https://doi.org/10.37420/j.cer.2025.083

Exploring the Practice of a Multimodal Teaching Model in Aesthetic Education for Preschool Children

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Abstract:
In response to current problems in preschool aesthetic education—such as reliance on a single sensory channel, homogenized teaching forms, and superficial experiential engagement—this study, grounded in multimodal learning theory and social semiotics, constructs an operational pathway of "situational introduction – multi-channel perception – symbolic reconstruction – expressive communication – formative assessment." Using kindergarten-based cases, the research adopts a design-based approach. A mixed-method strategy is employed, including classroom observation and video coding, behavioral engagement and aesthetic language scales for young children, as well as qualitative analyses of artworks and interviews, to compare changes before and after implementation in terms of sustained attention, cross-modal transfer, aesthetic vocabulary, and peer collaboration. The findings show that multimodal teaching significantly enhances children's active participation and the quality of their aesthetic representations, promotes continuous learning from perception to meaning construction, and positively supports teachers' capacity for resource integration and real-time assessment. The discussion suggests that its effectiveness lies in the mutual reinforcement between multi-channel input and diverse symbol generation, while also revealing bottlenecks in resource allocation, teacher expertise, and home–school collaboration. Accordingly, the paper proposes recommendations such as advancing cross-media integration, strengthening the development of process-oriented assessment tools, attending to individual differences and diverse forms of expression, improving home–kindergarten aesthetic education communities, and conducting longitudinal tracking. These efforts aim to provide empirical evidence and practical pathways for updating and operationalizing paradigms in preschool art appreciation teaching.

Keywords:
multimodal teaching; early childhood education; preschool aesthetic education

1. Introduction

Early childhood is a critical period for the development of children's aesthetic perception and expressive abilities, marking a stage in which artistic sensitivity, emotional experience, and creative expression grow

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rapidly. During this period, children's perceptual systems are highly sensitive and malleable. They engage with the external world through multiple sensory channels—vision, hearing, touch, smell, and kinesthetic awareness—and gradually cultivate aesthetic interest and judgment through diverse aesthetic experiences. However, current aesthetic education in Chinese preschools still suffers from issues such as reliance on a single sensory modality, homogenized instructional formats, and superficial experiential engagement. Many aesthetic teaching activities depend primarily on teacher-led dialogues based on static images, lacking coordinated multisensory guidance. As a result, children's understanding of artworks often remains confined to surface-level visual analysis. The absence of multi-sensory input restricts children from accessing multi-dimensional pathways to interpret artworks, limiting the depth of meaning-making. Consequently, aesthetic understanding often remains at the level of everyday conversation, making it difficult for children to construct autonomous interpretations of artistic works. How to effectively cultivate children's aesthetic perception and interpretive abilities has therefore become an urgent task in early childhood art education. This study introduces a multimodal teaching model into preschool aesthetic education with the aim of overcoming the limitations of single-sensory teaching. By integrating visual, auditory, tactile, and kinesthetic modalities, the model seeks to provide children with multi-dimensional aesthetic pathways, enhance their meaning-making processes, and promote more effective aesthetic understanding. Ultimately, it supports children's holistic development in perception, imagination, expression, and communication.

2. Core Concepts

2.1 Multimodality

Multimodality refers to the integration of different semiotic resources—such as text, images, diagrams, and other representational forms—that together construct meaning and facilitate interpersonal communication. Kress and van Leeuwen (2010) emphasize the essential role of linguistic modes in communication while highlighting that images, gestures, speech, writing, models, spatial arrangements, and bodily movement all function as meaning-making semiotic systems. Jewitt (2008) argues that learners receive information through multiple sensory channels and integrate inputs from different modes during cognitive processing, leading to richer and more stable meaning construction.

In educational contexts—especially in early childhood education—children's cognitive development relies heavily on sensory experience. Multichannel stimuli involving visual, auditory, and kinesthetic inputs not only help sustain attention but also enhance emotional engagement and stimulate creative thinking. Thus, multimodality is not merely the presentation of multiple sensory elements; rather, it embodies a learning and semiotic framework centered on sensory integration and co-construction of meaning.

2.2 Multimodal Teaching Model

A multimodal teaching model refers to the use of various semiotic resources in instruction—including linguistic symbols (explanations, dialogue), visual symbols (images, videos, real objects), auditory symbols (music, sound effects), and tactile or kinesthetic experiences (material manipulation, bodily expression)—to form a synergistic learning environment that activates students' sensory participation. Unlike linear, single-modality instruction, multimodal teaching stresses learners' active engagement and multidirectional

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interaction. Through contextualization, play-based learning, and task-oriented strategies, it weaves together sensory experience, emotional resonance, and cognitive construction.

Given these characteristics, this study applies a multimodal teaching model to preschool art appreciation education. Young children predominantly rely on imagistic thinking and multisensory experience; therefore, the coordinated use of visual, auditory, tactile, and kinesthetic modalities can effectively enhance their attention, perceptual understanding, emotional resonance toward artworks, and broaden their expressive pathways.

3. Current Status and Challenges of Aesthetic Education in Early Childhood

To systematically examine the current development and key issues in China's early childhood aesthetic education—specifically visual art appreciation—this study used the China National Knowledge Infrastructure (CNKI) as the primary data source. The search range was set from January 2020 to January 2025. Search strategies covered title, abstract, and keyword fields, with core terms including kindergarten art appreciation, kindergarten art appreciation activities, and preschool aesthetic education. Inclusion criteria were:(1) research subjects limited to kindergarten or early childhood education, with a focus on aesthetic teaching or visual art appreciation; (2) literature types including journal articles, master's and doctoral dissertations, or academically valuable conference papers; (3) full-text availability and clear descriptions of research methods and teaching practices. Exclusion criteria included: (1) studies not involving early childhood or visual art appreciation; (2) non-Chinese publications, incomplete abstracts, or missing full texts; (3) duplicate publications or short commentaries lacking empirical analysis. A total of 30 eligible studies were selected. A standardized data extraction sheet was then established, covering author, year, research type, sample characteristics, theoretical framework, instructional content and methods, evaluation indicators, and major findings.

Overall, aesthetic education in Chinese preschools has steadily gained prominence, shifting from a peripheral instructional activity to an integral component of early childhood arts education. Existing research demonstrates that aesthetic teaching not only cultivates children's perceptual and interpretive abilities but also contributes significantly to emotional experience and cultural identity formation. Current instructional content shows increasing diversification: beyond traditional Chinese and Western masterpieces, it has expanded to picture books, ink painting, regional culture, and folk arts. Meanwhile, emerging technologies such as artificial intelligence (AI) and augmented reality (AR) offer children more immersive artistic experiences. In terms of pedagogy, teachers are gradually moving beyond lecture-based approaches and experimenting with contextualization, game-based strategies, and interdisciplinary integration. Art appreciation is increasingly combined with painting, music, language, and handicraft activities. Notably, growing attention is being directed toward incorporating Chinese traditional culture and local art resources, underscoring the cultural heritage value of early childhood aesthetic education.

Despite these positive developments, several structural challenges persist in current practice:

First, misalignment between teaching philosophy and practice. Although most teachers recognize the educational value of art appreciation, instructional activities still rely heavily on teacher-led image analysis and explanation. Children have limited access to multisensory experiences and opportunities for autonomous

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meaning-making. Their understanding often depends on teacher interpretation rather than personal aesthetic reflection.

Second, insufficient engagement and playfulness. Some activities lack meaningful contextualization and game-based strategies, resulting in low levels of participation and interest. The challenge becomes more pronounced when children encounter abstract artworks, for which teachers often lack effective guiding strategies.

Third, inadequate teacher professional competence. Many teachers display weaknesses in art knowledge, curriculum design, and aesthetic judgment. Pathways for systematic training and sustained professional development remain underdeveloped.

Fourth, limited resource and environmental support. There is a shortage of systematic and localized resource repositories. The development and application of regional culture and ethnic art often remain superficial.

Finally, weak evaluation and extension components. Most art appreciation activities remain at the level of sensory experience. Scientific formative evaluation and follow-up creative activities are insufficient, constraining the deepening and transfer of children's aesthetic experiences.

In summary, China's early childhood aesthetic education is undergoing a transition from "activity-oriented" approaches to models emphasizing "experience and understanding." While the field shows strong momentum, structural challenges persist. Future development requires strengthening the implementation of pedagogical concepts, fostering instructional innovation, and enhancing teacher capacity. More systematic curriculum design and refined evaluation mechanisms will be essential for deepening children's aesthetic understanding and supporting their overall developmental competencies.

4. Feasibility Analysis of Multimodal Teaching

In this study, aesthetic education refers specifically to visual art appreciation in early childhood education. Its central aim is to guide young children in appreciating visual artworks, enabling them to perceive, experience, and understand high-quality artistic creations through their own lived experiences. As an essential component of early childhood arts education, aesthetic teaching plays a crucial role in supporting children's holistic development. However, traditional art appreciation—often dominated by teacher explanations and static image analysis—struggles to help young children genuinely understand classic artworks or develop authentic aesthetic sensitivity. In contrast, implementing multimodal teaching in early childhood aesthetic education can stimulate children's interest by engaging multiple senses and encourage rich, multidimensional participation in art learning. The feasibility of adopting a multimodal approach in preschool aesthetic instruction is reflected in three key dimensions:

First, alignment with developmental characteristics of young children. The ages of 3–6 represent a critical period for rapid sensory development and multimodal integration. Children in this stage rely on the combined functioning of vision, hearing, touch, and other sensory channels to construct cognition. Aesthetic experience, by nature, involves the integration of sensory input, emotional response, and cognitive processing (Smith et al., 2008). Multimodal teaching synthesizes multiple sensory channels, offering children diverse pathways for

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perceiving artworks and enabling them to form individualized aesthetic understanding through an iterative cycle of perception, emotion, and thought. This approach not only addresses the limitations of single-sensory instruction but also provides a psychological foundation for deepening children's engagement and meaning-making.

Second, consistency with contemporary educational philosophy and curriculum goals. The Guidelines for Learning and Development of Children Aged 3–6 issued by the Ministry of Education emphasize cultivating children's ability to "perceive beauty, express beauty, and create beauty," while advocating for playful and inquiry-based learning. Multimodal teaching embodies these principles by systematically integrating visual, auditory, tactile, and kinesthetic modalities, thereby translating policy goals into actionable instructional practices.

Teachers can create immersive and interactive artistic learning environments through cross-media integration. For example: Visual dimension: High-resolution digital scanning can present micro-details of artworks, transforming abstract artistic concepts into more concrete visual experiences. Auditory dimension: Background music and artist narratives help establish emotional resonance. Tactile dimension: Three-dimensional interactive spaces allow children to explore artistic forms through touch. Olfactory dimension: Carefully designed scent cues can support associative thinking and deepen interpretive engagement. Such multisensory coordination not only reflects the Guidelines' advocacy for playful, inquiry-oriented instruction but also builds a complete learning cycle of "perception–experience–understanding–creation," enhancing children's engagement and aesthetic development.

Third, availability of resources and practical implementation conditions. The strength of multimodal pedagogy lies not in expensive technologies but in teachers' capacity to design meaningful contexts and guide children's engagement. As prior research indicates, multimodality can be effectively implemented through creative use of existing materials rather than costly hardware. Teachers can integrate everyday tools, simple musical instruments, and tactile materials to construct low-cost multisensory environments. The effectiveness of multimodal teaching relies heavily on thoughtful instructional design—such as preparing multimodal resources prior to activities, weaving together story-based contexts, role interactions, and hands-on exploration, and connecting content with music, science, language, and health education. Such interdisciplinary combinations highlight the generative nature of teaching.Fundamentally, this instructional model is grounded in the synergy of "resources–people–mechanisms," with teachers' professional competence as the pivotal force. By leveraging resources creatively and constructing flexible, multisensory learning environments, multimodal teaching becomes a feasible and practical approach for enhancing aesthetic education in early childhood settings.

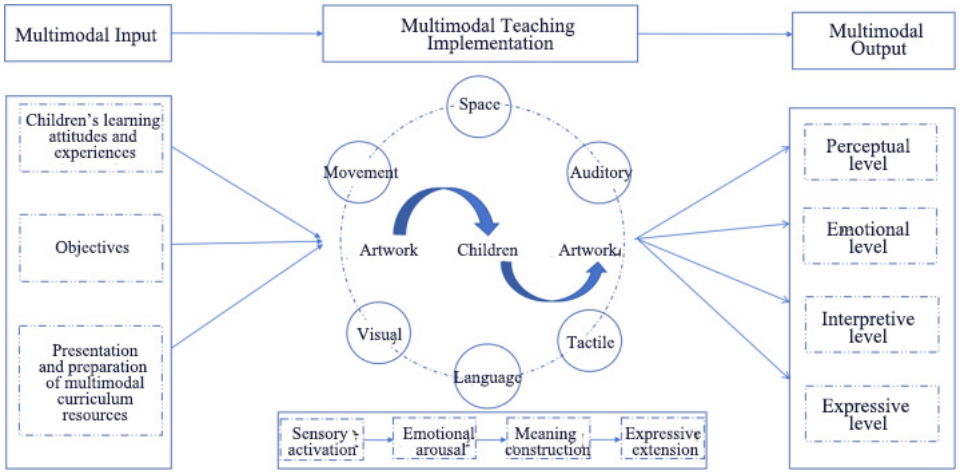
5. Practical Application of the Multimodal Teaching Model in Preschool Aesthetic Education

5.1 Operational Pathways

This study introduces a multimodal teaching framework consisting of three interconnected stages—mul-

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timodal input, multimodal instructional implementation, and multimodal output—as illustrated in Figure 1. The framework is organized around two central foci: artworks and children. Through sensory coordination and meaning-making, children's aesthetic understanding develops in a spiraling, progressively deepening manner over the course of the activity.



Serving as the starting point of instruction, multimodal input includes three major components: children's learning attitudes and prior experiences, objectives of preschool aesthetic education, and multimodal curriculum resource preparation. Beginning from children's lived experiences, teachers should respect and activate existing interests and background knowledge. Instructional goals must align with children's developmental patterns and span three dimensions—aesthetic perception, emotional experience, and creative expression. To support these goals, resources such as images, sounds, narratives, physical objects, and spatial contexts should be integrated and presented through visual, auditory, tactile, and kinesthetic channels. This establishes a solid foundation for the upcoming instructional processes. Multimodal instructional implementation forms the operational core of the framework. Designed around the child and centered on the artwork, instructional activities incorporate six modalities: visual, auditory, tactile, kinesthetic, spatial, and linguistic. These modalities interact to stimulate and reinforce one another, enabling children to develop rich, multi-layered aesthetic experiences. As children observe and listen, touch and manipulate materials, participate physically, and engage in verbal exchanges, they gradually move from direct sensory perception to emotional resonance. Through communication, symbolization, and creative reinterpretation, they continuously advance their understanding and construct personal meaning.

During implementation, emphasis is placed on cross-modal complementarity and synergy. Modalities most compatible with the artwork—and most likely to enhance children's interest and participation—should be prioritized, while other modalities provide supportive reinforcement. The cultivation of aesthetic understanding does not unfold linearly; rather, it follows a spiral trajectory in which sensory experiences evoke emotion, interactive exchanges support interpretation, and children ultimately achieve expressive output in their own ways. At the same time, the implementation process dynamically informs and updates the initial instructional goals and multimodal resource designs, creating a feedback loop.

Located on the right side of the framework, multimodal output emphasizes the child's agency and corresponds directly to the implementation stage. Output unfolds across four interconnected levels: Perceptual level: immediate impressions and attention to visual or sensory details;Emotional level: expression of feelings,

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moods, and aesthetic attitudes triggered by perception; Interpretive level: explanation, meaning-making, and conceptual understanding of the artwork; Expressive level: creative transformation of understanding through various forms such as narrative language, bodily movement, visual reconstruction, or sound responses. Importantly, output is not limited to tangible products produced at the end of instruction. Momentary and process-based expressions occurring throughout the activity are also integral to children's unique interpretations of artworks and constitute a crucial part of their multimodal aesthetic experience. Through this structure, input, implementation, and output form a tightly coupled relationship of conditions—mechanisms—generative processes: Input provides the boundaries and resources for implementation; Implementation drives meaning-making and experiential expansion; Output not only presents learning outcomes but also reshapes and refines the input. Together, they create a sustainable, cyclically optimized ecosystem for preschool aesthetic education grounded in multimodal pedagogy.

5.2 Teaching Cases

5.2.1 Participants and Research Context

This study was conducted in March 2025 at a model public kindergarten in Mianyang, Sichuan Province. The participants were 28 children in the senior kindergarten class (15 boys and 13 girls), aged between 5 years 3 months and 6 years 1 month (M = 5.6). All children were native Mandarin speakers with no diagnosed developmental disorders, and written informed consent was obtained from parents or guardians.

The research site was a 45-square-meter art activity room equipped with multimedia projection, portable display tables, and flexible seating arrangements to support multimodal instructional activities. The teaching activities were designed based on the developmental characteristics of young children and the multimodal instructional framework, aiming to examine the feasibility of multi-channel perception and cross-modal expression in preschool art appreciation.

5.2.2 Preparation of Multimodal Resources

(1) Visual modality: High-resolution full images and enlarged detail images of Van Gogh's Sunflowers;

(2) Auditory modality: Natural environmental sound effects (wind, birdsong) and instrumental background music;

(3) Tactile modality: Artificial sunflowers and rough-textured canvas samples;

(4) Linguistic modality: Story cards depicting Van Gogh's creative process and emotion-symbol cards;

(5) Environmental setup: Sunflower-themed classroom decorations;

(6) Recording tools: Two high-definition video cameras and wireless microphones for capturing children's multimodal responses.

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5.2.3 Implementation of Multimodal Instruction

Phase 1: Sensory Activation.

The teacher created an immersive atmosphere through environmental setup and background music, guiding children to observe and touch artificial sunflowers. Children were encouraged to express their sensory impressions using language, onomatopoeia, or physical movements. This phase aimed to establish an initial multisensory aesthetic experience.

Phase 2: Emotional Evocation.

The teacher presented Van Gogh's Sunflowers and invited children to select color cards that matched the emotional tone of the artwork. Children expressed these emotions through rhythmic language or body movements. This phase emphasized the transition from sensory perception to emotional experience.

Phase 3: Image Exploration.

Children's visual attention was scaffolded progressively. First, during holistic viewing, the teacher displayed the entire painting and asked questions such as "How many sunflowers do you see? What do they look like together?" Second, during detail exploration, enlarged images were presented to help children examine brushstroke directions and color layering. Third, in comparative analysis, real sunflowers or photographs were placed alongside the artwork to prompt children to consider why the painter did not depict them realistically.

A simplified interdisciplinary connection was incorporated:

Science: Children observed textures of petals and stems to understand how artists represent physical features.

Language: Children practiced figurative descriptions (e.g., "like the sun," "like flames") to enhance abstract expression.

Through this process, children transitioned from intuitive perception to rational interpretation.

Phase 4: Meaning Construction.

This phase facilitated the shift from sensory and emotional experience to rational understanding and value reflection. Activities included matching sunflower images of different states with corresponding emotion symbols (e.g., happy, sad), followed by role-play in which children used actions and facial expressions to portray various sunflower states (upright, drooping, withered).

Through guiding prompts such as "Does this flower look a little tired?" the teacher helped children connect physical forms with emotional states. Finally, the teacher asked, "If you were the artist, how would you paint your sunflower, and why?" to encourage children to draw upon personal life experiences. This phase emphasized active meaning construction through interconnected pathways of visual form – emotional experience – lived experience, enabling children to move from "seeing" to "understanding."

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Phase 5: Multimodal Expression.

As a concluding and creative phase, activities followed the sequence "group creation – presentation – peer feedback." The teacher provided differentiated expressive channels. The drawing group created their own "sunflowers" using materials of choice; The movement group designed physical poses representing sunflowers in different situations; The language group created original stories about sunflowers. During the presentation session, groups showcased their work through display, performance, or narration. Peer evaluation followed, with children expressing their impressions in simple language (e.g., "Your sunflower looks strong," "Your story feels warm to me"). Through these interactions, expression became a shared aesthetic engagement rather than an isolated individual task. This phase helped children integrate prior sensory and cognitive experiences and fostered creative expression and early aesthetic judgment, forming a learning cycle of perceiving–understanding–creating.

5.2.4 Results

(1) Distribution of Multimodal Expression Choices

Analysis of children's selected expressive formats showed that 67% (n = 19) chose drawing, 21% (n = 6) chose bodily performance, and 12% (n = 3) selected sound production. A chi-square test indicated that drawing was chosen significantly more frequently than the other formats ($\chi^2 = 14.29$, $p < .001$). This reflects children's preference for visual expression while also demonstrating that multimodal tasks provide diverse expressive options for children less inclined toward drawing.

(2) Levels of Cross-Modal Integration

Video coding revealed that 64.3% of works exhibited high levels of cross-modal integration (i.e., clear symbolic interdependence and complementary meaning across modalities), with the remainder showing low integration. Common high-integration combinations included "drawing + sound" and "movement + music," characterized by the mapping of rhythm, color, and movement to enhance emotional expression.

(3) Emotional Polarity Distribution

Among coded emotional valences, 78.6% of works expressed positive emotions, 14.3% neutral, and 7.1% negative. Positive works generally used high-saturation colors, brisk rhythms, and expansive movements, whereas negative works featured low-saturation colors, slow rhythms, and contracted actions. This suggests that multimodal tasks support children in externalizing emotional imagery through cross-sensory means.

(4) Types of Peer Feedback

Visual-based comments were most common (51.8%), followed by movement-based (30.4%) and sound-based feedback (17.8%). This aligns with the children's modal preferences during creation and indicates the dominance of visual perception in peer interactions.

(5) Completion of Extended Tasks

During the extension phase, 46.4% of families submitted flower-observation records featuring photographs,

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sketches, or short written/oral descriptions. Although less than half of families participated, this finding still indicates the potential for multimodal aesthetic experiences to transfer into home environments.

5.2.5 Discussion

(1) Multimodal Instruction Promotes Individualized Aesthetic Expression

Although visual modalities dominated children's works, the notable presence of body-movement and sound-based creations demonstrates that multimodal instruction broadens the range of expressive pathways. This aligns with Jewitt's (2008) argument that multimodal learning accommodates diverse semiotic preferences. High-integration works, in particular, showed stronger emotional depth and immersive aesthetic experience through interdependent modal relationships.

(2) Cross-Sensory Mapping and Emotional Externalization

The high proportion of positive emotional works may relate to activity-embedded cues such as warm music, bright colors, and natural imagery. This supports Kress and van Leeuwen's (2001) theory regarding the synergistic role of modal resources in constructing emotional meaning. Notably, even the fewer negative-emotion works demonstrated consistent mappings across color, rhythm, and movement, suggesting that multimodal expression also facilitates the visualization of negative affect.

(3) Visual Dominance in Peer Evaluation

Peer feedback was predominantly visually oriented, reflecting the central role of visual perception in children's aesthetic judgments—a finding consistent with Parsons' (1987) theory of early aesthetic development. However, this dominance suggests that future multimodal teaching should introduce more auditory- or tactile-based peer-interaction mechanisms to balance sensory inputs.

(4) Potential and Constraints of Home Transfer

Nearly half the families completed the extension task, indicating moderate transferability of multimodal aesthetic experiences into home settings. However, the participation rate highlights constraints such as parental time and willingness. Future studies may explore home-learning kits or digital platforms to strengthen home–school aesthetic collaboration.

(5) Implications for Educational Practice

The findings indicate that multimodal instruction in preschool art education enhances children's aesthetic perception, emotional expression, cross-sensory integration, and creative thinking. Practitioners should: (1) Design activities with balanced sensory channels to avoid single-modality dominance; (2)Strengthen strategies that support cross-modal integration and semiotic coordination; (3) Integrate extension tasks with family engagement mechanisms to promote sustained aesthetic development.

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6. Conclusions and Recommendations

6.1 Conclusions

Grounded in multimodal learning theory and informed by the practical needs of early childhood aesthetic education, this study constructs and empirically validates a multimodal kindergarten aesthetic teaching model that integrates multi-sensory and multi-media resources. The empirical findings demonstrate that the model significantly enhances children's aesthetic engagement, creative expression, and emotional–social development.

First, regarding aesthetic engagement and the quality of experiential participation, multimodal strategies mobilize visual, auditory, tactile, and kinesthetic modalities in a coordinated manner, shifting children from passive reception to active exploration. This model not only extends children's sustained attention during activities but also substantially increases the frequency of spontaneous questioning, cross-sensory associations, and diverse expressive behaviors. These outcomes align with Dewey's (1934) concept of the "generative nature of experience," suggesting that multi-sensory integration deepens the intensity and immersion of aesthetic experience.

Second, in terms of diversified aesthetic expression and creative development, cross-media contexts provide children with autonomous choices among drawing, dance, music, drama, and other forms of expression. Such environments reduce performance anxiety, stimulate creative thinking, and foster vivid imaginative representations. This finding echoes Gardner's (1983) theory of multiple intelligences, indicating that when aesthetic activities support children's individual strengths, creative potential can be maximized.

Third, multimodal teaching strengthens the frequency and quality of teacher–child co-creation and peer collaboration, thereby facilitating emotional resonance and cooperative awareness. This resonates with Bian Xia's (2012) concept of "aesthetic symbiosis," emphasizing that aesthetic experience not only enriches individual perception but also contributes to the formation of social–emotional relationships.

6.2 Recommendations

Promote Cross-Media Integration

Aesthetic activities should intentionally integrate visual, auditory, kinesthetic, and linguistic modalities rather than adopt linear, single-medium instruction. Cross-media integration should reflect internal coherence in meaning-making—for example, combining music appreciation with movement performance or visual art creation to provide multi-layered aesthetic experiences.

Strengthen Contextualization and Story-Based Guidance

Contextual and narrative approaches can significantly enhance children's immersion and emotional engagement. Teachers should design activities that connect artistic perception to real-life experiences and cultural contexts. For instance, incorporating local music, clothing, and festival stories into a theme such as "The Four Seasons of My Hometown" can strengthen children's sense of cultural identity.

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Attend to Individual Differences and Support Diverse Expressions

Instruction should account for differences in children's sensory strengths, interests, and expressive preferences by providing equal opportunities for various modes of expression. For children who are less verbal or introverted, small-group collaboration or nonverbal expressive forms can reduce participation barriers and ensure their active role in aesthetic activities.

Enhance Teachers' Multimodal Teaching Competence

The effectiveness of multimodal aesthetic instruction relies heavily on teachers' skills in media integration and cross-sensory design. Pre-service and in-service training should incorporate modules on multimodal lesson design, contextual strategies, and cross-media material application to support teachers' professional development.

6.3 Directions for Future Research

Expand Sample Size and Regional Diversity

As the current study focuses on a specific region, future research should include diverse geographic areas and different types of early childhood institutions to enhance generalizability and external validity.

Explore Home–School Integration in Aesthetic Education

Future studies may investigate strategies that connect multimodal aesthetic teaching with family-based aesthetic education—particularly mechanisms for updating parental educational beliefs and mobilizing home resources—to build an integrated "school–home" aesthetic learning ecosystem.

Conduct Longitudinal Studies and Evaluate Long-Term Impacts

Most existing studies focus on short-term outcomes; therefore, future research should adopt longitudinal designs to assess the sustained effects of multimodal aesthetic teaching on children's creativity, aesthetic emotions, and social development. Such findings would offer empirical support for policy-making and curriculum reform.

Funding

This paper is supported by the 2022 project of the Rural Early Childhood Education Research Center, a Key Research Base for Humanities and Social Sciences in Sichuan Higher Education Institutions, titled "An Investigation and Action Research on Art Appreciation Education in Rural Kindergartens: A Study of Eight Kindergartens in Six Districts of Mianyang City" (Project No. NYJ20220609).

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