

# The "Creative Thinking Chain" Teaching Model and Embedded Evaluation System based on Advanced Thinking

Jiang Nan

College of Art, Zhejiang Normal University, Jinhua 321004, Zhejiang, China

**Abstract:** *Aiming at the current reality of low thinking content, single learning method, and separation of evaluation and teaching in music classrooms, this study proposes and systematically constructs a "creative thinking chain" model for the development of music thinking based on constructivist learning theory and the concept of "integration of learning, teaching and evaluation". This model takes "feeling → imitation → exploration → performance" as the basic form, designs spiral learning tasks according to the cognitive and ability gradients of students in different stages of learning, and develops students' connection, application, thinking and transfer abilities. The study further refines the teaching strategies of three types of classes: "stimulating thinking", "cultivating thinking" and "deep thinking", and innovatively constructs a multi-dimensional cornerstone evaluation mechanism that integrates "curriculum embedded evaluation", "transfer task evaluation" and "map album evaluation", aiming to achieve evaluation to promote teaching, evaluation to promote learning, and evaluation to build ability, and promote the deep transformation of music classrooms from "focusing on learning and neglecting thinking" to "coexistence of thinking and learning". Practice shows that this model effectively activates students' musical thinking potential and provides an operational path for literacy-oriented music teaching reform.*

**Keywords:** "Creative thinking chain"; Integration of learning; Teaching and evaluation; Foundational evaluation; Thinking development.

## 1. REAL DILEMMA AND THEORETICAL FOUNDATION: BACKGROUND AND THEORETICAL BASIS OF THE "CREATIVE THINKING CHAIN"

At present, the reform of compulsory education music curriculum is being deepened, and the core literacy-oriented teaching transformation has become the key. However, looking at the actual classroom, music subject teaching still faces significant challenges. The regional survey revealed three core problems: First, the superficiality of learning and teaching. Teachers' teaching focus is mostly on traditional skills such as listening, perception, and performance, and there is a serious lack of attention to students' thinking ability. The teaching method is mainly one-way indoctrination, and students passively follow and imitate, staying at the shallow level of cognition and single skill training. New forms such as deep learning and task-based learning are difficult to implement. Second, learning is inefficient. Students' classroom participation is mainly passive acceptance, and their awareness of active thinking and questioning is weak. Teachers' questions often fall into the rut of "false questions", "shallow questions", and "empty questions". The teaching process is superficial, and students' thinking is fragmented and superficial, which seriously restricts the development of music thinking quality. Third, evaluation and teaching are fragmented. Although regional teaching research and practice involve topics such as unit teaching and multi-sensory experience, there is a serious lack of attention and practice on expressive evaluation and music thinking evaluation. Classroom evaluation is mostly concentrated at the end of the class. It has a single form and weakens function. It fails to be effectively embedded in the teaching process to diagnose learning and promote thinking development. There is a serious disconnect among learning, teaching and evaluation.

Based on this dilemma, the proposal of "creative thinking chain" has profound practical necessity and theoretical inevitability. Its core connotation is to build a new classroom ecology "based on music, hearing first, thinking as the basis, and exploration as the path", aiming to activate and systematically develop students' musical thinking (including imagination, expression, creativity, and understanding thinking), improve their comprehensive abilities such as connection, application, thinking, and transfer, and ultimately internalize perceptual music experience and improve core music literacy. Its theoretical support mainly comes from two aspects:

Constructivist learning and thinking development theory: Constructivism emphasizes that learning is a process in which learners actively construct meaning. The "Creative Thinking Chain" recognizes that students are active constructors of knowledge. Through the progressive practical activities of "feeling - imitation - exploration - performance", it guides students to construct their understanding of music through personal experience and

problem solving. At the same time, based on Piaget's theory on thinking development (intuitive action thinking → concrete image thinking → abstract logical thinking), the Creative Thinking Chain emphasizes the design of hierarchical learning tasks and thinking challenges based on the cognitive development characteristics of students at different stages of study, to achieve a spiral advancement of thinking ability from low-level to high-level.

A systematic view of "integration of learning, teaching and evaluation": Drawing on the concept of "cornerstone evaluation" in the "National Core Arts Standards of the United States" and the experience of the integrated reform of "research-teaching-learning-evaluation" in Xihu District, China, Creative Chain regards evaluation as an indispensable and organic part of teaching. Evaluation is not only used to measure results, but should also be deeply embedded in the teaching process (embedded evaluation), anchor learning goals (performance standards), continuously diagnose learning progress, provide feedback to improve teaching and learning behaviors, and form a closed-loop system of "teaching-evaluation-feedback-improvement", ultimately achieving the goals of "using evaluation to promote thinking", "using evaluation to promote learning", and "using evaluation to improve teaching".

Therefore, the construction of the Creative Thinking Chain is a systematic solution to address real teaching pain points, implement core literacy requirements, and integrate advanced educational concepts. Its goal is to achieve a model transformation in music classes from imparting knowledge and skills to developing deep thinking.

## **2. CORE FRAMEWORK AND PRACTICE PATH: THE FOUR-STEP MODEL OF "CREATIVE THINKING CHAIN" IS CONSTRUCTED IN STAGES**

"Creative Thinking Chain" is the basic teaching form of "feeling → imitation → exploration → performance" in a four-step spiral. These four links are not linearly separated, but an organic whole that penetrates each other and deepens in a cycle. The specific goals and task depth of each link must strictly correspond to the cognitive level and musical ability gradient of students at different stages of study to achieve the gradual development of thinking.

### **2.1 Inspire Thinking Through Feelings: Perception Lays the Foundation and Activates the Budding of Thinking**

First stage (e.g., Grades 1-2): Focus on the perception and response to a single or small number of musical elements (e.g., tempo, pitch, feelings) and simple musical genres (e.g., lullabies, marches). Task examples: Listen to whether a piece of music is cheerful or sad, and respond with simple actions (clapping, stomping) or expressions; identify the sounds of common musical instruments.

Second stage (e.g. Grades 3-4): Deepen the perception and preliminary description of musical elements (melody, rhythm, dynamics, timbre, etc.) and musical genres, forms, and style characteristics. Task examples: Listen to folk songs and original song clips and compare the differences in their rhythm and melody characteristics; describe how music expresses specific scenes (e.g. storms, festivals).

Third stage (e.g. Grades 5-6): Develop the ability to identify and initially understand the typical characteristics of representative music of different styles and genres. Task examples: Listen to representative works from the Classical and Romantic periods and identify their style characteristics (e.g. classical balance and rigor, romantic emotion and unrestrained); understand the basic structure of the variation form.

Fourth stage (e.g. Grades 7-9): Improve the ability to accurately judge the characteristics of music performance and the interaction between music elements, as well as the ability to analyze the content, form and style of music performance. Task examples: Analyze how the melody, harmony and texture of a piece of music work together to shape the musical image; evaluate the fit between the lyrics of a song and the mood of the music.

Focus of thinking development: This stage focuses on activating students' musical perception and observation, guiding them from unintentional attention to intentional attention, from vague perception to clear identification, and laying a solid perceptual foundation for subsequent thinking activities.

### **2.2 Expand Your Thinking Through Imitation: Externalize Your Behavior and Expand Your Thinking**

First stage: Through simple imitation activities such as sound, rhythm, and song performance, the body movements basically match the mood and rhythm of the music. Task examples: follow the music of "Twinkle

Little Star" to make simple star-twinkling gestures and rhythms; imitate the teacher singing a simple ballad.

Second stage: Try to improvise with music, and the expressions and movements can reflect the emotional characteristics of the music and convey the initial performance intention. Task example: Based on a piece of music depicting an animal, improvise movements that express the characteristics of the animal; sing the same lyrics with different voices (strong, weak, fast, slow) to express different emotions.

Stage 3: Perform varied and creative improvisations, with movements designed to fit the characteristics of the music. Task examples: Design different movements to express sections A and B for a piece of music with an ABA structure; improvise a short musical drama in groups.

Stage 4: Be proficient in using a variety of performance techniques (singing, playing, body language, drama, etc.) to express creatively and individually. Task examples: Use appropriate singing techniques (such as breath control and timbre variation) to express an art song with emotion; design and perform a comprehensive segment that combines singing, movement, and simple props for a designated theme (such as "friendship").

Focus of thinking development: This stage focuses on visualizing inner feelings through external forms such as body movements and sound expressions, training students' musical association, expressiveness and preliminary improvisational creativity, and encouraging diversity of thinking and personalized expression.

### **2.3 Promoting Thinking Through Exploration: In-depth Questioning to Promote Thinking Through Learning**

First stage: Pay attention to the simple connection between music and life and be able to clearly express personal feelings about the music phenomena around them. Task example: Share a favorite nursery rhyme and explain why you like it; discover which sounds in life are like music (such as rain and alarm clocks).

Second stage: Connect the knowledge learned, describe and analyze the musical phenomena in life, and express personal understanding. Task examples: Investigate the types of music that classmates like and try to analyze the reasons (such as good melody, dynamic rhythm); explore how advertising music attracts the audience's attention.

Third stage: Conduct preliminary and reasonable analysis and evaluation of music phenomena and culture in social life. Task examples: Compare the characteristics of folk songs of different ethnic groups (or regions), explore their relationship with local life and culture; discuss the advantages and possible problems of online pop music.

Fourth stage: Students can connect multiple dimensions such as nature, society, technology, history, and culture to conduct multiple understandings and critical analysis of the thoughts, emotions, creative intentions, and style characteristics of musical works. Task examples: Explore the social functions and artistic value of musical works in a certain historical period (such as the Anti-Japanese War); analyze how a film soundtrack uses musical elements to set off the plot and shape characters; evaluate the artistry and innovation of a song created using modern electronic technology.

Focus of thinking development: This stage guides students to go beyond superficial imitation and move towards in-depth understanding and analysis, and cultivate problem awareness, critical thinking and cultural understanding. By setting up exploratory question chains and project-based learning, students are encouraged to use high-level thinking skills such as comparison, analysis, synthesis and evaluation to explore the cultural connotation, social significance and creative logic behind music.

### **2.4 Thinking During Performance: Transfer Innovation and Improve Thinking Quality**

First stage: Use 2-3 forms (such as singing, action, simple percussion) to perform a situational performance, with the action basically consistent with the characteristics of the music and the role. Task example: Perform the folk song "Little Bunny", and play the roles of the rabbit mother, the little rabbit, and the big bad wolf.

Second stage: Take on roles in drama (opera) performances, and make sure that the voice, movements, singing and expressions are consistent with the role. Task example: Participate in a short musical drama, such as a clip from Peter and the Wolf, and try to show the characteristics of the role played.

Third stage: In comprehensive performances, students should be able to understand the subject matter, their performances should meet the requirements of the subject matter, and their roles should have a certain degree of expressiveness. Task example: Work in groups to create and perform a short play about campus life that combines music, dance, and simple dialogue.

Fourth stage: Use appropriate creative techniques (such as repetition, contrast, and variation) to create music (such as composing music for poetry and creating short melodic motives), select appropriate themes to create and perform small musicals, and demonstrate strong comprehensive expression and creativity. Task example: Focusing on the theme of "environmental protection", groups work together to create a song (including simple lyrics and melody) and perform; use the music knowledge learned to compose music for a silent film clip.

Focus of thinking development: This stage is the comprehensive manifestation and application of thinking results. Students need to integrate, transfer and recreate the perception, understanding, analysis and creativity accumulated in the first three stages, and use musical language for personalized and artistic expression. This greatly exercises students' creative thinking, comprehensive practical ability and ability to solve complex artistic problems and is the sublimation of thinking quality. This four-step model constitutes the basic framework of the "Creative Thinking Chain". Its essence lies in carefully designing a learning task chain from shallow to deep, from easy to difficult, and from single to comprehensive according to different stages of study, guiding students' musical thinking to achieve a spiral rise along the path of "perception to inspire thinking behavior to expand thinking → exploration to promote thinking → performance to stimulate thinking".

### **3. CLASS INNOVATION AND STRATEGIC SUPPORT: IMPLEMENTATION STRATEGIES FOR THREE TYPES OF CLASSES: INSPIRING THINKING, CULTIVATING THINKING, AND DEEP THINKING**

Based on the four basic steps of "feeling-imitation-exploration-performance", the "creative thinking chain" can be further refined and concretized into three dominant lesson types according to the depth and breadth of thinking development: "stimulating thinking type", "cultivating thinking type" and "deep thinking type". Each lesson type has its own specific teaching focus and core strategy.

#### **3.1 Thought-provoking Classroom: Ignite Interest and Stimulate Thinking**

It is suitable for the introduction of new courses, new skills, and the initial stage of learning knowledge. It focuses on stimulating learning interest, activating initial music perception and thinking sparks, and guiding students to discover problems through experience.

Design interesting and engaging real-life task scenarios as the starting point for learning. For example, before learning to sing a new song, set up a gamified task of "listening to music and guessing the scene/emotion"; when learning a certain rhythm type, design an activity of "using body percussion to explore different sound combinations to express the rhythm." Let students naturally raise questions in the immersive experience (such as "Why does this piece of music make me feel nervous?" "How else can this rhythm be expressed?"), igniting their passion for exploration.

Focusing on the key and difficult points of teaching, carefully create problem situations or story situations to trigger cognitive conflicts. For example, when appreciating and comparing two pieces of music with different styles, ask: "What are the differences between the animals depicted in these two pieces of music? What 'magic weapons' (music elements) did the musicians use to express them?" Guide students to observe, compare, and think about the connection between musical elements and the objects of expression in contextual singing, rhythm, and role-playing (such as imitating the gait of different animals and walking with the corresponding music). Emphasize "learning through play, enlightenment through doubt", the atmosphere is relaxed and active, the task design highlights fun and inspiration, and the question setting points to clear core concepts, laying the groundwork for subsequent in-depth exploration.

#### **3.2 Peisi-style Classroom: Consolidate the Foundation and Expand Thinking**

It is suitable for the systematic learning of knowledge and skills and the in-depth exploration of unit themes. It focuses on guiding students to use multiple senses and methods to accumulate music experience, establish

knowledge connections, and develop thinking abilities such as analysis, comparison, and cooperation.

Focus on the "scaffolding" connection points and think more collaboratively: Provide a variety of learning "scaffolding", such as atlas (used to visualize the melody direction, rhythm type, and form structure), comprehensive listening guide sheets (to guide attention to specific musical elements), rhythm atlas, music game rules, etc. Use these scaffolds to organize students to conduct group cooperative learning, such as theme exploration in the overall learning of the unit, and small-scale project-based learning (such as "making a micro video introducing a certain national musical instrument"). In cooperation, students need to exchange views, divide labor and cooperate, and solve problems together to effectively promote the collision and deepening of thinking. For example, use atlases to analyze the structure of music, and discuss the emotional changes and reasons of each section in groups.

Explore the "core" transfer points and expand broad thinking: After students have mastered the core knowledge and skills to a certain extent, guide them to find the "transfer points" of knowledge and skills. Through key questions (such as "What other types of music can we hear the rhythm we have learned?", "Can the expression of this song be used to express another scene in our lives?"), teachers encourage students to think at multiple levels and from multiple angles, connect with real life, other subject knowledge or different music works for analogy, association and application, and expand the breadth and flexibility of thinking.

Emphasis is placed on "learning by association and expanding by application", focusing on the construction of knowledge networks and the cultivation of transfer and application capabilities. Collaborative learning is the main organizational form, scaffolding tools are important auxiliary, and thinking activities focus on breadth expansion and connection establishment.

### **3.3 Reflective Classroom: Transfer Creation and Deepen Thinking**

It is suitable for unit summary, comprehensive art practice, and creative activity stages. It focuses on guiding students to deeply integrate, reflect, criticize and creatively apply what they have learned, and develop higher order thinking such as evaluation, creation, and metacognition.

Based on the rich perceptual experience and knowledge accumulation, guide students to practice music creation. This can be small-scale composition (such as composing music for designated lyrics, creating short melodic motives, using repetition/contrast/variation techniques to develop musical ideas), improvisational accompaniment, music and sister arts (dance, drama, fine arts) combined creation, etc. For example, after learning different regional music styles, the group will try to integrate elements to create a "world style" music; create or select music based on the artistic conception of a famous painting and explain the music. The creative process itself is a process of deep thinking, which requires students to comprehensively apply knowledge, mobilize imagination, solve problems, and make aesthetic judgments.

Design thematic comprehensive art performances related to students' life experiences and social issues. Students need to participate in the whole process of planning, arranging, performing and evaluating. For example, around the theme of "growth", create a class concert that includes singing, instrumental music, dance, recitation, drama and other forms. After the performance, organize in-depth reflection: Which music/artistic means are used successfully? Why? What difficulties did you encounter during the creation/performance process? How did you solve them? What aspects can be improved? Teachers guide students to conduct self-evaluation and peer evaluation, refine learning strategies, and promote the development of metacognitive ability.

Emphasizing "learning through creation and improving through thinking" is the deepening and sublimation stage of thinking development. Creative practice is the core carrier, comprehensive interpretation is the platform for displaying results, and in-depth reflection is the key link to improve the quality of thinking. Focus on the critical, innovative, systematic and metacognitive levels of thinking. These three types of classes are not strictly separated, and can be flexibly combined and used according to teaching content and objectives, and serve the whole process of students' musical thinking from stimulation, cultivation to deepening.



#### **4. EVALUATION RECONSTRUCTION AND MECHANISM GUARANTEE: CONSTRUCTION OF A FOUNDATIONAL EVALUATION SYSTEM FOR THE DEVELOPMENT OF THINKING**

The Creative Thinking Chain is inseparable from the matching evaluation mechanism. Based on the concept of "integration of learning, teaching and evaluation", and drawing on the "cornerstone evaluation" model of the "National Core Arts Standards of the United States", this study constructed an evaluation system integrating the three dimensions of "curriculum embedding", "transfer tasks" and "map albums", aiming to deeply integrate evaluation into the teaching process, truly reflect and promote the development of students' thinking.

##### **4.1 Focus on "Curriculum Embedded" Evaluation: Using Evaluation to Promote Teaching and Optimize the Process**

Core features: The evaluation task is highly integrated with learning activities and course content. Evaluation is learning and learning is evaluation. Teachers conduct instant and dynamic evaluation and feedback by observing students' performance in the learning process (key features of the process).

Implementation strategy: Focus on key features of the process and evaluate the whole process: Design performance tasks, which are both important learning links and evaluation carriers. For example, in the group discussion of the "promoting thinking through exploration" link, the teacher designs an observation scale with dimensions such as "clarity of viewpoints", "relevance of arguments", "listening and responding", and "cooperative contribution" to record students' thinking performance in the discussion in real time (such as whether they can ask insightful questions? Can they use musical terms for analysis? Can they respond to other people's views?). In the creative practice process, pay attention to students' process results such as conceptual sketches, modification records, and collaborative discussions. This embedded evaluation provides teachers with a direct basis for diagnosing learning progress and adjusting teaching strategies.

Tailor-made and hierarchical evaluation according to the learning stage: The evaluation criteria and task difficulty must strictly correspond to the learning stage target gradient. For example, in the evaluation of "feeling and thinking", the lower learning stage focuses on observing students' reactions to the basic emotions and obvious elements of music (such as whether they can follow the corresponding rhythm of the music? Can they point out whether the music is fast or slow?); the higher learning stage focuses on evaluating their ability to analyze and judge the connection between musical elements and style characteristics (such as whether they can analyze how melody and rhythm work together to create emotions? Can they identify the style differences of different music sections?). Teachers mark the hierarchical evaluation indicators (such as "initial achievement", "good mastery", and "flexible application") based on the students' process performance, clearly showing the stages and differences in the development of students' musical thinking ability, and providing a basis for personalized guidance.

##### **4.2 Setting Up "Transfer Task-based" Assessment: Using Assessment to Promote Learning and Test Understanding**

Core features: Design real tasks that require students to transfer and apply the knowledge and thinking skills they have learned in new situations, and evaluate their depth of understanding of core concepts and problem-solving ability. Use the "reverse design" approach.

Implementation strategy: Reverse design method mode: anchoring---linking---design

Anchoring: First, clarify the core literacy goals that students are expected to achieve in the unit or class (such as "being able to use musical elements to analyze the expressive intention of a work", "being able to collaborate to create and perform a short musical drama").

Link: Identify the key evidence (performance standards) that can prove the achievement of the goals, that is, what tasks students need to complete to demonstrate their understanding and ability (such as "submit an analysis report on a designated musical work, accurately pointing out the expressive role of at least three musical elements", "participate in the creation and performance of a 3-minute musical short play with a clear theme, clear roles, and reasonable use of music").

Design: Design specific learning activities, teaching steps and corresponding evaluation rubrics around these evidence (performance standards). The rubrics should clearly describe the performance characteristics of different levels (such as excellent, good, qualified, and need improvement), involving thinking qualities (such as depth of analysis, uniqueness of creativity, and effectiveness in problem solving) and musical abilities (such as performance skills and knowledge application).

Design real-life situational tasks that are close to students' life experiences or social and cultural backgrounds. For example: Understanding: "Recommend a song for the school radio station that is suitable for the theme of 'graduation season', write a reason for the recommendation, and analyze the fit between its musical characteristics and the theme." Creation: "The community cultural festival needs a small music program. Please use the theme of 'beautiful hometown' to work in groups to create (or adapt) and perform a music program (in the form of your choice)." Connection: "Choose a movie you have seen and analyze how the soundtrack of an important scene enhances the dramatic effect? If you were asked to re-compose the music, how would you conceive it? Explain your reasons." This type of task requires students to use what they have learned to understand, create and connect, and the evaluation results can more truly reflect their thinking level and transfer application ability. Establish a "map album" evaluation: use evaluation to build ability and record growth.

Adopt the concept of growth portfolio to dynamically collect, record and display the process evidence and representative achievements of students' music learning and thinking development, and form a personalized "map" and "album" of music literacy growth. Establish a regional or school-level "creative thinking chain" evaluation resource library. Pilot classes or base schools can be selected, and the evaluation research team can be composed of backbone teachers of the subject.

Develop a rubric template library suitable for different stages of study, different types of courses (stimulating thinking/cultivating thinking/deep thinking), and different dimensions of thinking. Collect and screen samples of outstanding student works that meet the standards (such as high-quality analysis reports, creative performance videos, and project results presentations) as a "benchmark model" for evaluation for teachers to refer to. Explore diverse evaluation forms: thematic situational evaluation (such as completing exploration tasks in a "music museum" situation), situational simulation evaluation (such as simulating music critics to appreciate works), performance-based examinations (such as final concerts), tour-based examinations (such as music-themed challenge activities), and media-assisted evaluation (such as using APP to record, edit, and submit creative/performance works).

Create an electronic or physical "Lesi Growth Portfolio" for each student. Classroom observation notes (teacher/peer), discussion points, mind maps, creative drafts, rehearsal records, reflection logs, etc.

Representative achievements: Excellent singing/performance recordings/videos, creative music scores/audio/videos, music analysis reports, project results presentations (PPT/posters), and evaluation rubrics obtained (with teacher comments and grades).

Core literacy portrait: Regularly (such as at the end of the semester), based on the contents of the portfolio and combined with the evaluation rubric, conduct descriptive evaluations of students' music perception, performance, creativity, comprehension, and thinking qualities (such as critical thinking and creativity), to form a phased "music core literacy portrait" that intuitively reflects areas of strengths and room for development.

Portfolio evaluation is not only used for teacher evaluation, but more importantly, it guides students to self-reflect and set goals. Students review their portfolios regularly to see their growth trajectory, consolidate their learning effects, and purposefully set the next learning goal for their weak links.

This three-dimensional evaluation system organically combines process evaluation with summative evaluation, quantitative evaluation with qualitative evaluation, external evaluation with self-evaluation. Its core lies in making evaluation a powerful engine to promote the development of musical thinking, optimize the teaching process, and assist students' personalized growth through deep embedding of evaluation, task-driven and growth recording. Ultimately, it will achieve a virtuous cycle of "using evaluation to promote thinking, using evaluation to promote learning, and using evaluation to improve teaching", ensuring the effective implementation of the creative thinking chain concept and the solid improvement of students' core literacy.

## 5. CONCLUSION

“Creative thinking chain” is a profound change in the traditional music teaching model. It takes the development of students' musical thinking as its core goal, builds a basic framework through the four-step model of "feeling-imitation- exploration-performance", and relies on the innovative teaching strategies of the three types of courses: "stimulating thinking", "cultivating thinking", and "deep thinking". It also builds a cornerstone evaluation system that integrates the three-dimensional evaluation of "curriculum embedding", "transfer task", and "map album", which systematically solves the problem of weak thinking cultivation and separation of learning, teaching and evaluation in music teaching. This model not only provides an operational teaching path but also promotes the concept of music classroom from knowledge and skills to thinking literacy, from teacher-led to student-centered exploration, and from single evaluation to multi-dimensional, dynamic, and developmental comprehensive evaluation. Its successful practice depends on teachers' understanding of the laws of thinking development, their skillful use of evaluation tools, and continuous teaching reflection and innovation. Future research can further focus on the refinement of thinking development evaluation scales at each stage of study, the in-depth development of typical lesson resources, and the mining and application of evaluation data supported by information technology, so as to continue to deepen the new ecology of music education with "integrated learning, teaching and evaluation", and make music a real force to inspire wisdom, nourish the soul, and create the future.

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