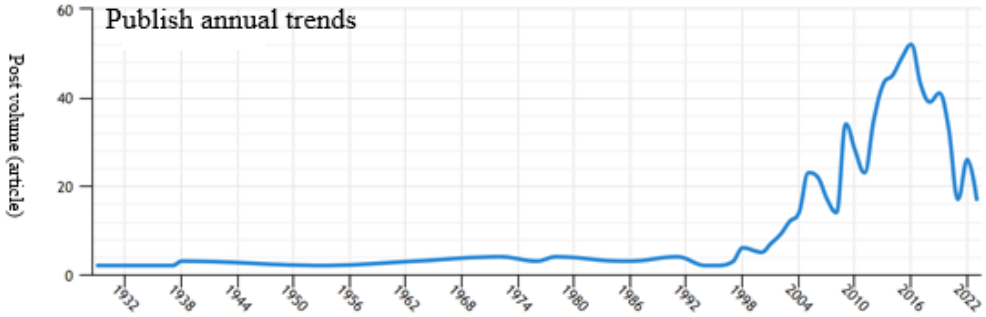


FIGURE 12 The annual trend of foreign literature publication of "creative education"

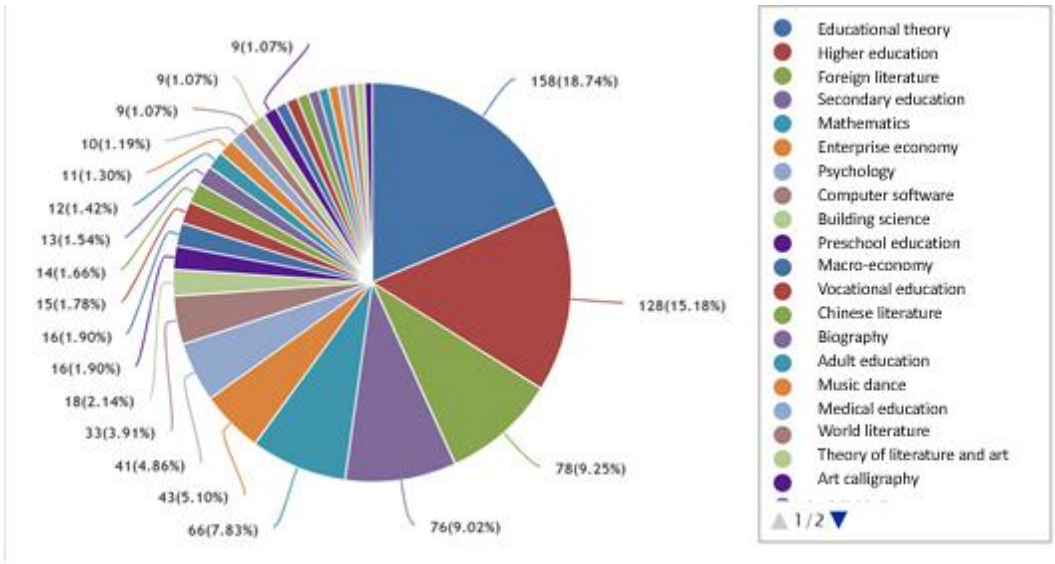


FIGURE 13 "creative education" foreign language literature subject distribution

Overall, scholars both domestically and internationally have paid significant attention to the study of creativity education, especially around the year 2000. Chinese literature has consistently maintained an annual output of over 200 papers, peaking at 400 papers in 2000. Foreign literature has averaged over 20 papers annually, reaching a peak of over 50 papers in 2016. This indicates that scholars have maintained a close focus on creativity education since 2000.

4. Research on the teaching model of music creation ability cultivation

4.1 Research on the teaching model of cultivating music creation ability in China

In terms of teaching models for cultivating music creation ability, Tong He constructed the Generative music creation ability Teaching model (Tong, 2014), and Yu Yi proposed the "5C" music creation ability Teaching model (Yu, 2017). The research subjects for these two teaching models mainly focus on the practical teaching of music creation ability in primary and secondary schools. Dou Junhong proposed the Reflective music creation ability Teaching model aimed at cultivating the music creation ability of pre-service music teachers (Dou, 2020). Overall, since China entered the 21st century and incorporated music creation ability into the content and core philosophy of primary

and secondary school music curricula, scholars have paid attention to the study of music creation ability. However, research outcomes have been relatively weak, with more focus on the relationship between music and creativity rather than on music creation ability itself. There has been considerable research on the practical teaching of music creation ability in primary and secondary schools, but much less on cultivating the music creation ability of students majoring in music education at higher education institutions.

4.2 Research on teaching model on cultivating music creation ability in other countries

Research on music creation ability education practice oriented towards cultivation is quite rich. Such studies emphasize case studies and practical activities to summarize experiences and provide methods and strategies for fostering music creation ability. There are studies focusing on educational practices aimed at developing music creative thinking (Hickey & Webster, 2001; Menard, 2013) and those exploring curriculum and teaching strategies for fostering music creation ability (Addessi, 2014). These studies are cultivation-oriented, offering concrete measures at the operational level for ways to cultivate music creation ability, course design, and teaching methods.

In the field of higher music education, Stavrou (2013) focused on pre-service teachers, using project-based approaches to cultivate their music creation ability. Chenette (2016) emphasized the importance of fostering music creation ability in higher music education by reviewing literature from psychology, neuroscience, and the study of creativity within music itself, and provided suggestions for curriculum integration in higher music education. These studies offer valuable insights for research on cultivating the music creation ability of students majoring in music education at higher education institutions.

5.Teaching theoretical basis

5.1 Bloom cognitive goal classification

Bloom classified cognitive objectives into six levels: remembering, understanding, applying, analyzing, evaluating, and creating. The first three are considered lower-order cognitive processes, while the latter three are higher-order cognitive processes. Higher-order cognition develops higher-order thinking skills, which are characterized by the ability to solve complex problems or complete complex tasks. Higher-order thinking involves mental activities at a higher cognitive level, including innovative thinking and cognitive abilities.

To address the limitations of traditional teacher-centered, lower-order teaching methods, this study aims to develop a learner-centered teaching model designed to enhance the music creation ability of students majoring in music education. The design of teaching and assessment would focus on the students, ensuring that the educational approach is centered around their learning needs and creative development.

5.2 Constructivism

Constructivism represents a revolutionary contemporary learning theory and is a significant influence on the development of teaching models. Originating from Piaget's theory of structures and construction, constructivism posits that cognition is an active process where individuals construct knowledge based on their existing knowledge and experiences. The constructivist view of teaching requires individuals to construct knowledge through a series of processes including observation, experience, perception, cognition, and understanding within their unique contexts, growth environments, and social backgrounds (Zheng, 2008).

Bruner further advanced the development of constructivist teaching models through his cognitive learning theory. Constructivism asserts that the activity of knowledge is constructed rather than passively received and transmitted. It emphasizes the agency of individuals as cognitive subjects, highlighting a process where learners build new ideas and concepts based on their existing knowledge and experiences

through cognitive learning theories. Constructivism advocates for a "student-centered" approach, where teachers are not mere providers of knowledge but act as organizers, guides, helpers, and facilitators. Utilizing the elements of context, collaboration, conversation, and meaning construction, constructivist teaching encourages students to construct meaning through interaction with their environment. Within the social construction of practice communities and contexts, individuals form their knowledge systems and abilities.

Teachers guide students to actively acquire knowledge and through internal processes such as analysis, judgment, internalization, and absorption, students develop their perspectives on issues and construct their knowledge structures. This approach leads them to higher levels of thinking and exploration.

When applied to education, constructivism necessitates a thorough redesign of educational goals. The focus should not be on merely increasing students' knowledge, but rather on the activities students can perform within the content domain. Students should not only acquire information but also be encouraged to put what they have learned into practice. By doing so, they can develop respect and confidence in their cognitive abilities and extend this power to a broader consideration of themselves as cultural subjects and their relationship with their surrounding environment (Bruner, 1996; Cole, 1996).

The concept of music creation ability defined in this study views it as the psychological quality of constructing novel and appropriate musical practices within a specific socio-cultural environment. This concept emphasizes that music creation ability is a constructivist process. Therefore, the teaching model developed in this study adheres to the fundamental principles of constructivism, focusing on student-centered approaches, scaffolded teaching that emphasizes the process, and fostering autonomous learning driven by motivation.

5.2.1 Be learner-centered

Through literature review and diagnosis of issues in music education talent cultivation in Chinese higher education institutions, it is recognized that improvements

are needed in both students' music creation ability and the teaching process. The focus of teaching reform should be on making instruction more learner-centered, connecting with students' realities, and emphasizing higher-order thinking skills. The developed teaching model advocates for a learner-centered approach, utilizing various teaching methods to enhance students' music creative thinking and build their cognitive frameworks. The teaching process encourages active student participation through diverse learning activities, promoting collaboration and interaction. Students improve their communication skills by engaging in discussions and teamwork.

A learner-centered approach refers to an instructional method where learners are closely involved in the decision-making process regarding the content and methods of teaching. This approach involves collaboration between teachers and learners through ongoing dialogue to determine course content and learning objectives. It emphasizes addressing learners' real-life needs, with learners taking responsibility for setting personal and practical goals and determining the steps to achieve them. In a learner-centered approach, learners have opportunities to explore, gather, and derive meaning from their educational experiences, while teachers act as guides and active participants in the learning process.

In a learner-centered model, students play an active role rather than being passive recipients of knowledge. They use the information provided by teachers or textbooks in new and creative ways, engaging in activities such as discussion, communication, analysis, and evaluation. Students are also responsible for collecting information from their surroundings, systematically recording, discussing, comparing, analyzing, drawing conclusions, and sharing their findings.

The role of the teacher in a learner-centered model differs significantly from traditional methods. Teachers are not only providers of information but also facilitators who organize activities for students to collect and use information. They guide students through these activities, help them find additional sources of information, ensure that students are genuinely thinking and analyzing, regularly check their progress to ensure all students are learning, and provide support when students encounter difficulties.

5.2.2 Cooperative learning

Cooperative learning involves using small groups in teaching, where students work together to maximize their abilities and learn from one another. Researchers have found that cooperative methods can positively impact student performance, foster critical thinking skills, enhance higher-order thinking abilities, develop metacognition, encourage a sense of responsibility for learning, improve memory, and build self-esteem (Slavin, 1990). Additionally, cooperative learning is a valuable approach for assessing understanding and teaching various learning strategies.

Cooperative learning involves working in mixed groups, where the teacher's role shifts from being a transmitter of knowledge to a facilitator of learning, and the responsibility for learning transfers from the teacher to the students. When students work together, they have the opportunity to critique and revise each other’s ideas and respond to guidance. Through interaction, they can mimic each other's thinking, reasoning, and problem-solving skills, and receive feedback, thereby constructing new understanding, knowledge, and skills socially (Ashman & Gillies, 2003).

5.3 The Construction of the teaching model

The teaching model in this study is grounded in Bloom's cognitive development theory, learner-centered constructivism, and cooperative learning. It consists of four stages: curriculum learning, task-driven activities, assignment presentation, and assignment evaluation.

Curriculum Learning: In this stage, the teacher prepares relevant materials in advance and provides online instruction or assigns online courses for students to learn. This allows students to acquire the knowledge and skills necessary for specific music creation tasks. The focus here is on students individually accumulating music creation material through lower-order cognitive processes such as memory and understanding.

Task-Driven Activities: The teacher provides students with specific music creation tasks, and students work in groups to collaboratively explore and complete

these tasks. This stage emphasizes higher-order cognitive processes, including analysis, application, and creation.

Assignment Presentation: Students present the collective creations from the previous stage in class. This stage focuses on applying and creating higher-order cognitive processes as students showcase their work.

Evaluation and Reflection: Students evaluate and reflect on their created works, which provides insights for future tasks. This stage emphasizes higher-order cognitive processes such as application and evaluation.

CHAPTER 3
METHODS

To enhance the music creation ability of university music education students, the researchers developed a teaching model aimed at improving music creation ability. The goal of this study is to construct a teaching model that enhances music creation ability in university music education students and to evaluate the effectiveness of this model.

1. Research Method

The construction of the teaching model to enhance music creation ability follows a four-phase research and development methodology.

1.1 Phase One: Research on Foundational Information

In this stage, relevant literature would be consulted, sorted, and reviewed, teachers and students would be interviewed, and students would be surveyed to collect basic data and information required for the development of this research project. The purpose is to understand relevant educational concepts, learning theories, the requirements for talents in the 21st century, the importance of creativity in talent cultivation, the measurement and evaluation of music creation ability, and relevant literature on teaching models to improve music creation ability; Investigate the opinions and existing problems of teachers and students on improving music creation ability and constructing teaching models to enhance music creation ability; Using semi-structured interviews created by researchers on music creation ability related issues, conduct interviews with research subjects and analyze the results using content analysis.

This phase includes four steps:

1.Research on the theoretical foundations and relevant literature related to this teaching model.

2.Teacher interviews.

3.Student interviews.

4.Conducting surveys with students.

1.2 Phase Two: Teaching model Design

This phase includes six steps:

1.Develop the first version of the teaching model.

2.Experts evaluate the teaching model for suitability, consistency, etc.

3.Experts assess the tools for measuring music creation ability.

4.Revise the teaching model to create the second version.

5.Pilot the teaching model.

6.Revise the teaching model to create the third version.

After understanding the foundational data and basic information from Phase One, the researchers designed the first version of a teaching model aimed at enhancing music creation ability. This version is based on constructivist theory, encouraging students to actively apply the learning process and knowledge themselves. The teaching model consists of several components: principles, objectives, teaching process, media and resources, learning evaluation, and teaching content.

Five experts in the field of education evaluated the first version of the teaching model for suitability, consistency, and the Index of Consistency (IOC) of the music creation ability measurement scale. A five-point rating scale (highest, high, medium, low, lowest) was used to assess the quality of the teaching model. Data was collected by presenting the teaching model to the experts, who then assessed its suitability and consistency using the rating scale. Based on the experts' suggestions, the researchers revised the initial draft of the teaching model to create the second version. Simultaneously, the experts evaluated the consistency index of the music creation ability measurement. The researchers piloted the updated second version of the teaching model. Based on the results of the pilot study, the researchers observed and recorded any issues and further revised the teaching model to create the third version.

1.3 Phase Three: Implementation of the Teaching model

The researchers implemented the third version of the teaching model with the target students, measuring music creation ability before and after the

implementation. Throughout the implementation process, the researchers conducted continuous observations of the students' performance. The teaching model, developed based on constructivist theory, focused on nurturing music creative thinking through activities centered on creativity, including music listening (exploring sounds and music), improvisation, and music composition.

1.4 Phase Four: Evaluation of the Teaching model

The effectiveness of the teaching model was evaluated in June 2024, after its implementation. The researchers assessed the model's effectiveness using the criterion: "Students' music creation ability after the implementation of the teaching model is higher than before the implementation." Based on the results of the implementation and data analysis, the researchers revised the teaching model to create the final version.

1.5 Research Method Flowchart

In summary of the above steps, the researchers created a flowchart for the research method, as shown below:

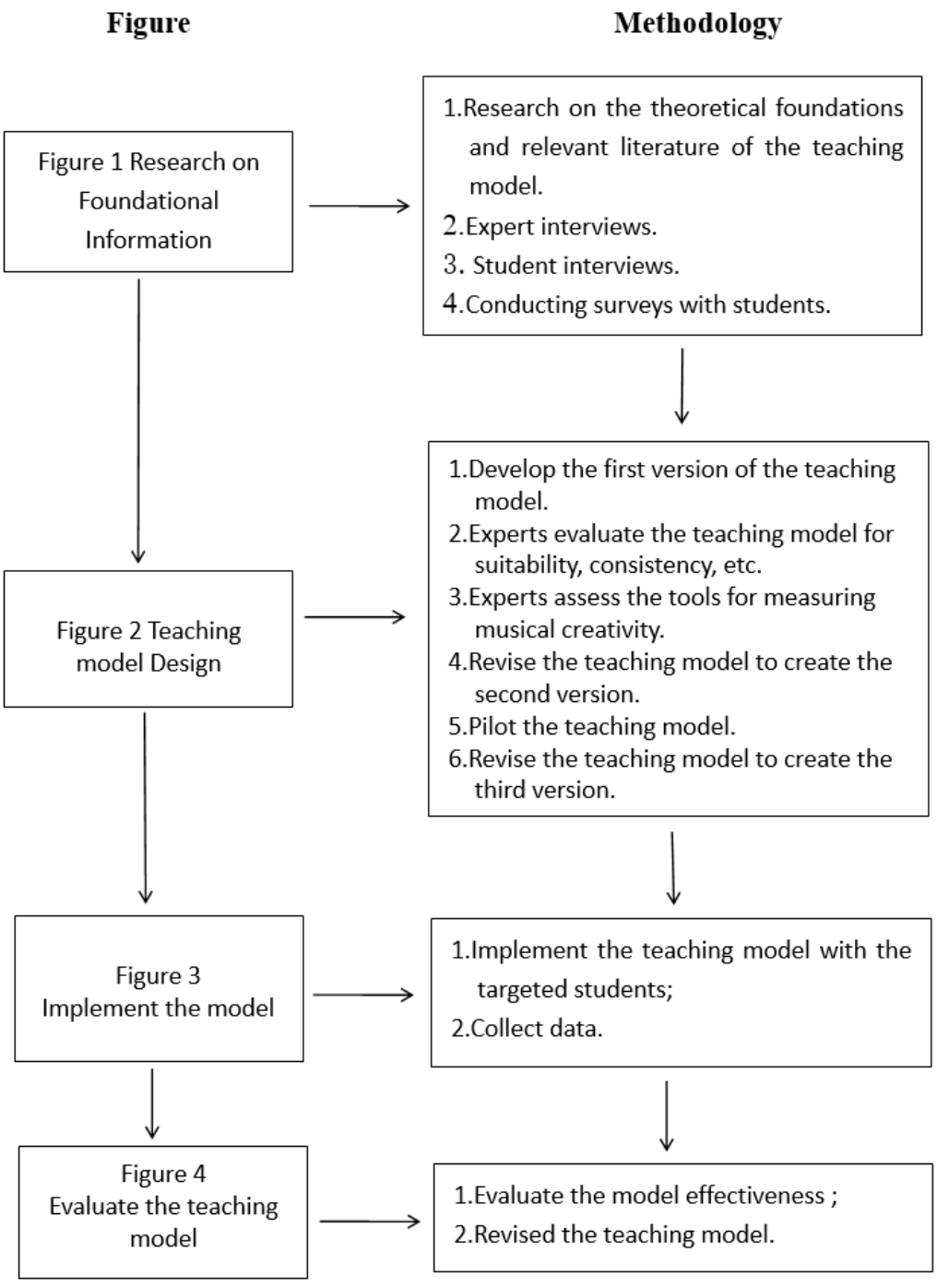


FIGURE 14 Research methodology

2. Procedures for Each Phase

2.1 Phase One: Research on Foundational Information

The purpose of this phase is to investigate the basic data and issues related to teaching models that enhance the music creation ability of university music education students.

This phase includes four steps:

1.Research on the theoretical foundations and relevant literature related to this teaching model.

2.Teacher interviews.

3.Student interviews.

4.Conducting surveys with students.

Step One: Research on Theoretical Foundations and Relevant Literature Related to the Teaching model

The purpose of this step is to study and investigate literature relevant to the research subject, including educational concepts, learning theories, the demands of creativity in the 21st century, the measurement and evaluation of music creation ability, and all related literature on teaching models that enhance music creation ability. This would provide foundational information for developing the teaching model in this study.

Step Two: Teacher Interviews

Conduct interviews with 5 teachers to understand their views on the music creation ability of students majoring in music education in universities and their suggestions for improving students' music creation ability. The researchers developed an interview outline (see Appendix 1) to engage in dialogue with experts on the music creation ability, curriculum or teaching content, teaching methods, teaching evaluation, and other issues of music teacher trainees in universities. The interview content was analyzed and summarized as the basic data for designing teaching models to enhance students' music creation ability.

The researchers would select 5 music education teachers and innovation and creativity education teachers from universities such as the School of

Science and Technology of Gannan Normal University and Gannan Normal University for interviews. The age of teachers is between 25-45 years old, and their work experience ranges from 5-20 years. Prior to the interview, obtain the personal consent of the teacher and record the interview content.

Step Three: Student Interviews

Five students would be interviewed to understand their views on music creation ability and their attitudes and suggestions for enhancing students' music creation ability. The researchers prepared an interview outline (see Appendix 2) to discuss topics with the students, including music creation ability, curriculum or teaching content, teaching methods, and teaching evaluation. The interview content would be analyzed and summarized as foundational data for designing the teaching model to enhance students' music creation ability.

The researchers would select five students from four grade levels of the music program at Gannan Normal University College of Science and Technology, including two males and three females: one first-year student, one second-year student, two third-year students, and one fourth-year student. The students range in age from 17 to 22 years. The interviews would be recorded with the students' consent.

Step Four: Conducting Surveys with Students

The purpose of this step is to collect basic information on the music creation ability of university music education students and to understand the issues in schools related to cultivating students' music creation ability. This would provide a basis for developing the teaching model in this study.

The survey would be conducted at Gannan Normal University College of Science and Technology, with a random sample of 100 students from first-year to fourth-year, with an appropriate gender ratio and age range of 19 to 24 years.

The research tool is a self-designed "Survey on University Music Education Students' Cognition of music creation ability" (see Appendix 3), using a Likert five-point scale.

2.2 Phase Two: Teaching model Design

This phase includes six steps:

1.Develop the first version of the teaching model.

2.Experts evaluate the teaching model for suitability, consistency.

3.Experts assess the tools for measuring music creation ability.

4.Revise the teaching model to create the second version.

5.Pilot the teaching model.

6.Revise the teaching model to create the third version.

1.Develop the first version of the teaching model.

This phase involves designing a teaching model to enhance the music creation ability of university music education students based on the information collected from surveys and interviews in the first phase. This phase includes six steps:

2.Experts evaluate the teaching model for suitability, consistency.

Based on the literature review, expert and student interviews, and surveys conducted in the first phase, the first version of the teaching model to enhance the music creation ability of university music education students was developed. The teaching model consists of several components: principles, objectives, teaching process, media and resources, teaching evaluation, and teaching content.

The study consulted and evaluated the teaching model via email with five experts in the fields of primary and secondary education as well as higher education. The experts' research areas cover music education and pedagogy. The suitability and consistency of the initial draft of the teaching model were evaluated. Experts used a five-point rating scale (highest, high, medium, low, lowest) to assess the suitability and consistency of the teaching model. The rating scale was assigned values from 1 to 5, representing lowest to highest, respectively. The mean, standard deviation, and coordination coefficient of each indicator's scores were calculated based on their importance. The researchers collected this data and used software for data entry, analysis, and statistics.

3.Experts assess the tools for measuring music creation ability.

While evaluating the teaching model, the experts also assessed the consistency of the music creation ability measurement tools. The researchers collected the data and used software for data entry, analysis, and statistics, analyzing the Index of Consistency (IOC) of the test items. The quality of the tests was determined by the IOC for the item objectives.

The formula used to calculate the IOC index is:

$$IOC = \frac{\sum R}{N}$$

Where IOC: Objective Consistency means Index of Item

$\sum R$: means Summation of experts' opinion marks

N: means A number of experts

If the Index of Item Objective Consistency (IOC) of each item of the test is higher than 0.5 that means it can be used in the test.

4.Revise the teaching model to create the second version

Based on the evaluation data and experts' suggestions, the first version of the teaching model was revised to create the second version.

5.Pilot the teaching model

The researchers piloted the second version of the teaching model. Ten students were selected for a pilot study to test the effectiveness of the teaching model. The teaching model and teaching plan developed by the researchers were implemented. If, after implementing the model, the pre- and post-tests of students' music creation ability showed improvement, this would indicate that the teaching model is effective. The researchers observed and recorded issues with the teaching model during the pilot study to use as a basis for further improvements.

6.Revise the teaching model to create the third version

Based on the results from the pilot study, the researchers made further revisions to the teaching model, resulting in the third version of the model.

2.3 Phase Three: Implementation of the Teaching model

The purpose of this phase is to determine the effectiveness of the revised teaching model for enhancing music creation ability and to test the feasibility of using the revised model in real-world situations.

The implementation of the teaching model involves both qualitative and quantitative research. Qualitative research focuses on analyzing text data collected through observations, interviews, and other methods during the case study. Quantitative research involves testing students' music creation ability before and after the implementation of the teaching model using a music creation ability measurement scale.

The teaching model would be implemented from April to May 2024, with a total of 8 sessions, one unit per week, and each unit consisting of two class periods. At the end of each unit, students would conduct self-assessments and peer assessments based on their performance, while the teacher would provide qualitative evaluations of each student's performance.

The students participating in the experiment would be selected through multi-stage sampling. The students are aged 22-24, including 7 males and 25 females. In terms of experimental design, the researchers used a single group pre - and post tests to test the effectiveness of the teaching model in improving students' music creation ability. This study would evaluate students' music creation ability based on three criteria: 1. fluency of music creative thinking; 2. The flexibility of creative thinking in music; 1. The uniqueness of creative thinking in music.

2.4 Phase Four: Evaluation of the Teaching model

After the implementation of the teaching model, evaluation would be based on the following criteria:

1.The experts' evaluation standards for the suitability and consistency of the teaching model before implementation.

2.The teaching evaluation standards for the implementation of the teaching model, which include:

Comparing pre- and post-test results of music creation ability among students who participated in the teaching model.

Revising the teaching model based on data analysis from the third version, and completing the final version of the teaching model.

CHAPTER 4
RESULT

This chapter presents the data analysis results of the teaching model. In this study, as described in Chapter 3, the development of the teaching model involved four stages. The data analysis results for each stage are as follows:

4.1 Results of the Basic Information Research

4.2 Results of the Teaching model Development

4.3 Results of the Teaching model Implementation

4.4 Results of the Teaching model Evaluation

4.1 Results of the Basic Information Research

The results of the basic information research are divided into the following sections:Theoretical Research and Relevant Literature Results on the Teaching model,Results of teacher Interviews,Results of student Interviews,Results of student Surveys.

4.1.1 Results of Theoretical Research and Previous Studies

The research results of relevant literature reveal the necessary information for the development of teaching models. Collect and analyze data from relevant literature to obtain a draft design of teaching model, including ideas for developing teaching model. Through domestic and foreign literature search platforms such as China National Knowledge Infrastructure (CNKI), Google Scholar, and the Library of Srinagar University in Thailand, we searched for relevant literature on "music creation ability" and "teaching model", attempting to understand the situation and existing problems of music creation ability cultivation in university music education majors in terms of literature.

Through literature review, it was found that the one-way nature of classroom teaching activities in universities is quite common, such as "indoctrination style" and "cramming style". In the teaching process, there is an excessive emphasis on teacher centeredness, knowledge transmission as the main characteristic, and a focus

on students' acceptance and mastery of knowledge, neglecting discovery and exploration (Chen, 2007). The curriculum and teaching content set by schools are disconnected from the actual classroom situation in primary and secondary schools (Li, 2015). The teaching of music creation ability has not received corresponding fidelity in specific implementation, and only general theoretical teaching forms are used in the teaching process (Fang, 2005).

China has implemented quality education, but the tendency towards exam oriented education with the college entrance examination as the command still exists. Students in primary and secondary schools before entering university study under traditional teaching models, with a relatively single, fixed, passive way of thinking and weak awareness of active innovation (Hu, 2017). Teachers consider themselves as core authorities and impart knowledge to students, while students passively listen and have less classroom interaction (Li, 2022).

4.1.2 Results of Teacher Interviews

In order to collect information before developing teaching models, researchers conducted interviews with five teachers in music education and innovation and creativity education in universities to understand their views, existing problems, and suggestions for improving students' music creation ability in music education majors.The researcher used a semi-structured interview method, which included 5 questions: 1. Music creation ability of university music education students; 2. Curriculum or teaching content; 3. Teaching methods; 4. Teaching evaluation; 5. Other comments and suggestions.

The results of the expert interviews are summarized as follows:

1.Music creation ability of University Music Education Students

The interviews revealed that the cultivation of music creation ability among university music education students has not received sufficient attention. The curriculum and teaching content in universities primarily focus on developing students' knowledge and skills, with a lack of emphasis on core competencies,

including music creation ability. There is inadequate understanding of music creation ability, and the concepts are not aligned with actual talent needs.

2.Curriculum or Teaching Content

Universities lack courses specifically focused on creativity. There are no relevant courses or teaching content related to music creation ability in the existing curriculum.

3.Teaching Methods

The teaching methods in universities are primarily lecture-based, with insufficient emphasis on student-centered and practice-oriented teaching philosophies.

4.Teaching Evaluation

It was found that most evaluations are quantitative, based on final exam scores, lacking assessments of the learning process and self-evaluations by students. There is a lack of qualitative evaluation.

5.Other Comments and Suggestions

Experts mentioned that in some courses, the student numbers are too large, with some classes exceeding 100 students, which is detrimental to teacher guidance, student group presentations, and overall teaching effectiveness.

4.1.3 Results of Student Interviews

To collect information before developing the teaching model, the researcher randomly selected 10 university music education students for interviews to understand their views on music creation ability and their attitudes and suggestions for improving students' music creation ability. Among the 10 students, there were 5 males and 5 females, including 3 first-year students, 3 second-year students, 2 third-year students, and 2 fourth-year students.

The researcher used a semi-structured interview method, with 5 questions: 1. Music creation ability; 2. Curriculum or teaching content; 3. Teaching methods; 4. Teaching evaluation; 5. Other comments and suggestions.

The results of the student interviews are summarized as follows:

1.Music creation ability

The interviews revealed that students lack awareness of music creation ability, including its connotations, importance, and methods of cultivation.

2.Curriculum or Teaching Content

Students reported that universities lack courses focused on creativity. There are no specific courses or teaching content related to fostering music creation ability in the existing curriculum.

3.Teaching Methods

Most teaching is confined to the classroom, with a focus on lectures and little use of interactive learning activities. Students hope that teachers would use various teaching techniques to make classes more engaging and diverse.

4.Teaching Evaluation

Students expressed dissatisfaction with using final exams as the sole method of evaluation. They believe exam scores do not fully reflect students' learning situations. They hope for a more comprehensive evaluation system that assesses effective learning and genuine improvement in competencies.

5.Other Comments and Suggestions

Students expressed a desire for universities to place greater emphasis on cultivating music creation ability. They suggested developing effective teaching models, providing more opportunities for practical experience, and encouraging creativity.

4.1.4 Results of the Student Survey

In addition to interviews with experts and students, this study also employed a survey to collect information before developing the teaching model. A total of 97 students participated in the survey, which was administered and collected online. The researcher distributed 120 questionnaires and received 105 completed responses. After statistical analysis, 97 questionnaires were deemed valid.

The results of the survey are summarized as follows:

1.Gender Distribution:

Males: 34

Females: 63

2.Age Range:

Ages range from 19 to 24 years old.

3.Academic Year:

First-year students: 17

Second-year students: 60

Third-year students: 15

Fourth-year students: 15

4.Future Career Aspirations:

84 students (86.6%) aspire to become music teachers.

13 students (13.4%) aim for other careers.

5.Self-Assessment of music creation ability:

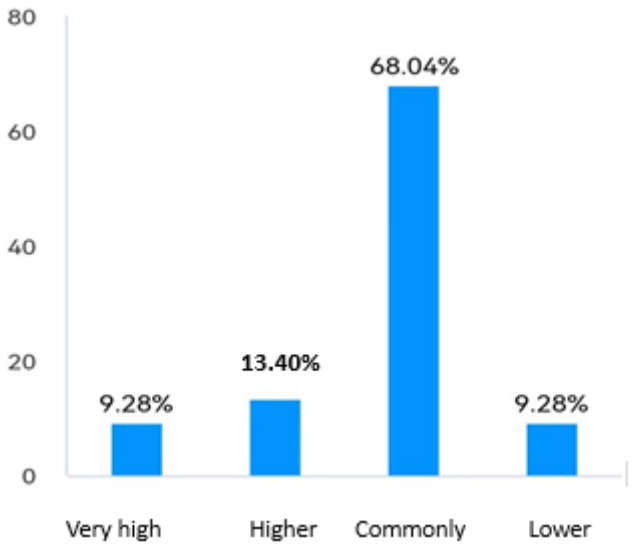


FIGURE 15 The bar chart of students' self-assessment of their music creation ability

68.04% of students believe their music creation ability is average, while only 22.68% consider their creativity to be very high or high, and 9.28% of students feel

their music creation ability is low. This indicates that students have a low self-assessment of their music creation ability and a lack of confidence, not believing they possess strong music creation ability. Therefore, developing a teaching model to enhance students' music creation ability is necessary.

6.Do you think music creation ability is innate?

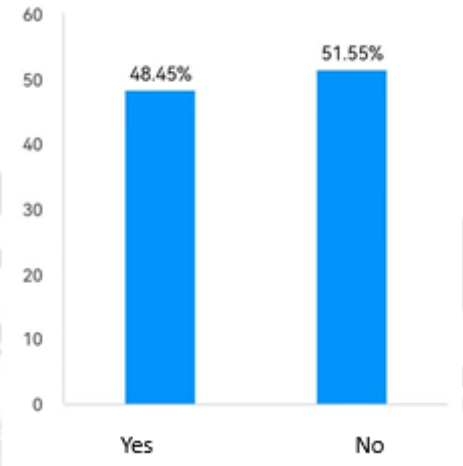


FIGURE 16 Bar chart showing students' views on whether music creation ability is innate

48.45% of students believe that music creation ability is innate, while 51.55% think it is not. This indicates that students do not have a clear understanding of music creation ability and its development. However, slightly more than half of the students believe that music creation ability is not an innate ability, showing a potential need for enhancing their music creation ability

7.Do you want to improve your music creation ability through learning?

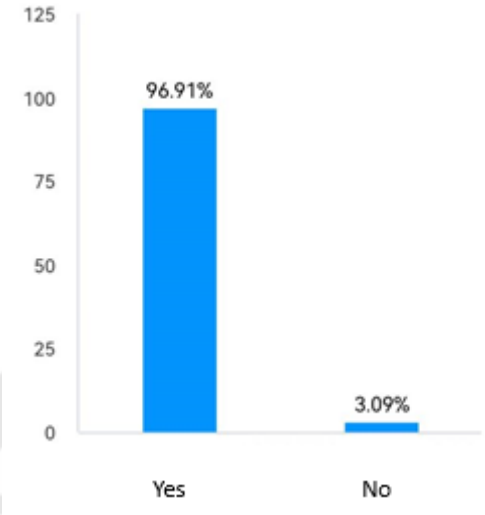


FIGURE 17 Bar Chart of Students' Willingness to Improve music creation ability Through Learning

96.91% of students expressed their desire to improve their music creation ability through learning, while 3.09% did not. This indicates that almost all students hope to enhance their music creation ability through learning.

8.Which educational methods do you think are more conducive to developing music creation ability?

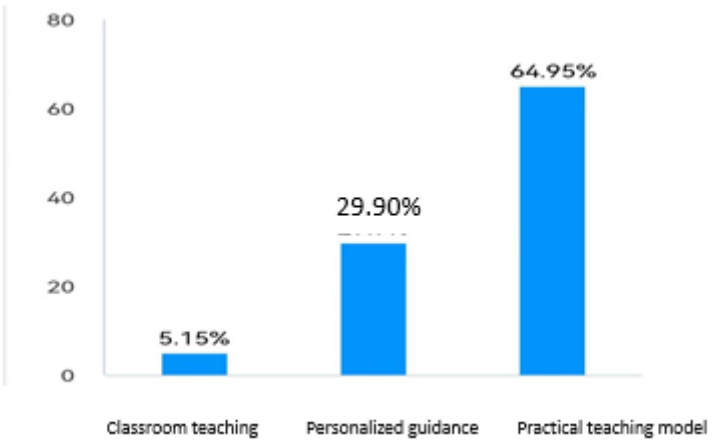


FIGURE 18 Bar Chart of Students' Perceptions of Educational Methods Conducive to Developing music creation ability

5.15% of students believe that traditional classroom teaching is more conducive to developing music creation ability, 29.9% think that personalized tutoring and guidance are more effective, and 64.95% believe that practical teaching methods are the most beneficial for fostering music creation ability. This indicates that most students hope for an effective teaching model to enhance their music creation ability.

To prepare for the development of the teaching model, this study undertook extensive preliminary work. This included the collection and organization of a large amount of research theories and relevant literature on teaching models, detailed and in-depth interviews with five experts in music, education, and music education, thorough interviews with ten randomly selected students from various grades in the university's music education program, and comprehensive surveys of 97 randomly selected students across all grades in the university's music education program.

Based on the comprehensive investigation of the above fundamental information, the researcher has compiled a table summarizing the main issues identified

through various survey methods and their application in the developed teaching model. The content is as follows:

TABLE 3 The main issues identified through various survey methods

Method of investigation	Result	Application to teaching model(how to use for develop your teaching model)
Interview with the teachers	The university's curriculum and teaching content still primarily focus on developing students' knowledge and skills.	The development of the teaching model should place more emphasis on training and enhancing students' creative thinking.
	There are no corresponding courses for cultivating students' creative thinking, nor do existing courses cover content related to music creative thinking.	The development of courses or teaching models to enhance students' music creation ability is very necessary.
	The teaching methods in universities are mainly lecture-based.	The developed teaching model should shift the teaching methods to be student-centered, adopting cooperative and inquiry-based learning methods.
	The current teaching evaluation is a quantitative summative evaluation.	The teaching model should diversify evaluation methods, focus on the learning process, and encourage students more.
	Class sizes are too large, sometimes exceeding 100 students, which is not conducive to teacher guidance and student group presentations.	Small class teaching and grouping should be implemented to facilitate presentations and cooperation.
Interview with the students	Students lack awareness of music creation ability, including its essence, importance, and ways to cultivate it.	The teaching content should include learning about the basic concepts of music creation ability.
	There are no courses specifically for developing creative thinking, nor is creative musical thinking incorporated into existing courses.	Developing courses or teaching models to enhance students' music creation ability is very necessary.

TABLE 3 (CONTINUE)

	There are no courses specifically for developing creative thinking, nor is creative musical thinking incorporated into existing courses.	Developing courses or teaching models to enhance students' music creation ability is very necessary.
Interview with the students	Most teaching is classroom-based, with universities primarily using lecture methods.	The classroom teaching format should be diversified by using various teaching methods, centering on the students, and adopting cooperative and inquiry-based learning approaches.
	They dislike using final exams for teaching evaluation.	The evaluation methods in the teaching model should be diversified, focusing on the learning process and encouraging students.
Questionnaire	Many students have low self-efficacy regarding their music creation ability.	Teaching should aim to boost students' confidence in their music creation ability through encouragement and try to alleviate their fear of musical creation.
	Many students believe that a practice-oriented teaching model is the most beneficial way to cultivate music creation ability.	Teaching should create more opportunities for students to practice.

4.2 Results of the Teaching model Development

Based on the information collected in the first stage, which included reviewing relevant literature, interviewing teachers and students, and conducting surveys with students, a draft teaching model aimed at enhancing the music creation ability of university music education students was developed. The specifics are as follows:

4.2.1 Results of Teaching model Development

The initial draft of the teaching model was written by the author and includes six elements: Teaching principles, Teaching objectives, Teaching process, Teaching media and resources, Learning evaluation, and Teaching content. The teaching model consists of four steps: course learning, task-driven, work presentation, and work evaluation.

Course Learning:The teacher prepares relevant materials in advance.Students learn through online lectures or assigned online courses.The focus is on individual students accumulating musical creation materials through lower-order cognitive skills such as memory and understanding.

Task-Driven:The teacher provides specific music creation tasks.Students work in groups to explore and complete the given tasks.This step emphasizes higher-order cognitive skills such as analysis, application, and creation.

Work Presentation:Students present the collectively created works from the second step in the classroom.This step continues to focus on higher-order cognitive skills such as application and creation.

Evaluation and Reflection:Students evaluate and reflect on the created works.This reflection serves to inform the next creation task.The focus here is on higher-order cognitive skills such as application and evaluation.

The initial draft (Version 1) of the teaching model, written by the author, includes seven elements: introduction, teaching principles, teaching objectives, teaching process, teaching media and resources, learning evaluation, and teaching content. The teaching model is divided into four steps: course learning, task-driven activities, work presentation, and work evaluation.

A teaching model is a program (Joyce, 2014) that constitutes the curriculum, selects teaching materials, and guides teaching activities in the classroom or other environments. It is constructed based on the combination of certain teaching theories and practices to achieve specific teaching purposes. It features a relatively stable and concise teaching structure framework and an operable teaching paradigm (Shi N.Z. & Yin A.Q., 2006). In this study, the teaching model refers to the teaching

paradigm with a relatively stable structure, formed under a certain environment, and guided by specific teaching ideas and theories. According to the requirements of teaching model construction, relevant theories and ideas must serve as the theoretical foundation for the teaching model construction.

1.Teaching Principle

1.1 Constructive principle

The teaching model in this study is grounded in the theoretical framework of constructivism, with the aim of nurturing students and constructing experiences for further learning. Constructivism is a leading theory in contemporary education and plays a crucial role in shaping teaching models. Originally derived from Piaget's concept of structure and construction, which posits that knowledge is an active process built on existing knowledge and experience, constructivism emphasizes that learners actively construct knowledge rather than merely receiving and transmitting it. Teachers facilitate this process by asking questions, evaluating, and providing feedback to support and enhance students' learning development. Building on this, Vygotsky introduced the theory of social construction and the concept of the "zone of proximal development," while Bruner contributed with cognitive learning theory, both of which have advanced the constructivist teaching model.

In this study, music creation ability is defined as the psychological quality of constructing novel and appropriate musical practices within a specific social and cultural context. This concept underscores that music creation ability is a constructed process. Therefore, the implementation of this teaching model should adhere to constructivist principles, focusing on student-centered learning and fostering social construction.

1.2 Practical principles

Music is both a social and artistic activity that emphasizes the full engagement of the human body. Music creation ability involves the practical application of music and encompasses music creative thinking. According to Elliott, music fundamentally represents a variety of human practices. He argues that the best way to

understand music is to approach it as a form of human practice—one that is creative, participatory, competitive, and evolving (Elliott, 2009). Furthermore, Elliott posits that music creation is multidimensional, involving specific forms of production and action, and that the realization of creative outcomes occurs within a particular practical context. Music creation is thus a synthesis of "doing" and "thinking," and the integration of these two processes. Music creation ability is manifested in this purposeful behavior—specifically, through the process of music practice (Bowman, 2014). Consequently, this teaching model emphasizes practical principles, integrating the concept of practice throughout music education activities such as listening (sound and music exploration), improvisation, and music composition and creation. This approach ensures that music creation ability is internalized through active engagement, ultimately forming students' music creation ability.

1.3 Student-centered principle

According to constructivist learning theory, teaching should be student-centered, with students serving as active constructors of knowledge and meaning. In this approach, teachers transition from being mere providers of information to becoming facilitators, organizers, and supporters of the students' learning process. Teachers must emphasize the central role of students within this teaching model, enhancing their creative motivation by presenting challenging tasks and actively incorporating student feedback.

1.4 Principles of creative environment

In the process of generating creativity, the environment plays a crucial role. A relaxed, democratic, and free creative atmosphere can significantly enhance the effectiveness of the creative process. Both the physical and social environments are essential for fostering creativity. The physical environment includes classrooms, desks, and chairs, while the social environment is shaped by the interactions between teachers and students during teaching activities. Teachers should strive to cultivate an atmosphere that promotes creativity by providing a relatively free

and relaxed space, thereby creating a conducive environment for developing students' music creation ability.

2. Teaching objectives

To enhance the music creation abilities of students majoring in music education and to emphasize the development of their creative thinking in music.

3. Teaching Process

The draft teaching model is divided into four steps: Course learning, Task-Driven Activities, homework demonstration, and homework evaluation.

Step 1:Course Learning,teachers prepare relevant information in advance and facilitate online learning through digital platforms or network courses. This enables students to acquire the necessary knowledge and skills for specific music creation tasks. The focus here is on low-order cognitive processes, such as memorization and understanding, to accumulate materials for music creation.

Step 2:Task-Driven Activities, teachers provide specific music creation tasks, which students complete through group collaboration. This phase emphasizes high-order cognitive processes, such as analysis, application, and creation.

Step 3:Production prsentation.Students present their group-created works in class. This phase focuses on high-order cognitive processes, including application and creation, as students showcase their completed tasks.

Step 4:Evaluation and Reflection.In this phase, students evaluate and reflect on their created works to prepare for subsequent tasks. This phase emphasizes high-order cognitive processes, such as application and evaluation, to enhance the learning experience and guide future creative endeavors.

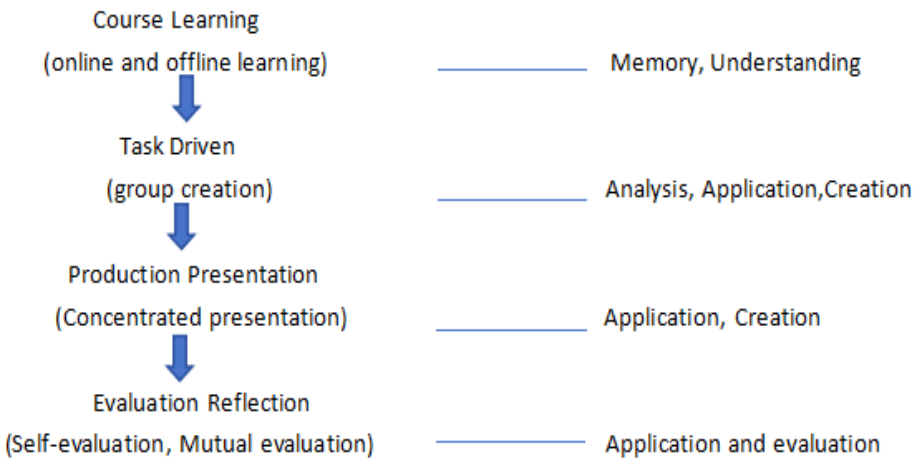


FIGURE 19 Teaching model (Version 1)

4. Media and resources

Utilize individual media and learning resources available within schools and for students, as well as online media, resources, and experts that are appropriate for addressing the specific innovative problems learners aim to solve.

5. Learning evaluation

Based on the literature collected in the preliminary stage, a music creation ability measurement scale was developed. This teaching model would use a criterion-referenced approach for learning evaluation. This evaluation method, proposed by Robert Glaser (1963), emphasizes that educational evaluation should be based on clear behavioral objectives.

The assessment of learners' individual or collective music creation ability involves observing their performance. Scoring criteria are based on accurate evaluations and are conducted alongside the learners' activities. Feedback is provided through encouragement, confidence-building, and guidance, aiming to help learners apply effective thinking and learning processes.

Music, as an art form that unfolds over time, often involves the creation of musical products. These products may result from composition or emerge as "real-time products" during performance and improvisation. Although all musical practices have the potential for creativity, only those characterized by "novelty" and

"appropriateness" contribute to the development of music creation ability. Therefore, music creation ability products are generally evaluated based on two fundamental characteristics: "novelty" and "appropriateness."

Novelty: This refers to the unprecedented and unique aspects of the music. Each performance or listening experience throughout the music practice activity embodies the subject's "novelty." When music functions as a sound system, it represents a genuine creative activity infused with the creators', listeners', and performers' thinking and insights. Novelty is a core feature of music as a creative art form.

Appropriateness: This pertains to the purpose or value of the creative activity. Music creation must be a purposeful act. In this study, appropriateness is assessed based on the precise expression of music in terms of both musical technology and content.

The psychological structure of music creation ability integrates music creative thinking with music creative personality. Music creative personality includes non-intellectual factors such as emotion, will, attitude, character, and temperament, all of which significantly influence and develop music creation ability.

Given the abstract nature of music creation ability, which is challenging to observe directly, Webster focuses on the process of musical creation and defines music creation ability as "music creative thinking." Music creative thinking is categorized into divergent thinking and convergent thinking. Divergent thinking, which is especially valuable for cultivating creative thinking, is manifested through fluency, flexibility, and uniqueness in music. This study primarily measures music creative thinking through divergent thinking, emphasizing fluency,flexibility and uniqueness.

Fluency: In this study, fluency refers to the ability to generate numerous different ideas and solutions. A fluent thinker can produce various interpretations, rhythmic accompaniments, and movements when engaging with a piece of music.

Flexibility: This involves the ability to generate diverse ideas or approaches to a given question or situation.

Based on the above content, researchers have refined specific behavioral indicators for measuring music creative thinking. The specific indicators are shown in the following table:

TABLE 4 Music creative thinking measurement standard

Test project	Measurement index	Indicater	Level5 (5point)	Level4 (4point)	Level3 (3point)	Level2 (2point)	Level1 (1point)
Creative Thinking in Music (Divergent Thinking)	Fluency	The number of works created within a specified time.	≥10	8—9	5—7	2—4	≤1
	Flexibility	The number of works created within a specified time that can change different musical styles, forms, and structures.	≥10	8—9	5—7	2—4	≤1
	Unique	Whether the music works created are novel and original	Very unique and perfect	Very unique	General unique	More ordinary	Very normal

Researchers would use this measurement table to design corresponding music creation ability test papers, and test students before and after the experiment. Based on

this measurement table, students would be scored to compare their music creation ability levels before and after the experiment.

Researchers would use this measurement table to design corresponding music creation ability test papers to test students' music creation ability (music creation ability thinking), including pre-test and post test, comparing students' music creation ability levels before and after the experiment. The table takes fluency, flexibility, and uniqueness, which are the main dimensions of divergent thinking in music creative thinking, as the main measurement dimensions, and designs corresponding operational indicators that are easy to operate and measure. There are three aspects to measurement. Measure the fluency of students' creative thinking in music by 5 points, based on the number of music pieces freely created by the subjects within a specified time and the number of fixed pitch patterns created. If 10 or more works are created within the specified time, they would receive a Level 5 score. If 8-9 works are created within the specified time, they would receive a Level 4 score. If 5-7 works are created within the specified time, they would receive a Level 3 score. If 2-4 works are created within the specified time, they would receive a Level 2 score. If 1 or less works are created within the specified time, they would receive a Level 1 score.

Measure the flexibility of students' creative thinking in music by 5 points, and evaluate the score based on the types of music works created by students in different styles within a certain period of time. If more than or equal to 10 different types of works are created within a specified time, a Level5 score would be obtained. If 8-9 different types of works are created within a specified time, a Level4 score would be obtained. If 5-7 different types of works are created within a specified time, a Level3 score would be obtained. If 2-4 different types of works are created within a specified time, a Level2 score would be obtained. If less than or equal to 1 different type of work is created within a specified time, a Level1 score would be obtained.

Measure the uniqueness of students' creative thinking in music by 5 points, and evaluate the score based on the uniqueness of the music works created by students within a certain period of time. The score was assessed by all students and teachers

sharing all their subjective qualitative ratings.If the work created within the specified time is very unique and perfect, it would receive a Level 5 score. If the work created within the specified time is very unique, it would receive a Level 4 score. If the work created within the specified time is relatively unique, it would receive a Level 3 score. If the work created within the specified time is more ordinary, it would receive a Level 2 score. If the work created within the specified time is very ordinary, it would receive a Level 1 score.

6. Teaching content

Chinese music aesthetician Zhang Q. posits that music creation encompasses not only the formal acts of creative behavior but also improvisation that is not recorded. This includes both explicit authorial acts of creation and creative behaviors involving processing and adaptation, such as performance and appreciation (Zhang, Q. 2002). Music appreciation is not merely a passive reception of musical works but an active creative process, contributing positively to the generation of musical meaning (Zhang, Q. 2006). This appreciation involves conceptual and spiritual products, characterized by plurality, multiple solutions, and uncertainty, thereby offering more creative space and imaginative potential, highlighting the unique charm of music as an art form. Active listening, in particular, is a creative activity where the listener constructs a unique personal music experience through rich associations and imagination based on sound perception (Kratus, 2017). Active listening involves both perceptual knowledge derived from divergent thinking and rational analysis associated with aggregated thinking. Consequently, music listening stimulates music creation ability and produces novel "conceptual products."

Since the 1990s, both the United States and Japan have integrated composition and improvisation into general music education. In the U.S., composition and improvisation have been incorporated into comprehensive music education programs, while in China, the "Compulsory Education Art Curriculum Standard" includes four types of artistic practices: "appreciation," "performance," "creation," and "connection," covering 14 specific learning contents. Among these, the "creation" component includes "sound and music exploration," "improvisation," and "music

compilation and creation." The curriculum tasks are designed to cover music discovery for grades 1-2, compilation and display for grades 3-9, and exploration of music in daily life. Future primary and secondary school music teachers must possess the ability to complete these tasks, which requires a corresponding level of music creation ability.

This study includes various aspects of improvisation such as impromptu singing and improvisational activities, emphasizing that music improvisation is characterized by real-time and irreversible processes, and requires spontaneous creation. Therefore, cultivating creative thinking, especially divergent thinking, is of significant value. Enhancing the music creation ability of music education students is fundamental for improving music improvisation education for future primary and secondary school students.

To develop qualified primary and secondary school music teachers, this research would focus on building a specific teaching model based on "listening to music (sound and music exploration)," "improvisation," and "music creation." It would set learning tasks for students, such as "create and display" and "explore the music of life," to enhance the music creation ability of music education majors.

TABLE 5 Teaching content

Unit	Learning Content	Periods
Unit1	The cultivation of creative thinking in music listening: Naughty Little Alarm clock	2
Unit2	The Cultivation of Creative Thinking in Music Listening: 《Animal Carnival》	2
Unit3	Music rhythm compilation 《Hunter Chorus》	2
Unit4	Music rhythm compilation 《Turkish March》	2
Unit5	Music rhythm and creation 《 cuckoo 》	2
Unit6	Music rhythm and creation 《In the Palace of the Mountain Devil》	2
Unit7	Musical instrument accompaniment compilation and creation 《Spring Festival Overture》	2
Unit8	Musical instrument accompaniment compilation and creation 《The golden snake dance》	2

4.2.2 Experts' Evaluation Results of the Teaching model Quality

The quality inspection results of the teaching model proposed by experts are divided into two parts: 1. Evaluation of the appropriateness of the teaching model. 2. Evaluation of the consistency of the teaching model. The results of the data analysis are as follows:

1. Evaluation of the Appropriateness of the Teaching model

The average score, standard deviation, and the degree of appropriateness of the evaluation checklist are shown in the table.

TABLE 6 Evaluation of the Appropriateness of the Teaching model

No.	Items	$\bar{x}$	S.D.	Appropriate degree
1	**Teaching model principles**			
	1.1 Reasonable	4.80	0.45	Very high
	1.2 Theoretical concepts used to support	4.80	0.55	Very high
	1.3 Lead to practice	5.00	0.00	Very high
2	**Teaching model objectives**			
	2.1 Clear and concrete	5.00	0.00	Very high
	2.2 Can be measured and evaluated	4.80	0.45	Very high
	2.3 Suitable for the target group	4.80	0.45	Very high
3	**Teaching model content**			
	3.1 Meet the teaching model objectives	4.40	0.42	High
	3.2 Academically correct	4.40	0.42	High
	3.3 Suitable for the target group	4.20	0.55	High
4	**Learning activities**			
	4.1 Meet the teaching model objectives	4.40	0.55	High
	4.2 Suitable for the target group	4.20	0.45	High
	4.3 Interesting and possible	4.20	0.42	High
5	**Teaching model materials**			
	5.1 Meet the learning activities	4.20	0.42	High
	5.2 Suitable for the target group	4.40	0.45	High
	5.3 Interesting and possible	4.40	0.42	High
6	**Teaching model evaluation**			
	6.1 Meet the teaching model objectives	4.20	0.45	High

6.2 Suitable for the target group	4.20	0.45	High
6.3 Possible to practice	4.20	0.45	High

In the table above, the results of the evaluation of the appropriateness of the teaching model show that the average scores range from 4.20 to 5.00, with standard deviations ranging from 0.00 to 0.55. This indicates that the teaching model is deemed appropriate at high to very high levels. The appropriateness of the components of the teaching model is rated at a very high level, supporting the principles and objectives of the teaching model, while the remaining parts are rated at a high level.

2. Evaluation of the Consistency of the Teaching model

The draft teaching model was assessed by five experts to check the consistency of its components. After data collection, the evaluation form of the teaching model was analyzed. The results of the Index of Consistency (IOC) for the items assessing the consistency of the teaching model are shown in the table:

TABLE 7 Evaluation of the Consistency of the Teaching model

No.	Items	IOC	Meaning
1	Learning problem with the principles of the teaching model	0.80	Consistency
2	Teaching model principles and teaching model aims	1.00	Consistency
3	Principles of teaching model and learning activities	0.80	Consistency
4	Teaching model aims and Teaching model content	1.00	Consistency
5	Teaching model aims and learning activities	0.80	Consistency
6	Teaching model content and learning activities	1.00	Consistency
7	Teaching model content and learning materials	0.80	Consistency
8	Teaching model content and learning resources	1.00	Consistency
9	Teaching model content and learning duration	1.00	Consistency
10	Teaching model assessment with teaching model aims	1.00	Consistency

The Index of Consistency (IOC) scores for the project objectives range from 0.8 to 1.0, which is above the standard threshold of 0.5, as shown in the table above. This indicates that each component of the teaching model, as evaluated by the experts, is consistent with one another.

4.2.3 Results of Teaching model Revision (Version 2)

After analyzing the data and based on expert recommendations, the draft of the teaching model was revised to form the second version. The steps of the teaching model were optimized, changing the original sequence of course learning, task-driven approach, assignment presentation, and assignment evaluation to four stages: task-driven approach, self-construction, practical demonstration, and reflective evaluation.

1. Regarding the Teaching Steps

Experts provided feedback that the first step being course learning, where teachers initially provide designated learning content to students, violates the student-centered principle. This step can be adjusted to the second step to enhance learning efficiency. After understanding the tasks, students can begin learning and choose the content with the help of teachers, making their learning more targeted and autonomous. This adjustment aligns with constructivist theory, which posits that knowledge is actively constructed based on learners' existing knowledge and experiences. Teaching should be student-centered, with students as active constructors of knowledge. Teachers should not act as mere providers of knowledge but as organizers, guides, facilitators, and helpers in the students' cognitive construction process. Each step of the teaching model should emphasize the students' active role.

Experts suggest moving the task-driven step to the first position. According to constructivist theory, teachers should create motivation for students by providing challenging tasks. Teachers design the teaching content as specific creative tasks, using task-driven methods to guide students' thinking. Students learn and do to

master the teaching content and complete the creative tasks. This step embodies a student-centered, competency-based teaching approach.

Experts believe that for the issue of musical creativity addressed in this study, it is more appropriate to change the third step of "product display" to "practice display" in the teaching model. Firstly, according to the teaching plan, the final creations by students may not always be tangible "products" in a strict sense. They might be stories created after listening to musical works, selected musical pieces for a specific theme or situation, or improvisational performances, small plays, and fixed rhythm patterns. These require students to complete the final presentation of musical creation through practical display. Secondly, changing to practice display aligns with the principle of practicality in the teaching model. Music creation ability involves concrete musical practices and processes, including creative thinking. Music is essentially a collection of various human practices, not merely a collection of objects or works to be appreciated. This includes music creation, performance, teaching, learning, and listening (Elliott, 2009). Finally, product display focuses on the created products rather than the students, not reflecting a student-centered approach and neglecting students' subjectivity. "Practice display," however, highlights the students' active participation.

Similarly, experts suggest changing the corresponding fourth step from product evaluation to reflective evaluation. The British educational thinker Locke first proposed the concept of "reflection," stating that all human thoughts and ideas originate from or reflect sensory experiences, specifically the ideas of sensation and reflection, with reflection coming from the mind observing itself (Locke, 1959). Dewey considered reflection as an active, persistent, and careful consideration of any belief or supposed form of knowledge in light of the grounds that support it and the further conclusions to which it tends (Dewey, 1991). Therefore, reflection is a higher-order thinking activity. Music creation ability involves constructing novel and appropriate musical practices within a certain socio-cultural context, a process that is also reflective.

This study emphasizes constructing a teaching model guided by the theory of reflective practice.

The researchers summarized and organized the expert feedback on the teaching steps of Version 1 of the teaching model into the following table:

TABLE 8 The revised content of teaching model(Version 2)

The first version	Revise
Course Learning	Course learning is adjusted to the second step, which is included in the autonomous construction step.
Task Driven	The task-drive adjusts to the first step, with the task-driven guidance, guiding the following steps. The second step is adjusted to becourse Learning.
Production Presentation	The production presentation is adjusted to a practice Presentation.
Production Reflection	Production evaluation is adjusted to reflective evaluation.

The revised teaching model (Version 2), adjusted based on the above suggestions, is illustrated in the figure below:

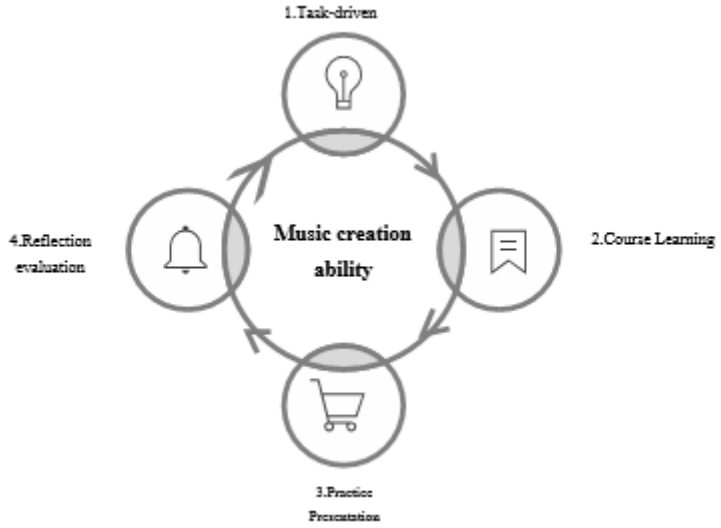


FIGURE 20 Teaching model (Version 2)

2.Regarding Teaching Evaluation

In Version 1 of the developed teaching model, the evaluation method used is a criterion-referenced evaluation, with the researcher-developed music creation ability measurement scale as the standard. Experts suggest using the music creation ability measurement scale for both pre-test and post-test to compare the changes in students' music creation ability. During the teaching process, formative evaluation, self-evaluation, and peer evaluation should be used to focus on process-oriented evaluation methods.

4.2.4 Results of Developing the Music Creation ability Measurement (IOC)

The measurement scale for music creation ability was evaluated by five experts to examine the consistency of the components of music creation ability. After collecting the data, an analysis of the evaluation of the music creation ability measurement scale was conducted. The results of the Index of Consistency (IOC) for the items in the music creation ability measurement scale are presented in the table below.

TABLE 9 The Consistency (IOC) of the music creation ability measurement scale

Test project	Content	Measurement index	IOC	Meaning
Creative Thinking in Music (Novelty)	Students improvise the melody	Fluency of mental responses	0.80	Consistency
	Students have improvised rhythm creation	Flexibility in thought responses	0.80	Consistency

The Index of Consistency (IOC) score for the music creation ability measurement is 0.80, which is above the standard of 0.50, as shown in the table above. This indicates that each component of the music creation ability measurement assessed by the experts is consistent with one another.

The scale is mainly adapted from Webster's "Measurement of Creative Thinking in Music" and Dou Junhong's "Empathy Evaluation Scale for Musical Creative Thinking," ensuring its content validity. The adapted "Measurement of music creation ability" has undergone reliability testing, with an internal consistency coefficient of 0.901.This indicates that the adapted scale has good reliability and validity and can be used to test musical creative thinking.

4.2.5 Results of the Pilot Test of the Teaching model

After revising the teaching model based on expert suggestions, the feasibility of implementing the teaching model in actual teaching situations was assessed. A pilot study was conducted with 10 third-year students from the School of Science and Technology at Gannan Normal University to test the effectiveness of the teaching model. The teaching model and plan developed by the researchers were applied in the instruction, and the results showed that after implementing the teaching model, students' music creation ability improved, with a statistical significance level of 0.01. Subsequently, the researchers observed and recorded issues encountered during the use of the teaching plan and model throughout the teaching process, which were

used as a basis for further improvements. The teaching model was then revised once again.

The main modification this time is the description of the second step of the teaching model. The researcher believes that the description of the second step, "course learning," is very limited. During the trial of the teaching model, it was found that in the second step, students are not only learning methods of creative thinking training and basic knowledge and skills related to the unit tasks. In fact, in this step, students primarily engage in a targeted selection of knowledge and skills related to the unit tasks and a comprehensive process of autonomous construction to complete the unit tasks.Therefore, this step is changed to "Independent construction".

TABLE 10 The revised content of teaching model(Version 3)

The second version	Revise	The third version
Task Driven	_	Task Driven
Course Learning	The second step is adjusted to be an autonomous construction.	Independent construction
Practice display	_	Practice display
Reflection evaluation	_	Reflection evaluation

The adjusted teaching model is shown in the figure below:

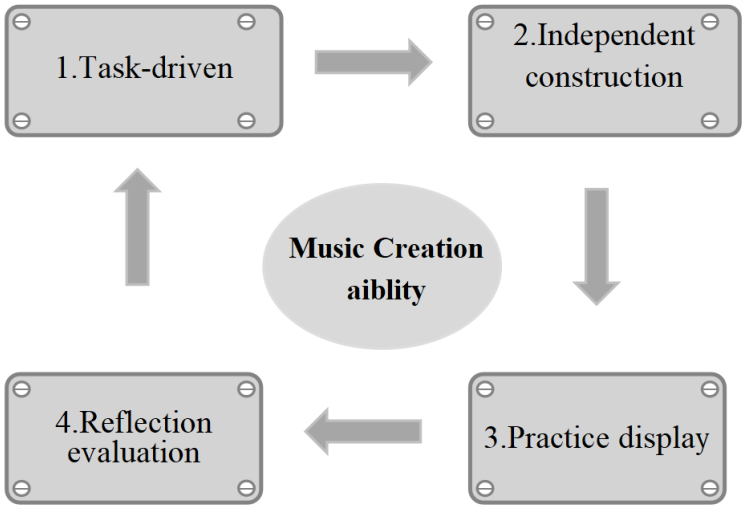


FIGURE 21 Teaching model (Version 3)

The results of the pilot study revealed issues in the teaching and learning process. The data collected from the pilot study were used to revise the teaching model, teaching plan, and teaching materials on the following points:

1.Readjusted the Teaching Plan's Content

Based on the trial implementation of the teaching model, the researchers adjusted the teaching tasks and integrated all tasks comprehensively. Units 1 and 2 focus on music listening (exploration of sound and music), including tasks such as creating stories after listening to works and matching music pieces to themes or situations. Units 3, 4, and 5 involve improvisational creation, including tasks like improvising fixed patterns (rhythmic patterns) for works, creating rhythmic movements for works, and composing melodies for themes. Units 6, 7, and 8 involve music composition, including tasks such as creating accompaniments for Chinese classical poetry, composing rhythmic movements for classical music pieces, and creating small integrated musical dramas.

2.Modified Some of the Pieces

Used in Teaching Through the trial implementation of the teaching model, researchers found that some pieces did not align well with the unit tasks,

prompting adjustments. For instance, "The Naughty Little Alarm Clock" in Unit 1 was replaced with "In the Hall of the Mountain King" from Edvard Grieg's "Peer Gynt" suite because the task of Unit 1 is to create stories after listening to music, and the latter's music is more dramatic and conflictual, better stimulating students' imagination and creativity. In Unit 6, "In the Hall of the Mountain King" was replaced with another piece from "Peer Gynt," "Anitra's Dance," because the task is to create rhythmic movements for the music. The music should have a more regular melody, stable rhythm, and symmetrical structure. "Anitra's Dance" is in 3/4 time and follows an ABA ternary form, making it more suitable for students to create rhythmic movements in a regular pattern.

3.Optimized the Time

Arrangement of the Teaching Plan During the trial implementation of the teaching model, researchers encountered issues with time management. Some tasks required students to find extensive materials and engage in thorough group discussions outside of class. For such cases, task content and requirements need to be communicated to students before class. Additionally, it is essential to specify the duration of students' creative works when assigning tasks to avoid excessively long presentations during class, which could impact subsequent group presentations and the implementation of reflection and evaluation steps.

4.3 Results of Implementing the Teaching model

This teaching model implemented in the first semester of 2024 among 32 students in Class A, Grade 3 of the Music Education major at the School of Science and Technology, Gannan Normal University. The researchers used a multi-stage sampling method to select samples. In the first stage, a simple random sampling method was used to conduct a survey in 8 normal universities in Jiangxi Province, and two normal universities in Ganzhou City were selected. In the second stage, a simple random sampling method was used to select the School of Science and Technology at Gannan Normal University. In the third stage, a designated sampling method was used to select 32 third-year students from the music education major at the School of Science and Technology, Gannan Normal University. There were two classes in this grade, and then

a simple random sampling method was used to determine the A class of the music education major at this university. The students in this class are aged 22-24, with 7 males and 25 females.

This study developed an analysis scoring standard to evaluate students' music creation ability. The analysis scoring standard for evaluating students' music creation ability consists of three items, each with a maximum score of five. 1. The fluency of creative thinking in music; 2. The flexibility of creative thinking in music; 3. The uniqueness of creative thinking in music. Each project is evaluated by 5 experts based on the objective consistency index of the project, with an objective consistency index of 1.00 and a reliability coefficient of 0.93 for all projects. In terms of experimental design, the researchers adopted a single group pre-test post test design to test the effectiveness of the teaching model in improving students' music creation ability.

4.3.1 Basic Information of the Sample

During the experimental phase of the teaching model, a random sample of 32 students was selected from two third-year classes in the Music Education major in the first semester of 2024. Among these students, there were 7 males and 25 females.

4.3.2 Results of Implementing the Teaching model

The researchers implemented the 'PCPR' teaching model to enhance students' music creation ability with 32 students from the third-year Class A in the Music Education major at Gannan Normal University. The implementation lasted for 8 weeks, with sessions held once a week, each consisting of two class periods.

The first step, task-driven approach, involved students determining specific learning tasks under the guidance of the teacher. The second step, self-construction, included activities such as material accumulation, exploration, and imitation, guided by the teacher and through self-directed learning, to foster students' autonomous inquiry and effectively improve their music creation ability. The third step, practical demonstration, required students to showcase their self-constructed or improvised creations from the second step in class. The fourth step, reflective evaluation, involved both the teacher and students evaluating and reflecting on the created works, providing

feedback for the next creative task, thereby promoting the improvement of music creation ability."

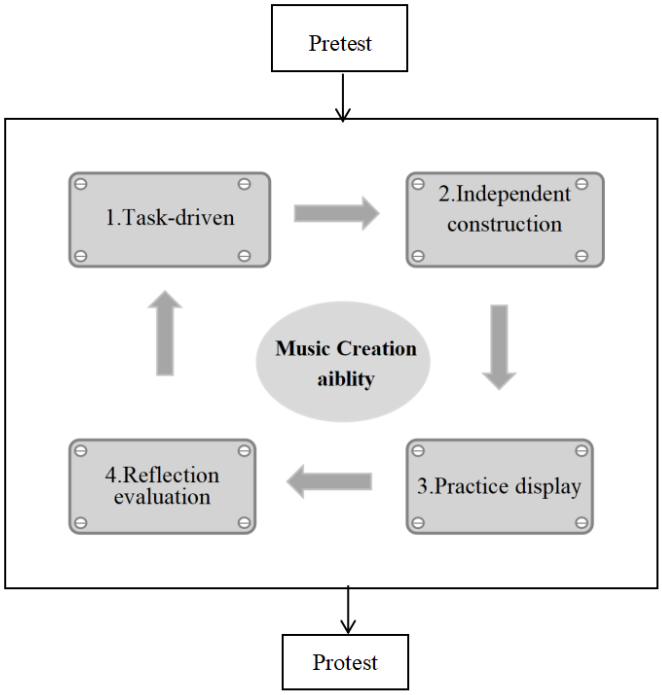


FIGURE 22 The process of implementing the teaching model

Before and after the implementation of the teaching model, the researchers conducted a music creation ability test with the 32 students. The participation rate was 100%, with 32 test papers distributed and 32 collected, all of which were valid, resulting in a 100% validity rate.

The 'PCPR' teaching model was implemented a total of 8 times, once a week for two class periods each time. Each session followed the four steps of 'task-driven approach,' 'self-construction,' 'practical demonstration,' and 'reflective evaluation' as a teaching cycle.

After the completion of each unit, students would organize self-evaluations and peer evaluations based on their performances, and the teacher would also provide qualitative assessments for each student's performance.

Unit 1: Music Listening and Exploration of Sound and Music

Task and assessment: :

This unit's teaching content is music listening, with a focus on exploring sound and music. The specific learning task is to listen to the work "In the Hall of the Mountain King" and then create a story based on the listening experience. The assessment would evaluate whether students can fluently create a story, if the story is creative and unique, and if it aligns with the musical logic.

Teaching objectives:

1.Master the basic methods of music composition, foundational knowledge, and basic methods of creative thinking training.

2.Students should possess a positive listening attitude and display an active thinking state. They should be able to use basic methods of creative thinking training, boldly imagine by combining elements of musical expression and overall sound effects, to develop musical creative thinking.

3.Be able to fluently create a story (which can be presented through text, drawing, movement, etc.) to express the feelings, content, artistic conception, and emotions perceived from listening, in order to develop creative thinking. The created story should be unique and creative, with a plot that aligns with the musical logic.Teaching objectives:

Student Learning Feedback ：

In this unit, students attempted to apply basic methods of creative thinking training while listening to music and creating stories, which enhanced their creative abilities in practice. Students reported that they were able to imagine more freely and break through fixed thinking patterns. They successfully created stories within the allotted time, with some students uniquely crafting stories like forest adventures, wilderness escapes, and space explorations based on the music.

Unit 2: Music Listening and Exploration of Sound and Music

Task and assessment: :

This unit's teaching content is music listening, with a focus on exploring sound and music. The specific learning task is to select background music for a video with the theme "Autumn." The primary objective is to train students' musical creative thinking. Students are required to accumulate a large number of music pieces and materials, and to boldly use their imagination based on the theme provided by the teacher, fully engaging their divergent creative thinking to select suitable music pieces that match the theme.

Teaching objectives:

1.Students accumulate a wide range of music works in various themes, genres, styles, and emotions, demonstrating an active thinking state. They are able to use basic methods of creative thinking training and boldly imagine based on the "Autumn" theme video to develop music creation ability.

2.Students are able to select music works that match the theme or context based on the theme or situation.

Student Learning Feedback :

Students also improved their ability to create soundtracks for videos or scenarios in this unit, once again using the basic methods of creative thinking training. Their soundtracks became more creative, and they reported enjoying the creative process and feeling increasingly confident in their creativity. Students were able to grasp the style and characteristics of the video within the given time and successfully chose appropriate music pieces for the soundtracks.

Unit 3: Improvisational Creation

Task and assessment: :

This unit's teaching content is improvisational creation. The specific learning task is for the teacher to provide the music pieces "The Train is Running" and "Little Red Riding Hood," and for students to improvise fixed rhythmic patterns and motifs as accompaniment for these works. The assessment would evaluate the number of works created by students in the shortest time, as well as their ability to change different musical styles, forms, and structures.

Teaching objectives:

1.Students should be able to analyze the songs and apply common rhythmic and melodic creation techniques to flexibly combine various rhythms and notes, improvising suitable accompaniment rhythms and patterns for the songs.

2.Students should be able to demonstrate the improvised accompaniment rhythms and patterns for both songs through clapping, singing, or other appropriate methods.

Student Learning Feedback ：

In this unit, students learned the basic methods for arranging accompaniment rhythm patterns and accompaniment textures for songs. They were able to combine various rhythm and melody writing materials they had accumulated previously and use creative thinking training methods for their compositions. Students reported that they couldn't have imagined completing such composition tasks before and now feel more confident in their music creation ability. Most students could arrange accompaniment rhythm patterns and textures according to the style and characteristics of the piece and demonstrate their work fluently.

Unit 4: Improvisational Creation

Task and assessment: :

Unit Four's teaching content is improvisational creation, focusing on creating rhythmic movements for a work. The specific learning task is for the teacher to provide the music piece "Where is Spring," and for students to improvise rhythmic movements based on the piece. The assessment would evaluate whether students can fluently create rhythmic movements and the richness of the movement elements used.

Teaching objectives:

1.Students should be able to master basic body movements, including classic rhythmic movements from the eight fixed sets.

2.Students should be able to listen carefully to the song, analyze its structure, and improvise rhythmic movements based on the melody and rhythm characteristics of the song, using rich body language.

3.Students should be able to present their improvised rhythmic movements with enthusiasm, confidence, and accuracy.

Student Learning Feedback ：

Additionally, students mastered basic body percussion movements and the eight classic body percussion routines. They could improvise rhythmic movements for songs based on the style and characteristics of the pieces and demonstrate them confidently. Observations showed that the time required for improvisational creation varied among students, with some completing faster than others. Overall, the fluidity and flexibility of students' creative thinking responses improved.

Unit 5: Improvisational Creation

Task and assessment: :

This unit's teaching content is improvisational creation, focusing on creating a context for a work and presenting it with rhythmic movements. The specific learning task is for the teacher to provide the music piece "Anitra's Dance," and for students to improvise a context for the piece and create a set of movements to express it. The assessment would evaluate whether students can imagine unique and creative contexts and whether they can flexibly use various musical and contextual elements, employing rich body language to create improvisational rhythmic movements.

Teaching objectives:

1.Students should demonstrate a positive listening attitude and active thinking, using basic methods of creative thinking training. They should combine musical expression elements and overall sound effects to boldly imagine and create scenarios to develop music creation ability.

2.Students should carefully listen to the piece, analyze its structure, and improvise rhythmic movements based on the melody and rhythm characteristics of the song, using rich body language to match the song's context.

3.Group members should work together to create scenarios based on the characteristics of the song and collaborate seamlessly in their presentation.

Student Learning Feedback ：

In this unit, students used basic methods of creative thinking training to boldly create scenarios after listening to the music. The assignment was completed through group collaboration, which also exercised their organizational and teamwork skills. Students created scenarios based on the style and characteristics of the piece and choreographed rhythmic movements to express these scenarios. For example, one group created a scenario of returning to the dormitory from the playground on a rainy day, another depicted the morning routine of getting up and washing, and yet another showed a scene of playing football on the field. Each group presented their creations in an engaging manner, and the classroom atmosphere was very harmonious, with evident enjoyment among the students.

Unit 6: Music Composition

Task and assessment: :

This unit's teaching content is music composition, focusing on creating instrumental accompaniment for Chinese classical poetry. The specific learning task is for the teacher to provide a poem "Xi Jiang Yue" by Xin Qiji, a poet from the Song Dynasty, and for students to create instrumental accompaniment for this poem. The goal is for students to understand the content and perceive the artistic conception of the poem, learn the knowledge and techniques of instrumental composition, and create accompaniment that matches the content and artistic conception of the poem.

Teaching objectives:

1.Learn basic music creation knowledge and accumulate creative materials for basic music creation.

2.Students should demonstrate a positive creative attitude and exhibit an active creative thinking state during the creation process, mastering basic creative methods.

3.Use as many diverse creation techniques and novel approaches as possible to develop divergent creative thinking.

4.Based on a specific theme and expressive needs, select appropriate sound materials and forms, and collaborate with peers to create an accompaniment for

the Song lyric "Xi Jiang Yue: Night Travel on Huangsha Road", ensuring accurate content and expression of the intended mood, to develop convergent creative thinking.

Student Learning Feedback ：

Students also learned how to arrange melodies and instrumental accompaniments for a classical poetry piece in this unit. This task was also completed through group collaboration, enhancing their organizational and teamwork skills, as well as their abilities in melody composition and instrumentation. Each group used the week before the assignment to arrange the melody and instrumentation according to the content and mood of the poem. They then presented their creations in class. The teacher was amazed by the students' ability to utilize their knowledge to complete the task, with some groups achieving near-professional composition levels, even producing polished ensemble scores and recording audio samples. The students felt a great sense of accomplishment, their music creation abilities steadily improved, and they grew increasingly confident in their music creation ability.

Unit 7: Music Composition

Task and assessment: :

Unit Seven's teaching content is music composition, focusing on creating lyrics and visual scores for classical music pieces. The specific task is for the teacher to provide the classical music piece "The Kitten Waltz," and for students to create lyrics for the piece's main melody and to create a visual score for the piece.

Teaching objectives:

1.Students should have a certain level of musical analysis ability and be able to analyze aspects of the piece such as rhythm, structure, melody, and orchestration. Combining musical expression elements and overall sound effects, students should boldly use their imagination to create lyrics for the A theme melody.

2.Students should choose appropriate graphical representations to create a visual score for the piece.

3.Students should be able to naturally and fluently sing and present the lyrics created for the A section theme melody, and also display the musical score created using graphics and symbols for the entire piece.

Student Learning Feedback :

The new challenge for this unit was to create lyrics for a theme segment of a classical orchestral piece, turning it into a singable song, and to create a musical score for the entire piece. This task was also completed in groups over a week, which honed their lyric-writing skills and musical score design abilities, while also enhancing their organizational and teamwork skills. Each group created interesting and cute lyrics based on the musical elements of the theme segment's melody and rhythm and compiled clear musical scores, essential skills for their future roles as music teachers. The groups performed their songs and presented their musical scores in class.

Unit 8: Music Composition

Task and assessment: :

This unit's teaching content is music composition, focusing on creating a small integrated musical drama. The specific learning task is for students to design and create a small integrated musical drama, with no restrictions on genre or subject matter. The assessment would evaluate whether students can integrate all the teaching content from previous units, flexibly use various music composition methods, and create unique scenarios to complete and present the musical drama.

Teaching objectives:

1.Integrate all the musical knowledge and skills learned in previous units, along with music composition knowledge and skills. Using the basic methods of creative thinking training, students independently choose a theme and design and create a small-scale integrated musical drama.

2.Flexibly use vocal sounds, instrumental sounds, body language performance, props, gestures, images, and other methods to create based on the chosen theme. Plan and arrange the music and performance elements, including melody, rhythm, instrumentation, actions, and performance.

3.Group members should divide tasks and collaborate in the creation and rehearsal of the work, and be able to fully present the small-scale integrated musical drama created based on the chosen theme.

Student Learning Feedback :

The final challenge of this experiment was a comprehensive music creation task, integrating all the previously learned content. Each group had to create an original mini musical theater piece within a week, covering theme, melody, performance, instrumentation, and acting, and then perform it in class. Despite not being professional composition students, they approached the task earnestly. While their creations were somewhat immature, they fully reflected the improvement in their music creation ability.

The researchers conducted measurements of musical creative thinking before and after implementing the teaching model. By comparing students' music creation ability before and after the implementation of the teaching model, it was found that students' music creation ability improved significantly after the implementation, as shown in the table:

TABLE 11 Comparison of pre- and post-test data of music creation ability

Data collection	Mean	S.D.	Interpret	t	df	Sig. (1-tailed)
Pre-test	10.38	1.32	moderate	83.02	14	.01
Post-test	13.21	1.86	high			

The table above shows the mean score of students at the pre-test of 10.38 with a standard deviation of 1.32, moderate grade. In the posttest, the average score of students increased to 13.21 with a standard deviation of 1.86, high grade.

Additionally, some qualitative data from the implementation process of the teaching model indicate that the students created many innovative works. For example, they developed a fixed accompaniment pattern for 'The Cuckoo,' created contextual rhythmic performance movements for 'Anitra's Dance,' and arranged a comprehensive artistic performance integrating singing, playing, movement, and recitation for the

ancient poem 'Moon Over the West River.' These outcomes demonstrate that the teaching model significantly stimulated and showcased the students' music creation ability.

FIGURE 23 Group A presented an instrumental ensemble piece composed for the ancient Chinese poem "Xi Jiang Yue"

Figure 23 was taken during the experiment in Unit 6, where the task was to create an accompaniment for the Chinese classical poem "Xi Jiang Yue." The image shows the instrumental ensemble work created by Group A for the poem "Xi Jiang Yue."

FIGURE 24 Group B presented a musical drama based on the ancient Chinese poem

"Xi Jiang Yue"

Figure 24 was taken during the experiment in Unit 8, where the task was to create a small integrated musical drama. Group B developed their accompaniment for the poem "Xi Jiang Yue" into a small integrated musical drama.

4.4 Results of the Teaching model Evaluation

The teaching model was evaluated based on the following criteria:

1.Expert evaluations of the appropriateness and consistency of the teaching model before its implementation.

2.Teaching evaluation standards during the implementation of the teaching model, including:

Comparison of pre- and post-test results of music creation ability for students using the 'PCPR' teaching model.

Students' perspectives on the teaching.

4.4.1 Evaluation Results of the Teaching model's Effectiveness

This step employed quantitative methods. After analyzing the data mentioned in the third step, the researchers assessed the effectiveness of the teaching

model according to the standards. The results showed that students' music creation ability was higher after the implementation of the teaching model compared to before, with a statistical significance level of 0.01. The results of evaluating the effectiveness of the teaching model are as follows:

This step employed quantitative methods. After analyzing the data mentioned in step three, the researchers assessed the effectiveness of the teaching model according to the standards. The results showed that students' music creation ability was higher after implementing the teaching model compared to before, with a statistical significance level of 0.01. The results of the evaluation of the teaching model's effectiveness are as follows:

TABLE 12 Evaluation Results of the Teaching model's Effectiveness

Effectiveness criteria	Results	Conclusion
After implementing the teaching model, students' music creation ability was higher compared to before the implementation, with a statistical significance level of 0.01.	After the implementation of the teaching model, students' music creation ability was higher compared to before its implementation, with a statistical significance level of 0.01.	Criteria met

4.4.2 Results of the Improvement of the Teaching model (Final Version)

Based on the information collected during the first phase—through reviewing relevant literature, conducting interviews with experts and students, and administering surveys to students—a draft teaching model was developed to enhance music creation ability among university music education students. After experts evaluated the draft model for suitability, consistency, and other quality measures, the researchers made revisions to create the second version. Following this, the researchers conducted a pilot study of the second version with 10 students. Based on the findings from the pilot study, the researchers revised the teaching model again, resulting in the

third version. The third version was then implemented. After analyzing the data from this implementation, the researchers made further revisions, ultimately completing the final version of the teaching model.

A teaching model is a plan that forms the basis for constructing curricula, selecting teaching materials, and guiding teaching activities in the classroom or other environments (Joyce 2014). A teaching model is built on the integration of certain teaching theories and practices to achieve specific teaching objectives. It has a relatively stable and clear teaching structural framework and an operational procedural teaching paradigm (Shi.N.Z. and Yin.A.Q. 2006). In this study, the teaching model refers to a teaching paradigm formed under the guidance of specific teaching ideas and theories, aimed at cultivating music creation ability within a particular environment, and characterized by a relatively stable structure. The development of the teaching model requires relevant theories and ideas to serve as its theoretical foundation.

1.Principle of model

1.1 Constructivist Principle

The teaching model in this study is built on the foundation of constructivist theory, aiming to cultivate students by constructing experiences for further learning through active engagement. Constructivism is a mainstream contemporary learning theory and a significant force influencing the development of teaching models. It originally stems from Piaget's theory of structure and construction, which posits that cognition is an active process based on the subject's existing knowledge and experience. Teachers encourage, facilitate, and support students by posing questions, assessing, and providing useful feedback for their learning development. Building on this, Vygotsky introduced the theory of social constructivism and the "Zone of Proximal Development," while Bruner proposed cognitive learning theory, all of which contributed to the advancement of constructivist teaching models. Constructivism holds that knowledge acquisition is a constructive process rather than a transmission of information, emphasizing the agency of the cognitive subject. The learning process

involves learners constructing new thoughts and concepts based on their existing knowledge and experience through cognitive learning theories.

In this study, music creation ability is defined as the psychological quality of constructing novel and appropriate musical practices within a specific socio-cultural environment, emphasizing that music creation ability is a constructive process. Therefore, this teaching model must adhere to the basic principles of constructivism and focus on student-centered social construction.

1.2 Practicality Principle

Music is a social activity and an art form that emphasizes the full bodily involvement of individuals. music creation ability is a process of musical practice that includes specific practical behaviors of creative musical thinking. Elliott posits that music is inherently a diverse human practice, and the best way to understand music is to view it as a model of human practice—it is creative, participatory, competitive, and evolving (Elliott 2009). He also asserts that music creation ability is multidimensional, representing a specific type of making or doing, where creative outcomes are realized within particular practical contexts. Music creation ability is thus a process of musical practice, integrating "doing" and "thinking," and unifying "thought" and "action," with music creation ability being embedded in this purposeful activity—musical practice (Bowman 2014). Therefore, this teaching model emphasizes the principle of practicality, incorporating the concept of practice throughout the teaching processes of music listening (sound and music exploration), improvisational performance, and musical composition. This approach ensures that external activities are internalized into individual capabilities, thereby fostering students' music creation ability.

David Elliott, based on the philosophy of music education practice, defines music creation ability as the ability to produce original musical products within a specific musical context. From the perspective of music education philosophy, Elliott views music creation ability as an ongoing process generated through education. As a representative of music education philosophy, Elliott points out that music is fundamentally a diverse human practice, and the best way to understand music is to

view it as a model of human practice—creative, participatory, competitive, and evolving. This practice is essentially process-oriented, with musical behavior being fundamentally a process of diverse human practices. This study, focusing on the education and development of music creation ability, defines the concept of music creation ability with a "practical" orientation, presenting an operational definition aimed at cultivating music creation ability.

Jin-Hong Dou (2020) proposed a pyramid model for musical creativity practice in context. Dou believes that music creation ability is the psychological quality of constructing novel and appropriate musical practices within a specific socio-cultural environment. Based on this fundamental concept, when constructing the structure of music creation ability, the following aspects are considered:

The psychological structure of music creation ability should be a unity of musical creative thinking and musical creative personality. As an ability, the core of music creation ability is musical creative thinking. At the same time, non-intellectual factors such as personality also influence music creation ability. Therefore, the basic psychological structure of music creation ability is the unity of musical creative thinking and musical creative personality.

Musical creative thinking is the integration of divergent thinking, convergent thinking, and musical thinking within general creative thinking.

Since creativity is an internal psychological quality that is difficult to objectively evaluate and measure, its evaluation is typically based on the novelty and appropriateness of external "products" (musical works or musical behaviors). Thus, the evaluation of music creation ability should focus on novelty and appropriateness as core traits and criteria.

Music creation ability is developed through musical practice, which includes all musical activities such as composing, improvising, performing, and listening. Musical practice is both a product and an activity, but only musical practices that are novel and appropriate can be internalized as an individual’s music creation ability.

Music creation ability emerges during musical practice within a specific socio-cultural environment, which serves as the fundamental "context" for generating music creation ability.

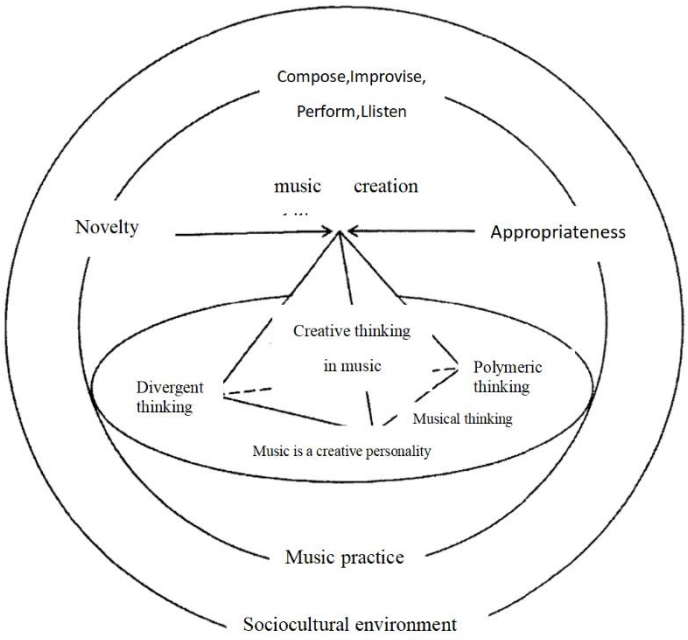


FIGURE 25 Pyramid structure model of Music creation ability practice in the graph context

The pyramid model of music creation ability practice in context represents the unity of psychological structure and formation mechanism.

The basic structure of music creation ability is the organic combination of general creativity and the specific characteristics of the musical domain. Music creation ability is developed within a specific socio-cultural environment and under the influence of certain task motivations, by integrating general creativity skills with the particularities of the musical domain. This results in a type of creativity specific to the music field, with the foundational structure being the organic combination of general creativity and the musical domain.

The core of music creation ability is musical creative thinking. Creativity is a psychological quality of the human brain's specific reflection of the objective world, with

its core being creative thinking. Creative thinking is a dialectical unity of divergent thinking and convergent thinking, with divergent thinking playing a particularly important role. In addition to divergent and convergent thinking, musical creative thinking necessarily involves musical thinking.

The basic traits and evaluation criteria of music creation ability are novelty and appropriateness. Creative products are generally considered to include two fundamental traits: novelty and appropriateness. Novelty refers to characteristics that are unprecedented and unique to the individual. Music inherently begins with creativity, and novelty runs through the entire process of musical practice, being the most fundamental characteristic of creativity. Appropriateness refers to the purposiveness or value, meaning that any creative activity must be purposeful or possess personal or societal value. As an organized form of sound, musical creation is inherently a purposeful activity.

The source of music creation ability is musical practice in context. Practice is the starting point of creativity, and human practice activities are the source of creativity. Music is essentially a purposeful human activity and a practice within its domain, with all musical practices potentially being creative. Practice can refer to the result of actions or actions within a context. Music, as a time-based art, has a process of practice that may also be the process of generating its musical products. These products might be works created through composition, "real-time products" formed in performance and improvisation, or "conceptual products" formed through listening. Music creation ability is internalized through musical practices that possess novelty and appropriateness.

1.3 Student-Centered Principle

According to constructivist learning theory, teaching should be student-centered, with students being active constructors of knowledge. Teachers are no longer providers of knowledge but organizers, facilitators, and helpers in the student's construction process. In this teaching model, the teacher must reinforce the student's central role. Teachers can enhance students' creative motivation by providing challenging tasks and actively utilizing student feedback.

1.4 Principle of Creative Environment

The environment plays a crucial role in the generation of creativity. Creating a relaxed, democratic, and free creative atmosphere can yield excellent results. The creative environment is extremely important in the generation of creativity. Teaching activities require not only a physical environment but also a social environment conducive to creativity. The physical environment includes classrooms, desks, and chairs, while the social environment is formed through the interactions between teachers and students during teaching activities. Teachers should foster an environment favorable to creativity, offering relatively free space and a relaxed atmosphere, thus creating a setting conducive to the emergence and development of students' music creation ability.

2.Objectives

Enhancing music creation ability of Music Education Majors in Higher Education: Emphasizing the Cultivation of Musical Creative Thinking

3.Process of teaching

The teaching model in this study is based on constructivist theory, specifically learner-centered learning, and employs task-driven and group cooperation as teaching methods. The model is structured into four steps: Project-driven, Independent construction, Practical display, and Reflective evaluation.Project -driven: In this step, students determine specific learning Prohect under the guidance and direction of the teacher.Independent construction: During this phase, students engage in activities such as material accumulation, exploration, and imitation through teacher guidance and autonomous learning. This step aims to cultivate students' awareness and habits of independent inquiry, effectively enhancing their music creation abilityy.Practical display: Students present their works created or improvised in the second step in a classroom setting.Reflective evaluation: Both teachers and students evaluate and reflect on the created works, providing insights for the next creative task and thereby promoting the improvement of music creation ability.

The design of these four steps aligns with psychologist Graham Wallas's four-stage theory of the creative process (Wallas, 1926):Preparation Stage: Involves thinking, accumulating, and understanding from various aspects before the formation of new ideas, with a clear goal and targeted exploration to expand knowledge and find breakthroughs.Incubation Stage: Based on the accumulation of knowledge and experience from the preparation stage, this phase involves deep thinking and gaining inspiration during activities.Illumination Stage: This is the process where new ideas suddenly become clear and is the presentation phase of creativity.Verification Stage: This phase involves the examination, supplementation, and correction of new ideas or inventions, where the thinker evaluates the new ideas or inventions through reasoning, speculation, and experimentation.

4.Media and resource

Utilize the school's and students' personal media and learning resources, as well as online media or resources, individuals, or expertise that are suitable for the innovative problems learners wish to explore.

5.Learning evaluation

The teaching model primarily employs a combination of formative evaluation and project-based evaluation methods.

Formative evaluation is a continuous assessment activity conducted during the teaching process, aimed at improving teaching and learning. Its core concept is to help students achieve learning goals and enhance teaching effectiveness through ongoing feedback and adjustments. This evaluation method focuses on the process rather than the outcome. Sadler (1989) emphasizes the impact of the quality and use of feedback on learning improvement, stating that effective feedback should be specific, timely, and provide clear directions for improvement. This study mainly utilizes formative evaluation methods such as classroom observation, student self-assessment, and peer assessment. Teachers observe students' classroom behavior and participation to understand their learning status and needs, providing timely positive feedback and encouragement to enhance students' self-efficacy, learning motivation, and information

retention. Students enhance their self-regulation abilities through self-reflection and evaluation, and peer feedback promotes mutual progress and improves autonomous learning abilities.

Project-based evaluation assesses students' performance in actual projects to measure their comprehensive abilities and knowledge application skills. Dewey (1938) emphasizes "learning by doing," where students demonstrate their integrated application abilities by completing real or simulated tasks. This approach not only focuses on the final product but also on the decision-making and problem-solving abilities exhibited during the process, fostering students' integrative skills and creative thinking.

Evaluation is conducted by observing the music creation ability of individual learners or groups. The scoring criteria are based on authentic assessment, integrated with the learners' activities. Feedback is provided through encouragement, confidence-building, and suggestions for learners to apply effective thinking and learning processes.

The teaching model for enhancing the music creation ability of music education majors in this study is illustrated below.

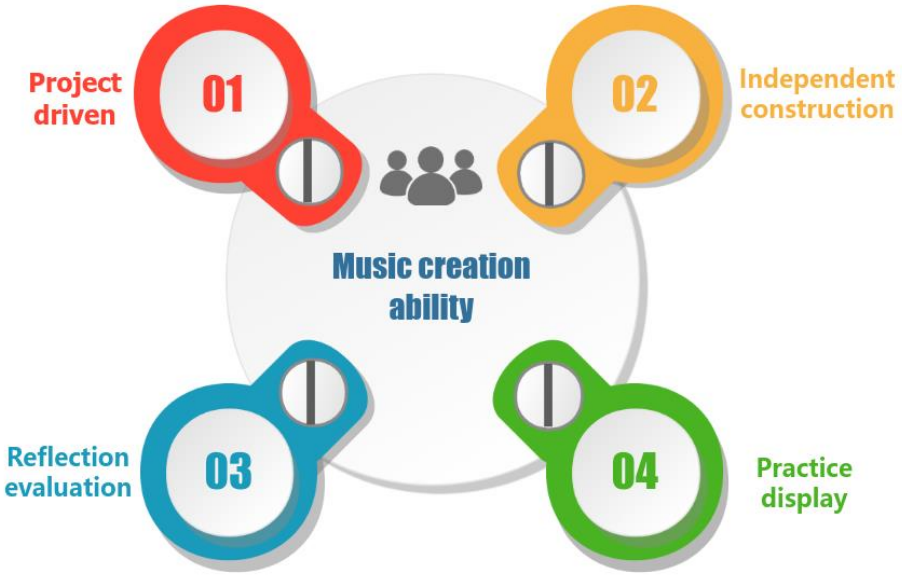


FIGURE 26 Teaching model(Final Version)

6.Teaching content

According to Chinese music aesthetician Zhang Qian, musical creation not only includes compositional activities recorded in scores but also encompasses improvisational acts that are not recorded in scores. It involves not only the creative acts of identifiable authors but also activities such as processing and adaptation. Moreover, it includes creative behaviors in performance as well as in appreciation (Zhang Q., 2002). Music appreciators are not merely passive receivers of musical works but are also creative subjects, playing an active role in the generation of musical meaning (Zhang Q., 2006). This is the creativity of appreciation, which is a conceptual and spiritual product characterized by ambiguity, multiplicity of interpretations, and uncertainty. It provides more space for creativity and imaginative potential, which is the unique charm of musical art. Listening to music is a creative act, especially active listening, which is a creative activity where the listener constructs a unique personal musical experience (Kratus, 2017). Active listening is a complex psychological activity where individuals experience music through rich associations and imagination based on sound perception. Active listening involves both the sensory recognition of divergent thinking and the rational analysis of convergent thinking. Therefore, music listening can stimulate music creation ability and result in novel "conceptual products.

Since the 1990s, countries like the United States and Japan have included composition and improvisational creativity as key components of general music education. In the United States, the National Standards for Arts Education incorporate composition and improvisation-focused music creation ability into comprehensive music education. Similarly, China's "Compulsory Education Art Curriculum Standards" outline music course content under four categories of artistic practice: "Appreciation," "Performance," "Creation," and "Connection," encompassing 14 specific learning contents and setting different learning tasks for each grade segment. The "Creation" content specifically includes "Sound and Music Exploration," "Improvisational Performance," and "Music Composition." Related tasks include

discovering nearby music for grades 1-2 and creating and presenting, as well as exploring music in everyday life for grades 3-9.

As future primary and secondary school music teachers, students must be capable of completing these learning tasks, which requires having corresponding music creation ability abilities. This study's focus on improvisational composition refers to all musical activities that involve improvisational performance, including singing, playing instruments, and creating music. Musical improvisation is characterized by its real-time and irreversible nature, demanding creators to "improvise" their creations on the spot, which is highly valuable for cultivating creative thinking, especially divergent thinking.

Enhancing music education majors' abilities in music composition and improvisation is foundational for improving the improvisational music education of future primary and secondary school students. Therefore, to train qualified primary and secondary school music teachers, this study would construct a specific teaching model based on the aforementioned content, focusing on "Music Listening (Sound and Music Exploration)," "Improvisational Performance," and "Music Composition." It would set learning tasks such as "Creating and Presenting" and "Exploring Music in Everyday Life" to enhance the music creation ability of university students majoring in music education.

TABLE 13 Teaching content

Unit plan:8 units class number: Class(40 minutes/Period)

Unit	Learning Content	Learning Tasks	Periods
Unit1	Music Listening (Sound and Music Exploration)	Creating Movements for Classical Music Works	2
Unit2		Matching Musical Works to Themes or Situations	2
Unit3	Improvisational Composition	Improvising Fixed Patterns and Rhythms for a Work	2
Unit4		Improvising Movements for a Work	2
Unit5		Improvising Melodies for a Theme	2
Unit6	Music Composition	Creating Accompaniments for Chinese Classical Poetry	2
Unit7		Music creation ability in Listening to Works	2
Unit8		Composing Small-Scale Integrated Musical Dramas	2

CHAPTER 5
DISCUSSION AND CONCLUSIONS

This chapter summarizes and discusses the research status of the paper and provides suggestions for the application of this teaching model as well as recommendations for future research. The discussion is divided into the following sections:

5.1 Conclusion

The results show that the PCPR teaching model is an effective approach to improving the music creation abilities of students majoring in music education. It prepares learners to enter the professional world of primary and secondary school music teaching, where music creation ability is crucial. As the future would be full of disruptive innovation (King & Baatartogtokh, 2018) and UNESCO predicts that future education would focus on developing creative and critical thinking and collaboration abilities (UNESCO, 2016), creativity and innovation are essential skills for 21st-century students (Patphol, 2020). Therefore, learning in the new era should cultivate learners' ability to create and innovate through hands-on experiences (Markham, 2016).

The purpose of this study was to develop a teaching model to improve the music creation abilities of college music education students. The sample comprised 32 third-year college students, and the study involved developing, implementing, and researching the teaching model. The first draft of the teaching model was based on the research of relevant theories and literature, and interviews with 5 experts and 5 students, along with a survey of 97 students. The second version of the teaching model was refined based on expert feedback regarding its suitability and consistency. Following a pilot study of the second version, the final version of the teaching model was established. This model, called the "PCPR model," emphasizes task-driven learning, construction, practice, and reflection.

The final version of the teaching model includes :Principles , Purpose,Teaching Process,Media and Resources,Learning Evaluation,Teaching Content.There are 8 units, each comprising 4 steps of the PCPR teaching model, totaling 16 class hours. Before and after implementing the developed teaching model, the researchers tested the sample population using data collection instruments. After implementing the final version of the teaching model, the results showed that the music creation abilities of students majoring in college music education improved significantly, with a statistical significance level of 0.01. The experimental results support the research hypothesis: after a month of implementing the developed teaching model, the music creation abilities of third-year music education students at Gannan Normal University College of Science and Technology improved, particularly in terms of divergent thinking in music creative thinking.

This experiment demonstrates the effectiveness of the developed PCPR teaching model in improving the music creation abilities of students majoring in college music education. The results support the efficacy of constructivist theory, practical theory, and student-centered theory in enhancing music creation skills.Interviews with students after the experiment revealed that they felt the teaching model not only improved their music creation abilities but also significantly boosted their confidence in creating and their interest in the creative process. Therefore, this teaching model can be further promoted and applied, allowing other university teachers to use it directly or indirectly in their teaching.

5.2 Discussion

The structural model proposed by Webster views music creation ability as musical creative thinking and is constructed with thinking as the core. However, this model places too much emphasis on the role of thinking while relatively neglecting factors such as personality and sociocultural environment. As music is a form of culture, music creation ability is inevitably influenced by specific sociocultural contexts. Therefore, in addition to focusing on musical creative thinking as the core, the structural factors of music creation ability must also emphasize the personality traits associated

with music creation ability and the sociocultural environment in which music creation ability emerges.

1. Effective Theoretical Support for the "PCPR" Teaching model.

Consistent with this viewpoint: taking students as the main body of teaching, cultivating students' autonomy and creativity, guiding students to question, discover, and explore (Chen, 2007). Adopting the teaching model of "assigning topic selection - student self-learning - classroom discussion - teacher-student joint conclusion" and the teaching model of "teaching practice - understanding problems - re practice - re understanding".

This teaching model emphasizes the cultivation of students' creative thinking, which also confirms the "thinking based teaching theory" proposed by Chinese scholars Lin Chongde and Hu Weiping (2010), which regards the cultivation of thinking as the center of teaching theory.

This teaching model aligns with Sean's concept of reflective practice, emphasizing the need for both reflection and action, reflection in action, action in reflection, using action to promote reflection, and combining theory with practice.

The PCPR teaching model has proven effective in improving the music creation abilities of students majoring in college music education. This model is built on robust theoretical foundations and comprises four key steps: Project-driven, Independent construction, Practice-display, and Reflective evaluation.Project-Driven: This step presents students with challenges that stimulate their creative thinking. By engaging in tasks that push their boundaries, students are encouraged to generate new ideas and solutions.Independent Construction: Here, students independently build upon their knowledge and experiences to create new musical works. This autonomy fosters deeper engagement and personal investment in the learning process.Practice-Display: Students practice their creations and present them, which not only reinforces their skills but also allows them to receive feedback and reflect on their work.Reflective Evaluation: This final step involves reflecting on the process and outcomes, helping students to analyze their progress and areas for improvement.

This model aligns closely with constructivist theory, which emphasizes the importance of students actively constructing knowledge through interaction with their environment. According to Bruner (1996) and Cole (1996), learning is most effective when students engage in social practices that foster the development of individual knowledge systems and abilities.

The PCPR model prioritizes student-centered learning, where students are not passive recipients but active creators. They utilize information from teachers and textbooks in novel and creative ways, engaging in discussions, communication, analysis, and evaluation. In this model, the teacher's role is primarily to guide and support, rather than to directly instruct. This approach ensures that students are central to the learning process, in line with the principles of constructivist theory.

Moreover, the PCPR teaching model prepares students for a professional world where creativity is crucial. Loehle (1990) suggests that various teaching strategies can enhance student creativity, and the PCPR model's emphasis on active participation and independent creation supports this view. By engaging students in a process that encourages creativity and critical thinking, this model effectively enhances their music creation abilities.

2. Intensive Practice in Cultivating Music Creation Ability

The research results indicate that after implementing the "PCPR" teaching model, the music creation abilities of students majoring in music education at colleges and universities significantly improved, with a statistical significance level of 0.01. This improvement can be attributed to the model's emphasis on intensive practice.

Music creation ability is fundamentally a process of music practice, which includes music creative thinking as a concrete behavioral component. Elliott (2009) argues that music is inherently a variety of human practices, and the best way to understand music is through its active and evolving practice. Music creation ability is embedded in these purposeful practices—the process of engaging with music in a hands-on, practical manner (Bowman, 2014).

In the "construction and practice" and "practice-display" stages of the PCPR teaching model, there is a strong emphasis on student participation and extensive practice. These stages require students to be actively involved in the creation and performance of their work, thus providing ample opportunities for training in music innovation and enhancing their music creation abilities. The model ensures that students engage deeply in the practice process, which is crucial for developing their creative skills.

5.3 Suggestions

Based on the findings, the following suggestions are made:

1. Use Suggestions

1.1 Enhancing Understanding of Creativity and Mastering Basic Innovation Skills

Interviews and questionnaires conducted early in the study revealed that students lacked a thorough understanding of creativity. It is crucial for students to build a solid foundation in general creativity and acquire basic innovation skills. This includes developing an innovative mindset, forming innovative thinking, and training in various innovative techniques such as brainstorming, enumeration, group discussion, association, questioning, transplantation, analogy, and forced association. Teachers should provide MOOCs or materials on general creativity before class and teach students basic innovative skills. Repeated practice of these skills would significantly aid in implementing the teaching model effectively.

1.2 Mastering Basic Music Knowledge and Skills

Improving music creation ability requires a solid grasp of fundamental music knowledge and skills. Students need to build a base of creative skills, music theory knowledge, and practical skills through learning and accumulating creative materials. Interviews conducted after the experiment indicated that students were able to clearly understand methods to enhance their music creation ability and saw significant improvements using these specific methods. Before applying the teaching model to enhance university music education students' music creation abilities, students

should have a certain level of learning in courses such as basic music theory, multi-voice music analysis, musical forms, harmony, and instrumentation. Mastery of essential music theory, melody writing skills, harmony skills, form analysis skills, and instrumentation would expand students' creative space, enhance their divergent thinking in music creation, and improve the uniqueness and flexibility of their creative thinking.

1.3 Building a Confident Creative Attitude

Early interviews and questionnaires revealed that students often lacked confidence in their creativity and had a weak sense of innovation. This lack of confidence negatively affects their willingness to accept creative challenges and impacts their active thinking during the creative process. A confident creative attitude is crucial, as it enables students to generate more unique ideas and fosters more fluent and flexible thinking. By the end of the experiment, students reported increased confidence in their music creation abilities, viewing it as an enjoyable and meaningful activity rather than a difficult task. It is essential to build students' confidence in their creative abilities throughout the teaching process. Therefore, teachers should continually encourage and affirm students, enhancing their confidence in music creation and their sense of achievement.

1.4 Creating a Relaxed, Free, and Positive Creative Environment

The experiment highlighted the importance of providing a relaxed and positive creative environment for students. A democratic and free environment allows students to innovate boldly without fear of immediate criticism. Students are less likely to generate creative ideas in a tense or emotionally low state. To stimulate students' creativity, teachers should foster an environment that is relaxed and free from negative evaluations. Encouraging and affirming students' creations, while avoiding negative feedback, can significantly enhance their creative output and overall engagement in the creative process.

1.5 Fostering Innovation Consciousness

Improving creative ability is an ongoing process that requires teachers to consistently maintain and promote a sense of innovation. Teachers should integrate and emphasize innovation in their daily teaching practices. Creativity develops gradually, and students need to cultivate innovative thinking habits. This involves overcoming herd mentality, authority mentality, prejudice, conservatism, and fixed thinking. Teachers should continuously remind and encourage students to embrace innovation throughout the teaching process.

1.6 Applying the PCPR Teaching model to Different Age Groups

The "PCPR" teaching model can also be effective for improving music creation abilities in students of other age groups, such as primary and middle school students. However, the teaching content and creation difficulty should be appropriately adjusted. When applying this model to younger students, teachers should focus more on developing students' music creative thinking rather than solely on the difficulty of music knowledge and creative skills. Even if younger students have limited music knowledge and skills, they can still benefit from training in creative thinking. Teachers should carefully consider students' existing knowledge and ability levels and design tasks that are suitable for their developmental stage.

2. Suggestions for Future Studies

2.1 Expanding and Refining the Teaching model

The current study's teaching model is limited by a small sample size, a narrow scope of sample selection, and a short implementation period, which affects the generalizability of the experimental results. Future research should aim to broaden the sample size, expand the range of participants, and extend the duration of the experiment to verify and enhance the effectiveness of the teaching model. Additionally, developing a comprehensive course based on this model could further improve the music creation abilities of students majoring in music education, offering greater potential for long-term sustainability and impact.

2.2 Extending Research to Future Music Teachers

This study focused on college students who would become primary and secondary school music teachers. Future research could track these individuals after they enter the teaching profession to assess how effectively they can apply the PCPR teaching model to improve their students' music creation abilities. This would provide valuable insights into the model's applicability and effectiveness in real-world teaching contexts.

2.3 Pre-Service Teacher Training

Future studies could extend the application of this teaching model to pre-service teacher training programs. By enhancing the music creation abilities of prospective teachers before they begin their careers, these future educators could be better prepared to foster creativity in their students. This approach aims to maximize the impact of the teaching model on music education by equipping teachers with the skills and confidence to effectively nurture creativity in their future classrooms.

REFERENCES

Ashman A. (2003). Cooperative learning: *The social and intellectual outcomes of learning in groups*. Routledge.

Balkin, A. (1990). What is creativity? What is it not? Music Educators *Journal*, 76(9), 29-32.

Burnard, p. (2015). Music creation in practice (Y. Yu, Trans.). *Shanghai Music Publishing House*.

Cao, L. (1993). *General school music pedagogy*. Shanghai Education Press.

Che, W. B. (2001). *New Dictionary of contemporary Western Psychology*. Jilin People's Publishing.

Chen, X. F., & Wang, X. W. (2007). *Chinese music. Reform of Music Teaching Methods Curriculum in Normal Universities and Cultivation of Students*' Innovative Thinking, 4, 207.

China. (2010). *National Medium- and Long-Term Education Reform and Development* Plan (2010-2020). Ministry of Education.

Curriculum Standards Writing Group. (2020). *High school music curriculum standards. Beijing Normal University Press.*

Curriculum Standards Writing Group. (2022). *Art curriculum standards for compulsory education*. Beijing Normal University Press.

Dewey, J. (1938). What is social study? The Modern Language *Journal*, 23(3), 219. https://doi.org/10.2307/317271

Dewey, J. (1991). How we think (W. M. Jiang, Trans.). *People's education Press.*

Dou, J. H. (2020). *Research on the structure and cultivation of music creativity of pre-service music teachers* [Doctoral dissertation].

Elliott, D. J. (2009). *Community music and Praxialism*. Praxial Music Education, 308-328. https://doi.org/10.1093/acprof:oso/9780195385076.003.17

Fang, Y. M. (2005). "Three Breakthroughs" in Music Teaching Method Courses in Normal Universities. *Music Education in Primary and Secondary Schools*, 8, 5.

Glaser, R. (1963). *Instructional technology and the measurement of learing outcomes:*

Some questions. American Psychologist, 18(8), 519-521. https://doi.org/10.1037/h0049294

Hickey, M., & Webster, P. (2001). Creative thinking in music. Music Educators *Journal,* 88(1), 19-23. https://doi.org/10.2307/3399772

Hu, J. Z. (2000). Foreign innovation education talk. Education in Inner Mongolia, 11, 23-24.

Inc., M. (2004). *Merriam-Webster's collegiate dictionary* (11th ed.). Merriam-Webster.

Joyce, B., Calhoun, E., & Hopkins, D. (2008). Models of learning, tools for teaching. McGraw-Hill Education (UK).

Kaplan, D. E. (2019). *Creativity in education: Teaching for creativity development. Psychology*, 10(02), 140-147. https://doi.org/10.4236/psych.2019.102012

L, W. (2015). The construction and implementation of the "on-campus and off-campus integration" model of the "Music Teaching Method" series of courses in normal universities————Taking the School of Music of Wenzhou University as an *example. Higher Education Journal,* 5, 35.

Lin, Y. H. (2009). Research on the Problems and Countermeasures of Music Teaching *Management in Jiangxi Normal University. Prices Monthly*.

Lin, C. D. (2018). Creative psychology. Beijing Normal University Press.

LIU, J. M. (2012). *The Current Situation and Countermeasures of Music Teaching in Colleges and Universities in Jiangxi Province.* Technology Information.

Liu, Y. M. (2007). *Innovation Road on Red Soil Ground: A Side Note on Jiangxi's Exploration of the Economic* Development Path in Underdeveloped Areas. Party History and Literature Garden.

Locke, J. (1959). *An essay concerning human understanding* (W. Y. Guan, Trans.). The Commercial Press.

Ministry of Education of China. (2019). *China Education Modernization* 2035.

Patphol, M. (2020). *Developing a training curriculum to enhancing teachers' learning management skills for promoting learners' creativity and innovation*: A case study of Thai teachers. Advanced Journal of Social Science, 7(1), 181-187.

https://doi.org/10.21467/ajss.7.1.181-187

Sadler, P. (1989). *Feedback. Omega,* 15(6), 443.

Schön, D. A. (1983). *Reflective practitioner.*

Shi, F. L. (2006). Creative talents: their nature, use, and cultivation. *People's Education Press.*

Slavin, R. E. (1990). Research on cooperative learning: Consensus and controversy. Educational leadership, 47, 52-54.

Sternberg, R. J. (1999). *Handbook of creativity*. Cambridge University Press.

Sternberg, R. J., & Lubart, T. I. (1995). Defying the crowd: Cultivating creativity in a culture of conformity.

Sun, P. R., Mi, Z. Q., & An, L. S. (2000). Research on innovative education and training of innovative talents. *Journal of Hebei University:Philosophy and Social Sciences Editio,* 25(2), 53-57.

Tao, X. Z. (2021). *Create statement. Education in Shanghai*, 30, 38-39.

Tao, Y. J. (2019). Reform of Music Teaching Methods Curriculum in Normal Universities and Cultivation of Students' Innovative *Thinking. Art Criticism*, 19, 90.

Tong, H. (2014). Research on the present situation and countermeasures of music creation teaching in primary schools [Doctoral dissertation].

Torrance, E. P. (1974). Torrance Tests of Creative Thinking. Personnel Press.

UNESCO. (1979). *Learning to Survive: Educating the World Today and Tomorrow.* Shanghai Translation Publishing House.

UNESCO. (2016). *Education 2030 Incheon DeclarationTowards inclusive and equitable quality education and lifelong learning for all.* Shanghai Translation Publishing House.

Wang, Y. H. (2002). *Development of music education in primary and secondary schools and reform of music education in normal schools.* Music studies, 1, 15-22.

Wang, Y. H., & Wan, L. J. (n.d.). Teacher-oriented, development-oriented, open-oriented -- The innovation of specialty curriculum Guidance Program. *Journal of Fujian Normal*

University (Philosophy and Social Sciences Edition), 1, 150-158.

Webster, P. R. (2002). Creativity and music education: Creative thinking in music: Advancing a model. Creativity and music education, 1, 33. https://doi.org/10.4324/9781003419495-9

Whiting, K. (2020). These are the top 10 job skills of tomorrow–and how long it takes to learn them. World Economic Forum.

Williams, F. E. (1979). Assessing creativity across Williams "Cube" Model. Gifted Child Quarterly, 23(4), 748-756. https://doi.org/10.1177/001698627902300406

Xia, Z. N. (2010). Cihai (Sixth Edition in miniature). Shanghai Dictionary Publishing House.

Yang, R. M. (2003). Accelerate the reform of music education and teaching in normal universities and cultivate high-quality teachers for basic education - Speech at the seminar on music education reform in normal universities. *Chinese Music Education*, 3, 4.

Yin, A. Q. (2006). Music curriculum and teaching theory,. *Northeast Normal University Press.*

Yu, Y. (2017). The connotation and composition of "5C" music creativity teaching mode. Symphonic - *Journal of Xi 'an Conservatory of Music,* 36, 145-152.

Zheng, L. (2008). *The challenges of music teacher education in the 21st century.* People's music, 7.

APPENDIX

APPENDIX A

Interview outline on music creation ability of Students in College Music Education (Teacher)

Part 1: Basic information

1. Work in school
2. Gender
3. Teaching age
4. Take courses

Part two: Interview information

1. What do you think of as the Music creation ability of college music normal university students now?
2. What is the significance and value of improving students' Music creation ability for their core qualities?
3. How do you promote students' Music creation ability in teaching?
4. What teaching methods and means do you use to improve students' Music creation ability?
5. What do you think is mainly reflected in students' Music creation ability?
6. How do you evaluate your students' Music creation ability? And how to provide targeted education and guidance according to the evaluation results?
7. What do you think you need to improve? What help and support do you need?

APPENDIX B

Questionnaire on Students' music creation ability in College Music Education (student)

Part 1: Basic information

1. Study in school
2. Gender
3. Age
4. Grade

Part two: Interview information

1. What do you think is Music creation ability?
2. Do you think it is very important to improve your Music creation ability?
3. How do you think we should improve our Music creation ability?
4. What do you think is the problem with cultivating Music creation ability now?
5. How to evaluate the current teaching model of improving Music creation ability? Is there any room to improve on it?
6. What are you most interested in about Music creation ability?
7. What difficulties did you encounter in the learning process of improving your Music creation ability?

APPENDIX C

Classroom observation record

<table>
<tr><td colspan="3">Information about the teacher</td><td>Subject</td><td>Class and grade</td><td>Time</td></tr>
<tr><td>Name</td><td>Sex</td><td>Teaching age</td><td></td><td></td><td></td></tr>
<tr><td colspan="6"></td></tr>
<tr><td>Time</td><td>Teaching link</td><td>Observed events (Teacher)</td><td>Observed events (Student)</td><td colspan="2">Observer's interpretation And question</td></tr>
<tr><td colspan="6">Interactive communication after class:</td></tr>
<tr><td colspan="6">Explanation: 1. Research question: How do teachers conduct problem-solving teaching in elementary school mathematics classroom teaching?
2. The purpose of observation: Through observation, collect teachers' effective, inefficient and ineffective practices in classroom teaching, organize, analyze and give feedback, aiming to understand teachers' cultivation of students' problem-solving ability
3. Observation object and content: teacher's behavior and student's behavior in classroom teaching
4. Observation time: follow-up observation during the teaching guide
5. Observation method: notes
6. Observation point:
(1) Teacher teaching behavior:
a. Handling of teaching materials: observe how teachers choose teaching materials, how to interpret and analyze teaching materials, how to use teaching materials, whether they can use teaching materials innovatively, and whether they can adapt teaching materials according to students' specific situations.
b. Teaching methods and strategies: Observe whether the teaching methods and strategies used by teachers can help students better understand mathematical concepts and solve problems.
c. Classroom management: Observe the teacher's management ability in the classroom, including how to control classroom discipline, how to deal with students' problems and challenges, etc.
d. Interaction between teachers and students: Observe the interaction between teachers and students, including how teachers answer students' questions, the quality of communication with students, etc.</td></tr>
</table>

e. Attention to students: Observe whether teachers pay attention to cultivating students' interest in learning, whether they pay attention to students' participation, whether they pay attention to the cultivation of students' learning habits, and whether they pay attention to the cultivation of students' learning methods and learning strategies.

f. Teacher Evaluation and Feedback: Observe how teachers evaluate and give feedback on student performance, including whether feedback is tailored to each student's learning needs and abilities.

g. Technology Use: Observe the teacher's ability to use technology in the classroom, including the use of computers, the Internet, and other learning software.

(2) Students' learning behavior:

a. Students' attitude towards lectures: Observe whether the students listen carefully and pay attention to the teacher's explanation.

b. Students' classroom participation: Observe whether students actively participate in classroom interaction, answer questions actively, and communicate with teachers and classmates.

c. Students' thinking ability: Observe whether students can think independently, analyze problems, and whether they have the spirit of inquiry.

d. Students' cooperation ability: Observe whether the students can actively participate in cooperation in the cooperation group, and whether they have good communication and cooperation skills.

e. Students' problem-solving ability: Observe whether students can skillfully use the knowledge they have learned to solve problems and whether they have innovative thinking ability.

f. Students' independent learning ability: observe whether students have independent learning ability and whether they can use various resources for independent learning.

g. Student behavior: Observe students' performance in terms of discipline, classroom etiquette, and personal accomplishment.

APPENDIX D

Music creation in China's National Compulsory Education Art Curriculum Standard

The object of this research is the music education students in colleges and universities, they are the future would be engaged in the primary and secondary school music teachers, the goal of this study is to improve their music creation ability, so understand the national compulsory education Figure of art curriculum standards especially about the music creation ability requirements and content is very necessary.

China's national Ministry of Education in 2022 issued a new compulsory education Figure art curriculum standard, the document is the national level for primary and secondary school art curriculum issued programmatic document, embodies the national basic requirements of primary and secondary school art curriculum and minimum standards, to the national primary and secondary school art education plays an important guiding and guiding role. The curriculum standards stipulate the objectives, contents and basic teaching requirements of art education, and reflect the would of the state.

General objectives of the art program:

·Percve, discover, experience and appreciate the beauty of art, nature, life and social beauty, and improve the aesthetic perception.

·Enrich the imagination, use the media, technology and unique artistic language to express and communicate, use the image thinking to create vivid scene, healthy meaning of art works, improve the ability of artistic expression.

·Develop innovative thinking, actively participate in artistic practice activities such as creation, performance, display, and production, learn to find and solve problems, and improve the ability of creative practice.

·We should feel and understand China's profound cultural heritage and the important achievements of the Party's century-old struggle, carry forward the fine traditional Chinese culture, revolutionary culture, and advanced socialist culture, strengthen cultural confidence, and forge a strong sense of community of the Chinese nation.

·Understand the history and cultural traditions of different regions, nations and countries, understand the relationship between culture and building a community with a shared future for mankind, and learn to respect, understand and tolerate.

The art course of compulsory education includes five disciplines: music, fine arts, dance, drama (including opera), film and television (including digital media art). Based on art practice and learning tasks as the starting point, it organically integrates learning content and builds an integrated content system.

Music courses include four types of art practices: "appreciation", "performance", "creation", "and" contact ", covering 14 specific learning contents, setting different learning tasks in different learning sections, and embedding the learning content into heavy learning tasks. Among them, through the artistic practice of "creation", students explore music and other sounds, comprehensively use the knowledge, skills and creative thinking, carry out improvisational performance and music creation activities, express their personal ideas and creativity, and improve their creative practice quality.

Goals requirements of music creation in the music course

Creative practice is the ability to use multi-disciplinary knowledge, closely related to real life, and carry out artistic innovation and practical application (China 2022). Creative practices include creating an atmosphere, inspiring inspiration, exploring and experimenting with the process and method of creation, generating unique ideas and transforming them into artistic results (China 2022). One of the overall goals is to develop innovative thinking, actively participate in creation, performance, display, production, learn to find and solve problems, and improve the creative practice ability (China 2022).

Learning paragraph goals related to music creation:

Section 1 (grades 1 to 2)

·Have curiosity and desire to explore music, and can express my thoughts and feelings in the process of exploring sound and music.

Section 2 (grades 3-5)

·Keep curiosity and desire for music, and can show personality and creativity in artistic creation activity cabinets such as exploration, improvisation and editing.

Section 3 (grades 6 to 7)

·Can choose the right music works to express their feelings, create and display simple music works, with a certain amount of imagination and creativity.

Section 4 (grades 8-9)

·They can compile and create and display relatively complete short music works, express their own ideas and emotions, and have rich imagination and creativity.

Content requirements of music creation in the music course

Content requirements related to music creation:

Section 1 (grades 1 to 2)

Study task 1: Fun singing tour

·Music with simple body movements, momentum, rhythm or dance, use percussion instruments or choose other sound materials for simple performance or accompaniment.

Study Task 3: Contextual performance

·Combine nursery rhymes, poems, fairy tales, life scenes, etc., select appropriate Musical Instruments, props or other materials, and use singing, performance, momentum, rhythm, dance and other expression forms to perform creative performances.

Section 2 (grades 3-5)

Learning Task 4: Creation and presentation

·According to the mood and characteristics of the music to create a rhythm or dance movements. Impromptu accompaniment for recitation, song, dance, etc. Under the guidance of teachers, purposefully create short rhythm, melody, etc., to

express their own ideas and emotions. Combined with the life situation, compile, create and perform simple music stories, music games, short musicals and so on.

Section 3 (grades 6 to 7)

Learning Task 4: Creation and presentation

·Impromptu singing, playing, momentum, rhythm or dance; improvised simple rhythm, fixed tone, simple chord, music or accompaniment for recitation, song or dance. Create repetitive or contrasting rhythmic, short melodies. Create lyrics for melodies or short lyrics, select appropriate materials and different forms of expression according to the situational theme, create and perform slightly complex music stories, musicals, sitcoms, musical games, etc. Use graphic music, music, or other ways to record the work.

Section 4 (grades 8-9)

Learning Task 4: Creation and presentation

·Improvising singing, performance, rhythm or dance; improvising life phrases or poetry sentences; improvising rich rhythm, melody, chord, for recitation, song, dance music or accompaniment. Create rhythmic, short melodies and simple songs that reflect personal ideas and originality. Comprehensive art creation and performance according to specific situational themes and requirements.

Description of the academic quality of music creation in the music courses

The Art Curriculum Standards for the Compulsory Education Stage issued by China contains the evaluation standards for the academic quality of music courses in the compulsory education stage, and the academic quality related to music creation is described as follows:

Phase of studying	Description of academic quality
The first paragraph (Grade 1 to Grade 2)	In the singing and swimming activities, they can carry out simple momentum, rhythm, dance or song performance with music, so that the body movements are basically consistent with the characteristics of musical mood, rhythm and rhythm, and can change the movements according to the music and their own ideas.
	They can choose 2 to 3 different forms to perform the situational performance, basically showing the theme and content of the situational performance, the action is in line with the musical characteristics and role characteristics, and can reflect their own ideas.
Section 2 (grades 3-5)	In the expression of the mood, emotion and performance of musical artistic conception and musical image can reflect their own ideas.
	With music improvisation, expression and body movements can reflect the music mood and music characteristics; the simple rhythm or melody has certain structure and change, can convey the corresponding expression intention.
	Compilation, performance, simple song and dance plays, etc., to have a theme, plot, basic structure and logic, proper music arrangement, performance, natural expression, plot performance is relatively complete.
	In life will use the right music to meet their own needs, and can explain the reasons for choosing these music.
Section 3 (grades 5-7)	Can use the knowledge and skills learned to sing, perform, in the emotional expression, accuracy, fluency, integrity and other aspects to basically meet the requirements of the work, can control the strength, speed and timbre according to the musical

	performance needs, reflect a certain degree of creativity.
	With music improvisation, expression, body movements and music mood, emotion, movement changes and have certain creativity; can create a slightly complex rhythm, melody and simple songs, reflect a certain richness, words, music combined with nature, can better express their feelings and ideas; can choose according to the theme, create small song and dance drama, music and the plot of correlation, vivid, natural performance, can better express the plot and emotion.
Section 4 (grades 8-9)	The emotion, integrity, fluency, accuracy, harmony and other aspects of the artistic expression are in line with the work, reflecting the rich expressive force and personalized creative expression.
	Can use the appropriate creation techniques for music creation and performance, the works reflect the repetition and contrast of the rhythm or melody, complete structure, with a certain expression and originality.

APPENDIX E

Music creativity improvement project suitability evaluation table

1. Consistency checking

Using the IOC (Index of item consistency) and evaluating by external expertise (5 people) who have knowledge and experience relevant your curriculum. Consistency checking form as follows.

Consistency checking form

Direction: Please mark ✓ in the evaluation results according to your opinion.

Items	Evaluation results		
	Consistent (+1)	Unsure (0)	Inconsistent (-1)
1			
2			
3			
4			
5			
6			
7			

Calculate mean score of each item then interpret the consistency following criteria

> .05 consistency

< .05 inconsistency (improve it before implementation)

APPENDIX F

Appropriate checking form of the Teaching model

No.	Items	$\bar{x}$	S.D.	Appropriate degree
1	**Teaching model principles**			
	1.1 Reasonable			
	1.2 Theoretical concepts used to support			
	1.3 Lead to practice			
2	**Teaching model objectives**			
	2.1 Clear and concrete			
	2.2 Can be measured and evaluated			
	2.3 Suitable for the target group			
3	**Teaching model content**			
	3.1 Meet the teaching model objectives			
	3.2 Academically correct			
	3.3 Suitable for the target group			
4	**Learning activities**			
	4.1 Meet the teaching model objectives			
	4.2 Suitable for the target group			
	4.3 Interesting and possible			
5	**Teaching model materials**			
	5.1 Meet the learning activities			
	5.2 Suitable for the target group			
	5.3 Interesting and possible			
6	**Teaching model evaluation**			
	6.1 Meet the teaching model objectives			
	6.2 Suitable for the target group			
	6.3 Possible to practice			

APPENDIX G

Evaluation of the Consistency of the Teaching model

No.	Items	IOC	Meaning
1	Learning problem with the principles of the teaching model		
2	Teaching model principles and teaching model aims		
3	Principles of teaching model and learning activities		
4	Teaching model aims and Teaching model content		
5	Teaching model aims and learning activities		
6	Teaching model content and learning activities		
7	Teaching model content and learning materials		
8	Teaching model content and learning resources		
9	Teaching model content and learning duration		
10	Teaching model assessment with teaching model aims		

APPENDIX H

Expert information

Name	Position/University
Xi Zeng	Former Director of music Theory Teaching and Research Section, Professor / Gannan Normal University
Zan Yijun	Director of Music Education Committee of Ganzhou Musicians Association, Professor / Gannan Normal University
Li ying	Director of the music teaching and Research Section,associate professor/ Gannan Normal University
Ceng Jie	Music teacher at Xingguo Road Middle School in Ganzhou City
Gu Yiling	Head of Music Master Studio of Primary and Secondary schools in Ganzhou City / Principal of Zhangjiang No.2 Primary School, Zhanggong District, Ganzhou City

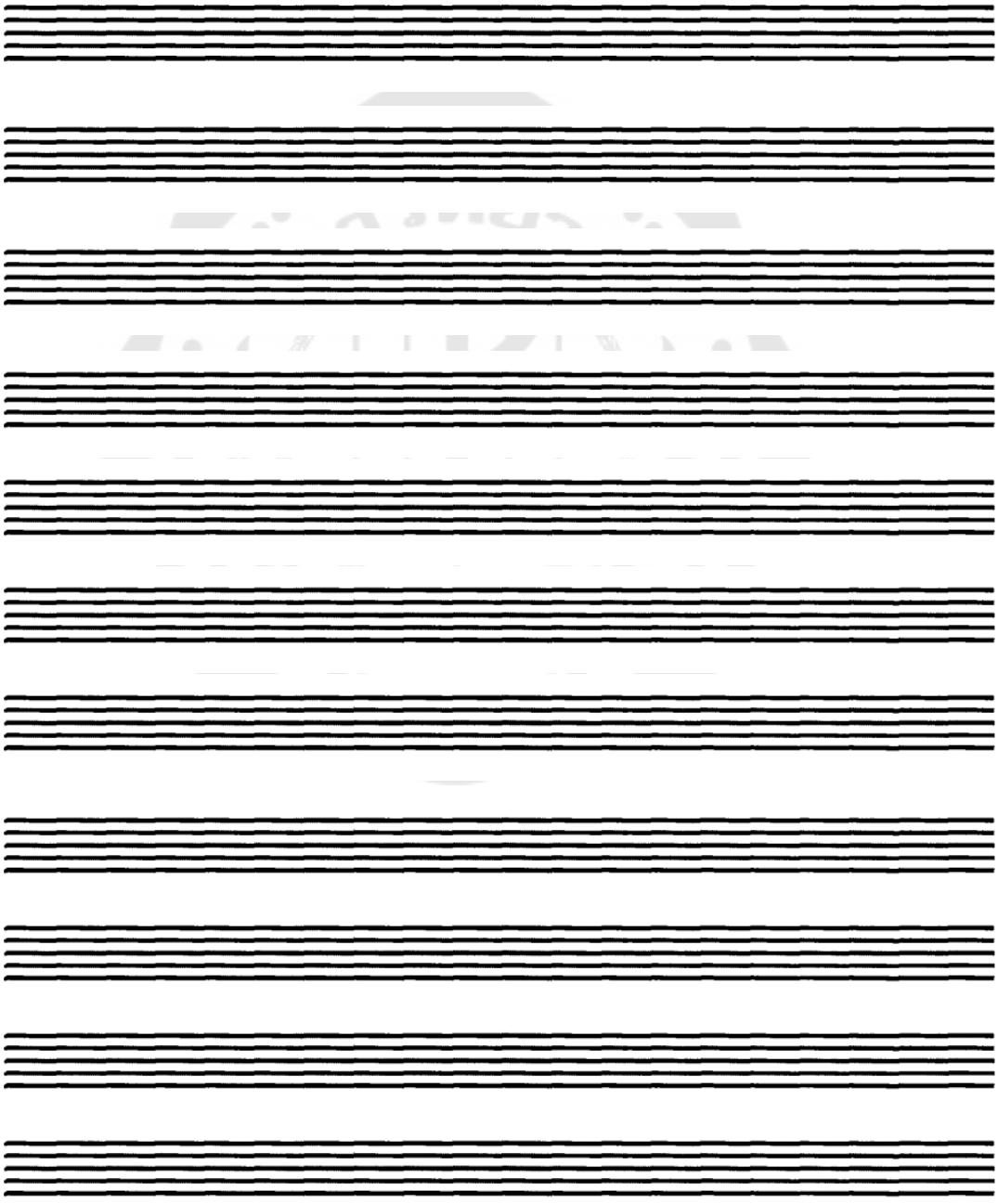
APPENDIX I

Music Creation Ability Test

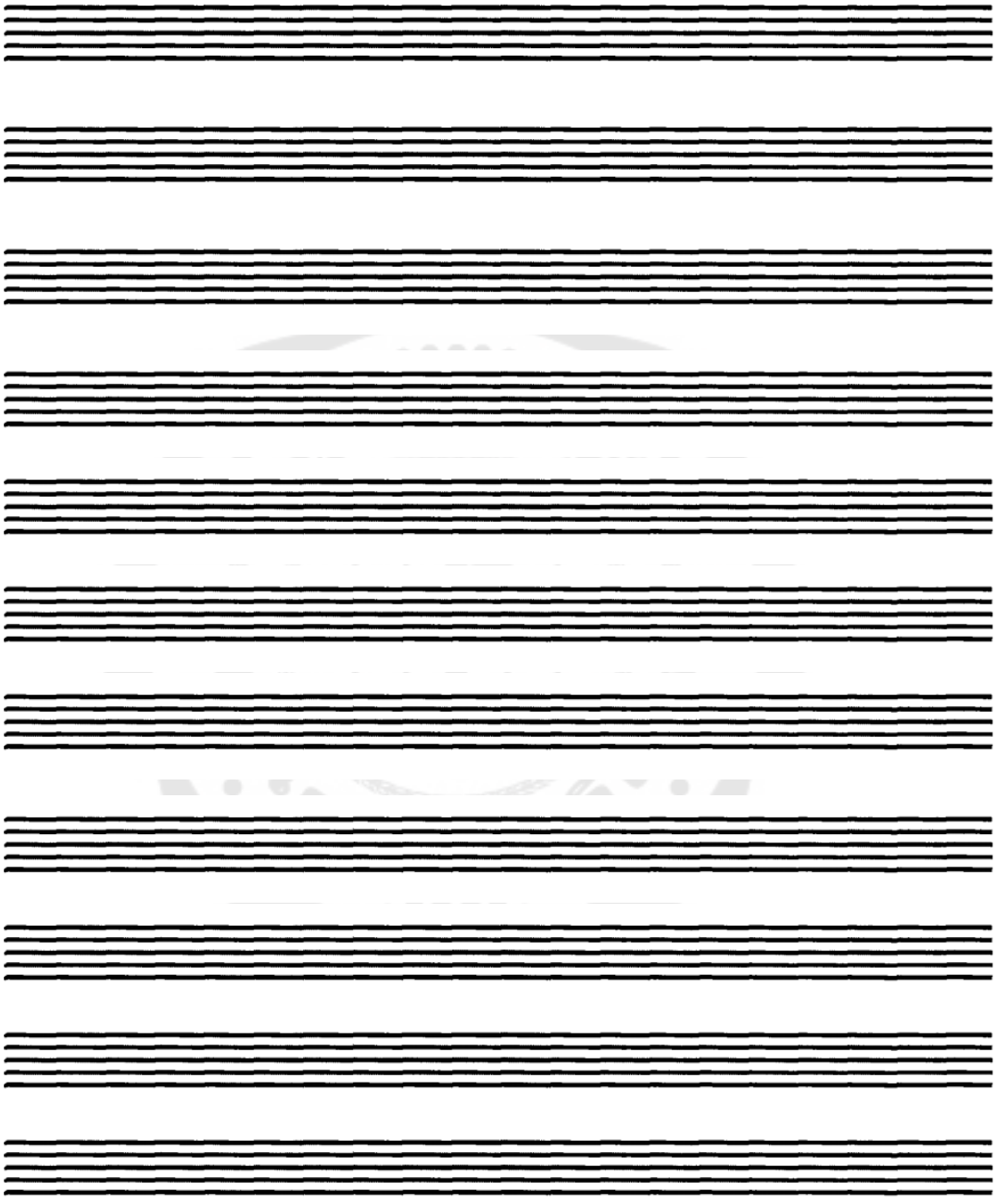
Name_____ Gender_____ Age_____ Class_____ Major

Tipic：

1.Please create a melody starting and ending with the note "do," in 4/4 time signature, with each melody being 8 measures long. You have 5 minutes to complete this task.



2.Please create a rhythm incorporating eighth notes, in 4/4 time signature, with each rhythm pattern being 8 measures long. You have 5 minutes to complete this task.



APPENDIX J

Unit Teaching Design (1)

Class schedule: 2 hours

Title (Teaching Chapter, Section or Topic):Music Listening (Creative Music Making while Listening to Works)

Learning task analysis:

This unit's teaching content is music listening, with a focus on exploring sound and music. The specific learning task is to listen to the work "In the Hall of the Mountain King" and then create a story based on the listening experience. The assessment will evaluate whether students can fluently create a story, if the story is creative and unique, and if it aligns with the musical logic.

Music analysis:

"In the Hall of the Mountain King" is a music appreciation piece for the fifth volume of the ninth grade curriculum. It is taken from the poetic drama "Peer Gynt," which Edvard Grieg composed at the invitation of Henrik Ibsen for Ibsen's poetic drama "Peer Gynt." Written in 1874, "Peer Gynt" is a play by the famous Norwegian playwright Ibsen. The drama, set in ancient Norwegian legends, features the protagonist Peer Gynt and uses symbolic techniques to portray the adventurous spirit of the Norwegian people while also critiquing the pursuit of power and wealth in society. The play consists of five acts and was completed between 1874 and 1875.

The piece is a segment of music depicting a fantastical scene where Peer Gynt is surrounded by trolls in the forest at night. Initially, the trolls entertain him, but then they play tricks on him and torment him until dawn. The music is characterized by a dark and eerie quality. The plucking of the lower string instruments resembles the heavy steps of the trolls. The constant repetition of the main theme evokes the trolls' monotonous and bizarre dance movements. This composition combines elements of dance and march forms. Theme A is played by the cellos in a sinister and grotesque melody, accompanied by the haunting tones of the horn. A1, played by plucked violins, doesn't introduce much contrast but varies in orchestration and tone color. A2 has the string section powerfully performing the main theme, with the entire orchestra building up a passionate and climactic emotion. The coda strengthens dynamically, with scale-like melodies ascending and the timpani's tremolo driving the piece to an intense and dramatic conclusion.

Teaching objectives:

1.Master the basic methods of music composition, foundational knowledge, and basic methods of creative thinking training.

2.Students should possess a positive listening attitude and display an active thinking state. They should be able to use basic methods of creative thinking training, boldly imagine by combining elements of musical expression and overall sound effects, to develop musical creative thinking.

3.Be able to fluently create a story (which can be presented through text, drawing, movement, etc.) to express the feelings, content, artistic conception, and emotions perceived from listening, in order to develop creative thinking. The created story should be unique and creative, with a plot that aligns with the musical logic.

Teaching process

Teaching steps	**Teacher activities**	**Student activities**

1.Task-Driven In this part, the teacher assigns tasks before the class focused on creative music making through music listening.	The teacher prompts students to understand the basic knowledge and skills related to the elements of musical expression and the fundamental methods of creation. The teacher plays the music piece "In the Hall of the Mountain King," reminding students to listen carefully and encouraging them to use their imagination to create a story based on the music.	Students understand the task requirement to create a story for the musical piece "In the Hall of the Mountain King." Students listen carefully to the task requirements.
2.Independent construction Students repeatedly listen to the piece, use their imagination to construct content, and discuss and create stories in small groups.	Remind students to listen carefully and to write down any scenarios they hear, think of, or feel while listening. At this point, the teacher should avoid leading questions that promote convergent thinking and instead use divergent, open-ended methods to guide and inspire students. For example: What impression stands out most in this musical piece? What auditory experiences did you have during listening? What emotional resonance did you feel? What images did you visualize? Consider the categories and characteristics of what you heard, thought, or felt in the music. The teacher observes the students' learning and creation process throughout and provides timely feedback and guidance, offering assistance as needed.	Students learn the basic knowledge and skills related to musical expression and creation methods through various online and offline means before the class. During the class, students listen attentively to the piece. Based on their prior learning and the piece they are listening to, they apply basic methods of creative thinking training, aiming to stimulate positive divergent thinking and imagination as much as possible, considering the musical expression elements and overall sound effect. They can list each new idea or scenario that arises. Since each person's musical experience is unique, students may write down different aspects during listening. Consider the categories and characteristics of what you heard, thought, or felt in the music. Students discuss in small groups, exchange ideas, reach a consensus, and ultimately complete the story creation.
3.Practice display Teachers and students share their understanding of the piece within the classroom setting.	The teacher provides a relaxed environment where students can share their feelings, content, artistic conception, and emotions from listening to the piece.	Each group of students sends a representative to present an impromptu story or performs the story as a group.
4.Reflection evaluation Students reflect on their performance of the task, conduct peer and self-assessments, and the teacher provides feedback on the students' work. The teacher also qualitatively evaluates students' learning attitudes, cooperation, and the creative process throughout the task.	The teacher summarizes the entire listening process, guiding students to actively share their feelings, content, artistic conception, and emotions from the piece.	Students actively share their feelings, content, artistic conception, and emotions from the piece and reflect on and evaluate the story creation process and their completed stories.

Unit Teaching Design (2)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic):Music Listening (Exploration of Sound and Music, Matching Music Pieces to Specific Themes or Contexts)
Learning task analysis: This unit's teaching content is music listening, with a focus on exploring sound and music. The specific learning task is to select background music for a video with the theme "Autumn." The primary objective is to train students' musical creative thinking. Students are required to accumulate a large number of music pieces and materials, and to boldly use their imagination based on the theme provided by the teacher, fully engaging their divergent creative thinking to select suitable music pieces that match the theme.
Teaching objectives: 1.Students accumulate a wide range of music works in various themes, genres, styles, and emotions, demonstrating an active thinking state. They are able to use basic methods of creative thinking training and boldly imagine based on the "Autumn" theme video to develop musical creativity. 2.Students are able to select music works that match the theme or context based on the theme or situation.
Teaching process

Teaching steps	**Teacher activities**	**Student activities**
1.Task-driven The teaching content for this unit is music listening, sound, and music exploration. The specific learning task is to choose background music for a given theme or context, and this task is assigned a week in advance.	The teacher assigns the task a week in advance, reminding students to listen to as many music works as possible with various themes, genres, tempos, emotions, and styles.	Students understand the task requirements and listen to a wide range of music works to accumulate materials of different themes, genres, tempos, emotions, and styles. Students carefully listen to the task requirements. Students form groups, select a group leader, and discuss collaboration rules.
2.Independent construction The teacher assigns the learning task, plays a silent video clip about the "Autumn" theme, and students select background music for this video.	The teacher reminds students to first understand the characteristics of the video clip, such as color, rhythm, and emotional expression, and then analyze the music elements that can match these characteristics. They should then select music works with corresponding elements to score the "Autumn" theme video. The teacher observes the students' learning, creation process, and collaboration throughout, providing timely feedback and guidance as needed.	Students watch the video clip attentively during class. Students discuss in groups, exchange ideas, and analyze the characteristics of the video clip, such as color, rhythm, and emotional expression. They then select, edit, and arrange music elements that match these characteristics, using the previously accumulated music materials. After reaching a consensus, each group completes the task of scoring the video.
3.Practice display In class, each group presents their chosen music for the video.	The teacher provides a relaxed environment for students to fully showcase their work.	Each group selects a representative to present their scored video and explain their creative intentions.
4.Reflection evaluation Students reflect on the completion of the task, conduct peer and self-assessments, and the teacher provides feedback on the students' work, evaluating their learning attitude, cooperation, and creation process throughout the learning experience.	The teacher provides feedback and summarizes the entire task completion process, guiding students to actively reflect on the successes and challenges of the creation process, and to share their experiences from the creation and presentation stages.	Students reflect on the successes and challenges of the creation process and share their experiences from the creation and presentation stages.

Unit Teaching Design (3)

Class schedule: 2 hours

Title (Teaching Chapter, Section or Topic):Improvisational Creation (Improvising Fixed Patterns and Rhythms for a Work)

Learning task analysis:

This unit's teaching content is improvisational creation. The specific learning task is for the teacher to provide the music pieces "The Train is Running" and "Little Red Riding Hood," and for students to improvise fixed rhythmic patterns and motifs as accompaniment for these works. The assessment would evaluate the number of works created by students in the shortest time, as well as their ability to change different musical styles, forms, and structures.

Music analysis:

"The Train Has Left" and "Little Red Riding Hood" are music textbook pieces for first and second grade, respectively.

"The Train Has Left" is a song in a major key with a binary structure, consisting of four phrases. The rhythm is simple and lively, with a mostly stepwise melody that flows smoothly. The song begins with onomatopoeia mimicking the sound of the train starting ("clickety-clack"), uses exact repetition in the second phrase, and features a contrasting high register in the third phrase with a more relaxed rhythm, evoking the sense of a speeding train and the pride of the train driver. The final phrase is characterized by a broken chord progression in a major key.

"Little Red Riding Hood" is a Brazilian children's song in 2/4 time and C major, structured with six phrases. Each phrase begins with a scale-like melodic progression of do, re, mi, fa, creating a memorable impression. The first and third phrases are similar, as are the second and fourth, while the fourth and sixth phrases are identical. The melody alternates between scale-like stepwise motion and broken chords, creating a unified yet varied musical image that is both smooth and lively, making it a widely popular children's song.

Teaching objectives:

1.Students should be able to analyze the songs and apply common rhythmic and melodic creation techniques to flexibly combine various rhythms and notes, improvising suitable accompaniment rhythms and patterns for the songs.

2.Students should be able to demonstrate the improvised accompaniment rhythms and patterns for both songs through clapping, singing, or other appropriate methods.

Teaching process

Teaching steps	**Teacher activities**	**Student activities**
1.Task-driven For the two elementary school music singing pieces, students would improvise fixed accompaniment patterns and rhythms.	Before the class, the teacher requires students to review and master the basic writing knowledge and techniques for various rhythmic patterns and accompaniment melodies. In class, the teacher plays the songs "The Train Has Left" and "Little Red Riding Hood" for the students and displays pictures and sheet music from the corresponding textbooks. The students are assigned the task of improvising accompaniment rhythms and patterns for the	In class, the teacher plays the songs "The Train Has Left" and "Little Red Riding Hood" for the students and displays pictures and sheet music from the corresponding textbooks. The students are assigned the task of improvising accompaniment rhythms and patterns for the songs. Students review and master the basic writing knowledge and techniques for rhythmic patterns and accompaniment

	songs.	melodies before class. Students listen carefully to the task requirements.
2.Independent construction Students would listen repeatedly to the pieces and improvise accompaniment patterns based on what they hear.	The teacher advises students to first listen to the songs carefully and then quickly analyze the songs in terms of structure, model, melody, rhythm, and other aspects. After analysis, students should use previously accumulated rhythmic and melodic creation materials to improvise accompaniment rhythms and patterns. The teacher observes the students' learning and creation process throughout, providing timely feedback, guidance, and assistance.	During the class, students first listen to the pieces, then analyze the songs as quickly as possible, and use rhythmic and melodic creation techniques to improvise accompaniment rhythms and patterns.
3.Practice display This activity would take place during class, where both the teacher and students would share and demonstrate their improvised accompaniment rhythms and patterns in the classroom setting.	The teacher would provide a relaxed environment for students to share and showcase their improvised accompaniment work with each other.	Students would share and present their improvised accompaniment rhythms and patterns for the songs.

4.Reflection evaluation Students would reflect on the completion of the task, conduct peer and self-assessments, and the teacher would provide feedback on the students' work, evaluating their learning attitude, cooperation, and creation process throughout the learning experience.	The teacher would provide feedback and summarize the entire task completion process, guiding students to actively reflect on the successes and challenges of the creation process and to share their experiences from the creation and presentation stages.	Students would reflect on the successes and challenges of the creation process and share their experiences from the creation and presentation stages.

Unit Teaching Design (4)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic):Improvisational Creation (Improvising Rhythmic Movements for a Work)
Learning task analysis: Unit Four's teaching content is improvisational creation, focusing on creating rhythmic movements for a work. The specific learning task is for the teacher to provide the music piece "Where is Spring," and for students to improvise rhythmic movements based on the piece. The assessment would evaluate whether students can fluently create rhythmic movements and the richness of the movement elements used.
Music analysis: The song "Where Is Spring?" is a well-known children's song for third-year students, composed in 1981. It sings about the beautiful spring in a naive and lively tone, expressing boundless joy. The song cleverly uses the call of the oriole to showcase the beauty of spring. It is cheerful and lively, with numerous rests that make the music sound joyful and neat. In a natural major key and binary form, the melody is fresh and natural, with the interjection "dī lí lí" frequently appearing, imitating the oriole's clear call. The lyrics describe the colorful and splendid scenes of spring in a question-and-answer format.

Teaching objectives:

1.Students should be able to master basic body movements, including classic rhythmic movements from the eight fixed sets.

2.Students should be able to listen carefully to the song, analyze its structure, and improvise rhythmic movements based on the melody and rhythm characteristics of the song, using rich body language.

3.Students should be able to present their improvised rhythmic movements with enthusiasm, confidence, and accuracy.

Teaching process

Teaching steps	Teacher activities	Student activities
1.Task-driven Improvise rhythmic movements for the song "Where Is Spring?"	Before the class, the teacher requires students to learn basic body movements, the classic eight fixed rhythmic patterns, and other rhythmic movements through various online and offline methods. In class, the teacher plays the song "Where Is Spring?" for the students and displays images and sheet music from the textbook. The students are assigned the task of improvising rhythmic movements for the song.	Students review and master basic body movements, the classic eight fixed rhythmic patterns, and other rhythmic movements before class, understanding the fundamental rules and methods for movement arrangement. Students listen carefully to the task requirements.
2.Independent construction Students would listen repeatedly and improvise rhythmic movements based on what they hear.	The teacher advises students to first listen to the song carefully, then quickly analyze the song's structure, model, melody, rhythm, and other aspects. After the analysis, students should use previously accumulated rhythmic and melodic creation materials to improvise rhythmic movements for the piece. The teacher observes the students' learning and creation process throughout, providing timely feedback, guidance, and assistance as needed.	During class, students first listen to the piece, then analyze it as quickly as possible. Using their knowledge of rhythmic movement materials and basic methods for arranging movements, they improvise rhythmic movements that match the characteristics of the song.
3.Practice display Students would share and showcase the rhythmic movements they have created for the song.	The teacher would provide a relaxed environment for students to share and showcase their improvised rhythmic movements.	Students would share and present the rhythmic movements they created for the song.
4.Reflection evaluation Students would reflect on the completion of the task, conduct peer and self-assessments, and the teacher would provide feedback on the students' work, evaluating their learning attitude, cooperation, and creation process throughout the learning experience.	The teacher would provide feedback and summarize the entire task completion process, guiding students to actively reflect on the successes and challenges of the creation process, and to share their experiences from the creation and presentation stages.	Students would reflect on the successes and challenges of the creation process and share their experiences from the creation and presentation stages.

Unit Teaching Design (5)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic):Improvisational Creation (Creating a Context for a Work and Presenting it with Rhythmic Movements)
Learning task analysis: This unit's teaching content is improvisational creation, focusing on creating a context for a work and presenting it with rhythmic movements. The specific learning task is for the teacher to provide the music piece "Anitra's Dance," and for students to improvise a context for the piece and create a set of movements to express it. The assessment would evaluate whether students can imagine unique and creative contexts and whether they can flexibly use various musical and contextual elements, employing rich body language to create improvisational rhythmic movements.
Music analysis: The piece "Anitra's Dance" is a listening piece for ninth grade, selected from Grieg's Peer Gynt suite. It is a lively and smooth piece with rich and delicate dynamic changes, structured in three sections. The piece describes the scene where the beautiful Anitra dances to welcome Peer Gynt in an Arab tent in the desert oasis, showcasing Anitra's lively and charming character.

Teaching objectives:

1.Students should demonstrate a positive listening attitude and active thinking, using basic methods of creative thinking training. They should combine musical expression elements and overall sound effects to boldly imagine and create scenarios to develop musical creativity.

2.Students should carefully listen to the piece, analyze its structure, and improvise rhythmic movements based on the melody and rhythm characteristics of the song, using rich body language to match the song's context.

3.Group members should work together to create scenarios based on the characteristics of the song and collaborate seamlessly in their presentation.

Teaching process

Teaching steps	Teacher activities	Student activities
1.Task-driven Improvise a scenario for the piece "Anitra's Dance" and create corresponding rhythmic movements for the piece.	In class, the teacher plays the piece "Anitra's Dance", displays images and sheet music from the textbook, and assigns a learning task.	Before class, students should learn basic body movements, the classic eight fixed rhythmic patterns, and other rhythmic movements through various online and offline methods, mastering the fundamental rules and methods of movement arrangement. Students listen carefully to the task requirements. Students form groups, elect a leader, and discuss collaboration rules.

2.Independent construction The teacher would provide the playback and allow students to listen repeatedly and improvise based on what they hear.	The teacher advises students to first listen carefully to the piece, then quickly analyze the song’ s structure, model, melody, and rhythm. After analysis, students should use previously accumulated rhythmic and melodic creation materials to improvise rhythmic movements for the piece. The teacher observes the students' learning and creation process throughout, providing timely feedback, guidance, and assistance as needed.	During class, students first listen to the piece, then analyze it as quickly as possible. Using their knowledge of rhythmic movement materials and basic methods for arranging movements, they improvise rhythmic movements that match the characteristics of the piece.
3.Practice display Students would introduce the scenarios they have created for the song and showcase their improvised rhythmic movements.	The teacher would create a relaxed environment for students to introduce the scenarios they have created for the song and showcase their rhythmic movements.	Students would present the scenarios they have created for the song and demonstrate their rhythmic movements.
4.Reflection evaluation Students would reflect on the completion of the task, conduct peer and self-assessments, and the teacher would provide feedback on their work, evaluating their learning attitude, cooperation, and creation process throughout the learning experience.	The teacher would provide feedback and summarize the entire task completion process, guiding students to actively reflect on the successes and challenges of the creation process, and to share their experiences from the creation and presentation stages.	Students would reflect on the successes and challenges of the creation process and share their experiences from the creation and presentation stages.

Unit Teaching Design (6)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic): Music Composition (Creating Instrumental Accompaniment for Chinese Classical Poetry)
Learning task analysis: This unit's teaching content is music composition, focusing on creating instrumental accompaniment for Chinese classical poetry. The specific learning task is for the teacher to provide a poem "Xi Jiang Yue" by Xin Qiji, a poet from the Song Dynasty, and for students to create instrumental accompaniment for this poem. The goal is for students to understand the content and perceive the artistic conception of the poem, learn the knowledge and techniques of instrumental composition, and create accompaniment that matches the content and artistic conception of the poem.
Work analysis: This unit focuses on using musical materials to create music, based on the second unit of the seventh-grade textbook from Huacheng Education Press. It involves improvisational creative activities with interdisciplinary integration and aims to uncover students' potential. The piece being studied is a lyric by Xin Qiji from the Southern Song Dynasty, which describes the rural night scene at Huangsha Ridge: the bright moon and clear breeze, sparse stars and light rain, the startled cries of magpies and chirping of cicadas, the fragrance of rice flowers, and the chorus of frogs. The lyric, capturing the beauty of a summer night in the countryside and the author's heartfelt joy for a bountiful harvest, vividly portrays the rural landscape through visual, auditory, and olfactory impressions. It is a piece with beautiful imagery and a clear, vivid scene, making it well-suited for musical expression and evocation.

Xi Jiang Yue
Travelling at night to Huangsha Ridge

Xin Qiji
The bright moon startles the crew on the slanting bough,
At midnight the breeze is cool, cicadas shrill;
The fragrance of the paddy foretells a good year
And frogs croak far and wide.

Seven or eight stars at the horizon,
Two or three drops of rain before the hill;
An old thatched inn borders the wood with the local shrine,
And where the road bends a small bridge is suddenly seen.

Teaching objectives:

1.Learn basic music creation knowledge and accumulate creative materials for basic music creation.

2.Students should demonstrate a positive creative attitude and exhibit an active creative thinking state during the creation process, mastering basic creative methods.

3.Use as many diverse creation techniques and novel approaches as possible to develop divergent creative thinking.

4.Based on a specific theme and expressive needs, select appropriate sound materials and forms, and collaborate with peers to create an accompaniment for the Song lyric "Xi Jiang Yue: Night Travel on Huangsha Road", ensuring accurate content and expression of the intended mood, to develop convergent creative thinking.

Teaching process

Teaching steps	**Teacher activities**	**Student activities**
1.Task-driven This part of the process involves confirming the creative task jointly by the teacher and students before the class, with the teacher leading and the students taking the central role. This part includes two stages: pre-class and in-class.	Guiding Students to Develop Learning Tasks Based on Their Situation The teacher creates a specific context to stimulate students' creative motivation. The teacher focuses on specific problems, introducing challenges to trigger cognitive conflicts among students.	Under the teacher’ s guidance, students clarify their learning tasks, develop a learning plan, and outline the content, specifically for creating an accompaniment for the Song lyric "Xi Jiang Yue: Night Travel on Huangsha Road". Students enter the context of the problem through sensory perception, generating initial motivation for music creation and preparing for the creative phase. Students question the problems, experience cognitive conflicts, stimulate musical imagination, and develop the main motivation for shaping musical imagery, entering the incubation stage of music creation.
2.Independent construction Pre-Class: Students, guided by the teacher, engage in self-directed learning and repeated discussions to gradually build a knowledge and skill framework that aligns with the creative task. In-Class: During class, students work in groups to focus on creating and refining their work, making it more mature.	The teacher provides students with various creative materials, knowledge of music creation, and learning methods, coordinating and motivating students to engage in music creation.	Students engage in a broad accumulation of creative materials and practice activities through teacher guidance and self-directed learning. This includes exploration, imitation, and building a habit of independent inquiry, which effectively enhances their musical creativity. In this phase, students can freely explore sound, including aspects like timbre, range, and performance characteristics. Based on this exploration, students, with their group members, autonomously construct a musical work, refining their thinking and creativity in the process.
3.Practice display The teacher and students observe the students ’ practical presentations of their creations in the classroom setting.	The teacher provides a relaxed environment for students to fully express and showcase their created works.	Each group presents its completed work thoroughly and shares the creative ideas and processes involved.
4.Reflection evaluation In this stage, both the teacher and students conduct instructional evaluations and reflections on the students' practical presentations.	The teacher summarizes the entire learning process, guiding students to analyze and evaluate their own learning and creative processes.	Students analyze and evaluate their own learning and creative processes.

Unit Teaching Design (7)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic):Music Composition (Creating Lyrics and Visual Scores for Classical Music Pieces)
Learning task analysis: Unit Seven's teaching content is music composition, focusing on creating lyrics and visual scores for classical music pieces. The specific task is for the teacher to provide the classical music piece "The Kitten Waltz," and for students to create lyrics for the piece's main melody and to create a visual score for the piece.
Music analysis: The piece "The Kitten Waltz" is a second-grade listening piece, a charming orchestral work that features a playful melody depicting a lively kitten dancing joyfully to a beautiful waltz. The composition exhibits both anthropomorphism and realism, and it is structured in a three-part form. The four-measure introduction resembles a proud little kitten stepping onto the "dance floor" and preparing to dance gracefully.A Section: The main theme is beautiful and lyrical, primarily featuring string instruments. The use of violin sliding techniques vividly mimics the kitten's meowing, emphasizing the theme. The melody alternates between fast and slow passages, showcasing the kitten's playful and energetic nature.B Section: The melody is lively and cheerful, with continuous, spirited music performed by woodwinds, illustrating the kitten's increasing excitement and fast spinning as it dances.Ending: The music suddenly includes a dog's barking sound, surprising the dancing kitten. The piece concludes with a series of rapid ascending and descending scales.

Teaching objectives: 1.Students should have a certain level of musical analysis ability and be able to analyze aspects of the piece such as rhythm, structure, melody, and orchestration. Combining musical expression elements and overall sound effects, students should boldly use their imagination to create lyrics for the A theme melody. 2.Students should choose appropriate graphical representations to create a visual score for the piece. 3.Students should be able to naturally and fluently sing and present the lyrics created for the A section theme melody, and also display the musical score created using graphics and symbols for the entire piece.

Teaching process

Teaching steps	Teacher activities	Student activities
1.Task-driven Students work in groups to create lyrics and a musical score for the piece "The Kitten Waltz." Each group would compose lyrics for the A section of the theme music and design a musical score for the entire piece.	The teacher assigns the task of creating lyrics and a musical score for the piece "The Kitten Waltz" one week in advance. Students are required to learn about lyric writing methods and musical score creation techniques through online and offline resources. The teacher provides students with audio, sheet music, and textbook images of "The Kitten Waltz."	Students are expected to study lyric writing methods and musical score creation techniques through various online and offline channels before the lesson. Students carefully listen to the assignment requirements.

2.Independent construction	The teacher advises students to listen to the song repeatedly and conduct a comprehensive analysis of the piece, including its structure, modality, melody, and rhythm. Based on this analysis, students should then proceed with lyric writing and musical score creation. The teacher answers students' questions in a timely manner and provides assistance and feedback.	Students listen to the song repeatedly before class, analyze the piece from various aspects such as structure, modality, melody, and rhythm, and then use this analysis to create lyrics and a musical score.
3.Practice display In class, students would share and present the lyrics they created for the A section and the musical score they designed for the entire composition.	The teacher would provide a supportive environment for students to share their work.	Students would perform and present the lyrics they created for the A section and the musical score they designed for the entire piece.
4.Reflection evaluation Students would reflect on the task, engage in peer and self-assessment, and receive feedback from the teacher regarding their work, learning attitude, collaboration, and the creative process.	The teacher would summarize and provide feedback on the entire task, guiding students to reflect on the successes and challenges of the creative process and to share their experiences and feelings from the creation and presentation phases.	Students would reflect on the successes and challenges of their creative process and share their experiences and feelings from the creation and presentation phases.

Unit Teaching Design (8)

Class schedule: 2 hours
Title (Teaching Chapter, Section or Topic):Music Composition (Creating a Small Integrated Musical Drama)
Learning task analysis: This unit's teaching content is music composition, focusing on creating a small integrated musical drama. The specific learning task is for students to design and create a small integrated musical drama, with no restrictions on genre or subject matter. The assessment would evaluate whether students can integrate all the teaching content from previous units, flexibly use various music composition methods, and create unique scenarios to complete and present the musical drama.
Teaching objectives: 1.Integrate all the musical knowledge and skills learned in previous units, along with music composition knowledge and skills. Using the basic methods of creative thinking training, students independently choose a theme and design and create a small-scale integrated musical drama. 2.Flexibly use vocal sounds, instrumental sounds, body language performance, props, gestures, images, and other methods to create based on the chosen theme. Plan and arrange the music and performance elements, including melody, rhythm, instrumentation, actions, and performance. 3.Group members should divide tasks and collaborate in the creation and rehearsal of the work, and be able to fully present the

small-scale integrated musical drama created based on the chosen theme.		
Teaching process		
Teaching steps	**Teacher activities**	**Student activities**
1.Task-driven Students independently choose a theme and design and create a small-scale integrated musical drama.	The teacher assigns the task a week in advance, reminding students to discuss and select a theme, and to review and consolidate all the musical knowledge and skills, music composition knowledge, and creative methods learned in previous units. They should use these learned contents to design and create.	Students discuss and choose a theme, review and consolidate all the musical knowledge, music composition skills, and creative methods learned in previous units, and integrate these learned contents into their design and creation. Students carefully listen to the task requirements.
2.Independent construction Students choose a theme and independently design and create a small-scale integrated musical drama.	The teacher answers students' questions in a timely manner and provides feedback and assistance.	Students select a theme and design and create a small-scale integrated musical drama based on that theme. Group members collaborate and divide tasks to complete the creation process.
3.Practice display In class, students would fully share and showcase the small-scale integrated musical drama created based on their chosen theme.	The teacher provides a supportive environment for students to share and present their work.	Students fully share and showcase the small-scale integrated musical drama created based on their chosen theme in class.
4.Reflection evaluation Students would reflect on their completion of the task, engage in peer and self-evaluation, and the teacher would provide feedback on the students' work, evaluating their learning attitudes, collaboration, and creation process.	The teacher provides feedback and a summary of the entire task completion process, guiding students to actively reflect on the successes and challenges of the creation process and to share their experiences and feelings about the creative process and presentation.	Students reflect on the successes and challenges of the creation process and share their experiences and feelings about the creative process and presentation.

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