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Bibliometric Analysis of Chinese Aesthetic Education Research: 2015–2024

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Abstract: This study adopts a bibliometric perspective and utilizes data visualization techniques to analyze literature related to Chinese aesthetic education from 2015 to 2024, sourced from the China National Knowledge Infrastructure (CNKI) database. By examining the evolution of research topics, keyword co-occurrence networks, and detecting research frontiers, the study aims to address the question: "What has Chinese aesthetic education achieved?" The findings reveal: (1) a transition in research focus from theoretical exploration to practical application, with a shift from higher education to primary, secondary, and societal aesthetic education, indicating diverse and stage-specific research hotspots; (2) Aesthetic education research has shown a significant alignment with the overarching directives of national educational development, reflecting the strong influence of institutional guidance in shaping scholarly focus; (3) Current research in aesthetic education remains largely descriptive, focusing on historical narratives and institutional texts, while deeper theoretical construction 一 particularly in aesthetics, educational philosophy, and interdisciplinary integration一remains underdeveloped; (4) a pronounced urban-rural disparity in aesthetic education, necessitating enhanced research on rural aesthetic education resources, faculty development, and practical experiences; (5) an increasing scholarly emphasis on interdisciplinary approaches and the integration of digital technologies within aesthetic education, marking them as pivotal future research directions. This study provides valuable insights for the strategic planning and overarching framework of aesthetic education in China, and its methodological approach offers a reference point for assessing the development of academic disciplines and emerging research themes.

Keywords: Chinese Aesthetic Education; Bibliometrics; Literature Distribution; Characteristics; Topic Evolution

1. Introduction

China has a long-standing emphasis on aesthetic education, though its development trajectory has experienced certain setbacks. Entering the 21st century, aesthetic education has gradually attained a stable position within educational policies. In 2015 and again in 2020, key national administrative bodies issued official guidelines aimed at comprehensively enhancing and improving aesthetic education in schools, marking its formal elevation within the national educational framework. These policies have clearly highlighted the crucial role of aesthetic education in talent cultivation and have provided directional guidance for school-based aesthetic education [1].

Under the guidance of these policies, research on aesthetic education in China has flourished in recent years. The increasing number of journal articles on aesthetic education indicates a growing academic interest in the field [2]. Research topics have become more diverse, with multiple hotspots emerging simultaneously. These include explorations into the essence of aesthetic education [3], reforms and implementations of aesthetic curricula in higher education institutions [4], and new concepts integrating aesthetic education with moral, intellectual, physical, and labor education [5].

Despite these advancements, existing research exhibits certain limitations. Some scholars have pointed out that the theoretical foundations of aesthetic education research remain insufficiently robust, and the theoretical system requires further refinement [6]. Additionally, the implementation of aesthetic education policies at the grassroots level has been less than ideal, with corresponding practical

research being relatively weak. Moreover, the distribution of research content across regions and educational stages is uneven, with insufficient attention paid to aesthetic education in rural areas and primary and secondary schools [7].

Therefore, this study systematically reviews aesthetic education research over the past decade. Adopting a bibliometric perspective, it conducts a comprehensive analysis of Chinese aesthetic education literature from 2015 to 2024. The aim is to elucidate the developmental trajectory, identify research hotspots, and uncover existing issues within the field, thereby providing a reference for further deepening theoretical research in aesthetic education and bridging the gap between policy and practice.

2. Research Data

This study conducted a comprehensive search within the China National Knowledge Infrastructure (CNKI) database using the keyword "aesthetic education", limited to documents indexed in the Chinese Social Sciences Citation Index (CSSCI), retrieving a total of 2,735 documents. The earliest research related to aesthetic education in China appeared in 1998. A significant increase in literature quantity within this field has been observed since 2015, thus the time frame for this research was set between 2015 and 2024. Document information was exported in RefWorks format for systematic handling.

The CiteSpace software (version 6.2.R6, 64-bit) was employed to construct a comprehensive knowledge map systematically. Bibliometrics, as defined by international scholars Zitt and Basse-coulard [8], is a statistical tool employed to explore academic domains, fundamentally based on Price's Law [9] and Bradford's Law [10]. It is critical for evaluating scientific contributions, tracking scientific advancement trajectories, constructing comprehensive knowledge structures, and identifying emerging research trends [11]. It allows complex assembly and visualization of discipline-specific conceptual, cognitive, and social structures, encompassing essential components such as authors, terms, keywords, and citations [12]. CiteSpace, innovatively developed by Chaomei Chen, integrates bibliometric analysis with information visualization techniques, dynamically and intricately depicting the progression and structure of scientific

knowledge [13].

In this analytical process, CiteSpace version 6.2.R6 (64-bit) facilitated the visual exploration of aesthetic education literature. Data for this research was extracted from CNKI, an internationally recognized database widely used in bibliometric research. A systematic literature search was performed using the term "aesthetic education," conducted on March 10, 2025. The data collected from CNKI encompassed all relevant entries and citations. After rigorous preprocessing steps to verify and eliminate duplicates, 2,239 domestic documents were selected for in-depth analysis.

3. Findings and Discussion

Keywords serve as concise representations of research themes, encapsulating the core content and focus of scholarly works. Analyzing keyword frequency facilitates the identification of focal points and the vitality of a research field. In the realm of knowledge mapping, research themes and hotspots are discerned through keyword analysis. Utilizing CiteSpace, a keyword co-occurrence network was constructed, wherein each node signifies a keyword, and its size corresponds to the frequency of occurrence. The generated network comprises 387 nodes and 676 links, yielding a network density of 0.0091.

High-frequency keywords not only indicate active research areas but also reflect the collective orientation of academic communities within specific domains.

3.1 Research Hotspots

For instance, as illustrated in Figure 1 and Table 1, the keyword "aesthetic education" appears 316 times, underscoring extensive theoretical discussions, practical analyses, and prolific outputs by scholars. Similarly, "aesthetic education" and "art education" occur 71 and 63 times, respectively, highlighting sustained scholarly interest in exploring the interrelations among aesthetic education, aesthetics, and art education through multifaceted studies, including conceptual clarifications and functional evaluations.

Furthermore, the prevalence of keywords such as "school aesthetic education" and "higher education aesthetic education" signifies their recognition as central topics within the academic community. The aggregation of human resources, literature, and research

outcomes in these areas indicates a concerted effort to address these themes. As shown in Table 1, the keywords "cultivating moral character" and "new era" appear 26 and 27 times, respectively, reflecting the academic community's focused response to national education policies and the mission of aesthetic education in the new era.

The frequent occurrence of "aesthetic education" and "school aesthetic education" suggests a sustained and large-scale scholarly engagement with foundational theories and

practical pathways of aesthetic education within school settings. This encompasses policy interpretations and teaching case studies, resulting in a substantial body of literature. The concentration of research on "school aesthetic education" indicates a shared academic concern for the implementation of aesthetic education at the grassroots level, forming a research trajectory that integrates theory, practice, and policy, thereby affirming its central role in domestic aesthetic education research.
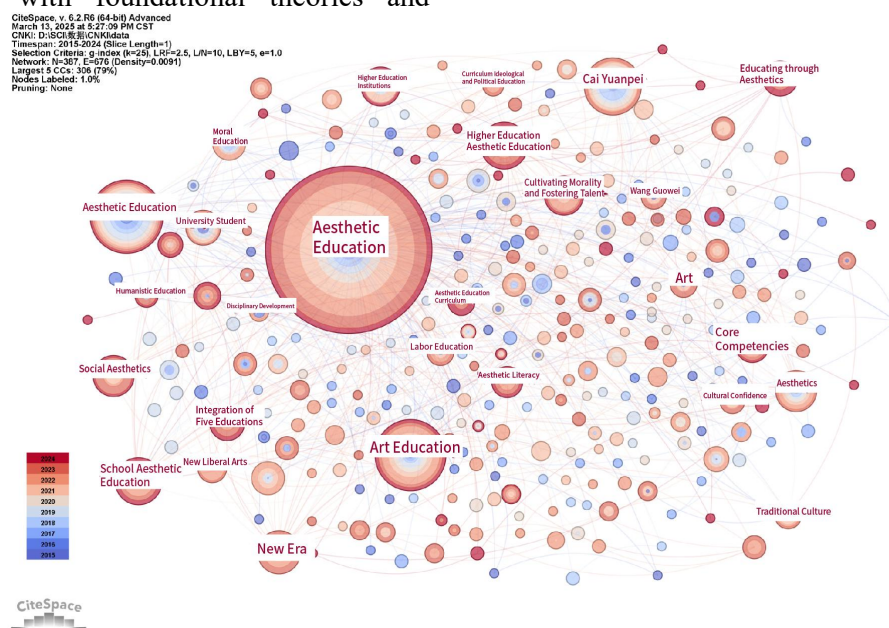

Figure 1. Keyword Co-Occurrence Network

However, while high-frequency keywords reveal the prominence of certain topics, they do not fully capture the comprehensive landscape of research hotspots. Centrality, a crucial metric in network analysis, assesses the connectivity of a keyword within the research network, reflecting its relational strength and potential as an interdisciplinary bridge. This metric ranges

from 0 to 1, evaluating the frequency with which a keyword connects disparate concepts, thereby indicating its centrality in academic discourse. Specifically, a keyword that frequently appears on the shortest paths between other keywords attains a centrality score approaching 1, highlighting its role as a bridge or hub within the literature network.

Table 1. Top 20 High-Frequency Keywords

Number	Frequency	Centrality	Keyword
1	316	0.92	Aesthetic Education
2	71	0.15	Aesthetic Education
3	63	0.08	Art Education
4	41	0.05	Cai Yuanpei
5	27	0.02	New Era
6	26	0.03	Cultivating Morality and Fostering Talent
7	24	0.04	School Aesthetic Education
8	24	0.03	Higher Education Aesthetic Education
9	21	0.05	Aesthetics
10	20	0.01	Higher Education Institutions
11	19	0.02	Social Aesthetics
12	17	0.02	College Students

13	17	0.01	Integration of Five Educations
14	17	0.03	Educating through Aesthetics
15	15	0.02	Core Competencies
16	15	0.01	Moral Education
17	14	0.00	Friedrich Schiller
18	13	0.01	Traditional Culture
19	12	0.02	New Liberal Arts
20	11	0.00	Aesthetic Literacy

For example, as presented in Table 1, the keyword "Cai Yuanpei" appears 41 times but has a centrality of only 0.05. In the co-occurrence network depicted in Figure 1, its node is sizable yet sparsely connected, indicating that research related to "Cai Yuanpei" predominantly focuses on isolated explorations of his aesthetic education philosophy, with limited integration into broader themes such as "higher education aesthetic education" or "integration of five educations." Conversely, "aesthetic education" not only has the highest frequency of 316 but also a centrality of 0.92, positioning it at the core of the co-occurrence network. It is closely linked with numerous keywords like "aesthetic education," "school aesthetic education," and "cultivating moral character," serving as a nexus that interconnects theoretical, practical, and policy dimensions, thereby exemplifying the comprehensive nature of research in this field.

In summary, the co-occurrence analysis of these keywords unveils the multifaceted research structure of aesthetic education, offering a holistic framework for future research directions and guiding the integration of various research themes to explore their intrinsic interrelations.

3.2 Research Themes

Keyword clustering analysis enables the organization of thematically similar terms into network clusters, thereby synthesizing prevalent research themes within a given domain. This study utilized this method to construct a high-frequency keyword clustering knowledge map for Chinese aesthetic education research between 2015 and 2024 (Figure 2). The clustering results exhibited strong cohesion, with a modularity value (Q) of 0.5614. The modularity Q, which ranges from -1 to 1, measures the strength of division within the network-values closer to 1 indicate denser intra-cluster links and sparser inter-cluster connections. A Q value greater than 0.3 is typically considered significant, thus affirming that the clusters are well-defined and meaningful.

The network also demonstrated high internal homogeneity, with a weighted average silhouette score (S) of 0.9135 (>0.3), approaching the ideal value of 1, thereby validating the clustering's efficiency and reliability.
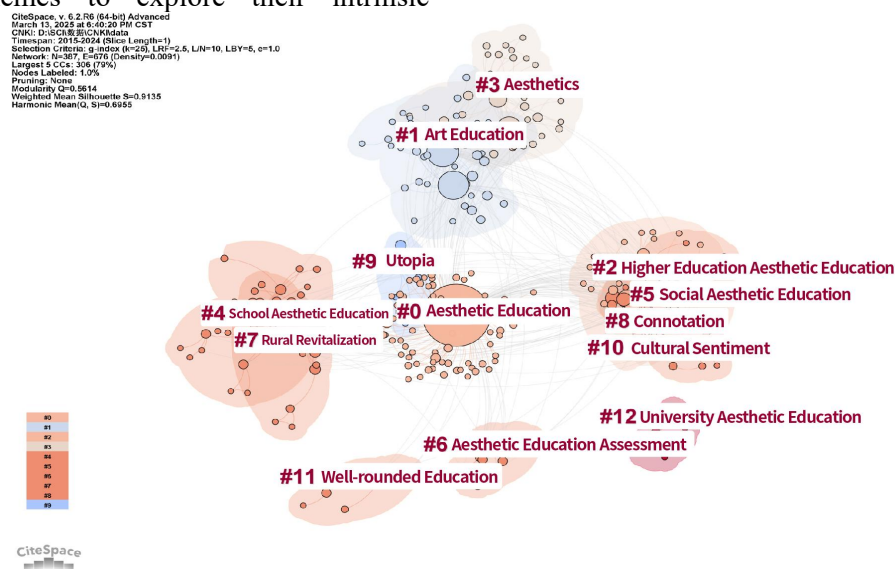

Figure 2. Keyword Co-Occurrence Clustering Network

Table 2. Keyword Cluster Summary

Label	Size	Silhouette	Year	Label (LLR)
0	74	0.969	2019	Aesthetic Education(51.26, 1.0E-4); Aesthetic Education (14.98, 0.001); Art Education (13.61, 0.001); Educational Aesthetics (11.29, 0.001); Aesthetic Education in Higher Education (9.4, 0.005)
1	43	0.896	2017	Art Education (64.09, 1.0E-4); Aesthetic Education(61.83, 1.0E-4); Disciplinary Development (10.46, 0.005); Chinese Culture (7.55, 0.01); Philosophy of Aesthetic Education (7.55, 0.01)
2	42	0.837	2019	Aesthetic Education in Higher Education (33.76, 1.0E-4); Cultivating Virtue and Nurturing Talents (30.24, 1.0E-4); New Era (23.27, 1.0E-4); Labor Education (18.19, 1.0E-4); Integration of the Five Educations (18.19, 1.0E-4)
3	37	0.921	2018	Aesthetics (33.8, 1.0E-4); Cai Yuanpei (30.34, 1.0E-4); Wang Guowei (27.95, 1.0E-4); Immanuel Kant (14.38, 0.001); Aesthetic Education as a Substitute for Religion (9.57, 0.005)
4	29	0.84	2020	School-Based Aesthetic Education (34.87, 1.0E-4); Visual Arts Education (20.33, 1.0E-4); Curriculum Ideological and Political Education (20.33, 1.0E-4); New Liberal Arts (15.22, 1.0E-4); Aesthetic Education (10.88, 0.001)
5	21	0.889	2019	Societal Aesthetic Education (34.42, 1.0E-4); Art (21.41, 1.0E-4); Music (11.36, 0.001); Service (11.36, 0.001); Aesthetics (10.59, 0.005)
6	11	0.794	2019	Evaluation of Aesthetic Education (32.79, 1.0E-4); Aesthetic Literacy (27.45, 1.0E-4); Intelligentization (12.98, 0.001); Primary and Secondary Schools (12.98, 0.001); Friedrich Schiller (12.96, 0.001)
7	11	0.982	2021	Rural Revitalization (15.27, 1.0E-4); Common Prosperity (15.27, 1.0E-4); Comprehensive Aesthetic Education (15.27, 1.0E-4); Rural Aesthetic Education (11.49, 0.001); Integration of Culture and Tourism (7.59, 0.01)
8	10	0.969	2019	Connotation (34.24, 1.0E-4); Value (20.39, 1.0E-4); Chinese Aesthetic Education (20.39, 1.0E-4); Traditional Culture (19.78, 1.0E-4); Core Competencies (15.96, 1.0E-4)
9	5	0.991	2015	Utopia (18.71, 1.0E-4); Chinese Aesthetics (9.26, 0.005); Transformation (9.26, 0.005); Beihai (9.26, 0.005); New Literature (9.26, 0.005)
10	5	0.998	2018	Cultural Sentiment (10.12, 0.005); Cultural Spirit (10.12, 0.005); Calligraphy Education (10.12, 0.005); Humanistic Foundation (10.12, 0.005); Healthy Lifestyle (10.12, 0.005)
11	5	0.976	2019	Quality-Oriented Education (26.41, 1.0E-4); Dance-Based Aesthetic Education (17.47, 1.0E-4); Adolescents (8.67, 0.005); Teaching Plan (8.67, 0.005); New Barrel Theory (8.67, 0.005)

In constructing the keyword clustering summary table, we assessed each cluster by the number of keywords, cohesion, mean publication year, and core terms. Table 2 shows that all twelve clusters had silhouette values no lower than 0.794, indicating high clustering validity. The silhouette score evaluates the similarity of an item to its own cluster relative to other clusters. Higher scores reflect greater alignment within the cluster and lower similarity with neighboring ones. Thus, average silhouette scores serve as an intuitive measure of cluster compactness and separation, with values closer to 1 denoting clearly defined and robust clustering structures. These clusters span a broad spectrum, from aesthetics to quality education, offering valuable insights that enhance research competitiveness and guide educational practice.

The "Keywords" column displays Term Frequency (TF) and Inverse Document Frequency (IDF) values. TF represents the frequency of a term within a cluster, while IDF reflects its specificity across the entire corpus-a lower IDF denotes general terms, whereas a higher IDF indicates more topic-specific terms. For instance, "aesthetic education" has a TF of 51.26 and an IDF of 1.0E-4, signifying its frequent mention within its cluster and broad prevalence in the research domain.

In the table, the inclusion of the "TAM model" (Technology Acceptance Model) indicates its application in educational technology studies through clustering.

Each "node" represents a structural unit in the network, and each is assigned a "label" that synthesizes the collective narrative of the contained keywords.

This analytical framework not only classifies clusters but also interprets their significance, constructing a narrative that communicates the breadth and depth of aesthetic education research themes.

Based on a systematic review of Table 2, along with bibliographic metadata-publication time, authorship, institutional affiliations, and abstracts-this study identifies six major thematic trajectories characterizing the development of aesthetic education research in China over the past decade:

(1) Higher education as the core battleground: policy-driven practical advancements

Following the issuance of documents such as the Guidelines for Aesthetic Education in

Higher Education in the New Era, aesthetic education in tertiary institutions has received systematic promotion. Research concentrates on integrating aesthetic education into university curricula, the fusion of digital technologies, and AI-driven innovations in aesthetic appreciation. For instance, Yin et al. advocate cultivating "future-oriented aesthetic educators" who possess compound competencies and aesthetic leadership [13].

(2) Primary and secondary education: curriculum reform and core competency cultivation

At the K-12 level, aesthetic education research focuses on reconstructing arts curricula around core competencies and aligning new textbooks with aesthetic tasks. For example, Fa emphasizes incorporating calligraphy education into students' core competence development [14], while Zheng stresses the alignment of aesthetic curricula with holistic educational goals [15].

(3) Integration with general and ideological-political education: a multidimensional trend

Aesthetic education has extended beyond the confines of "art education" and emerged as a vital component of general education, particularly in nurturing students' aesthetic and humanistic literacy. Its integration with ideological and political education has become a research hotspot, focusing on how aesthetic education enhances emotional engagement and pedagogical affinity in ideological instruction.

(4) Sino-traditional cultural integration: constructing a localized theoretical framework

A growing body of research re-engages with traditional cultural resources-Confucian rites and music, poetry-painting traditions, and folk songs-to extract indigenous aesthetic concepts and methodologies. For instance, Liu explores the intersection of "domestic aesthetic sensibility" and "sexual aesthetic education" to modernize ancient Chinese aesthetic paradigms [16]. Lu draws on Wang's "Theory of Spiritual Resonance" to advocate for the ideal of "cultivating character through poetry" [17].

(5) Diversification of aesthetic practices: expanding from ecological to rural aesthetic education

New concepts such as ecological aesthetic education, intelligent media-based aesthetic education, and rural aesthetic education have emerged, pushing the boundaries of aesthetic education from schools to broader societal domains. Shao advocates a "holistic ecological perspective" in constructing systematic ecological aesthetic education models [18], while Hu analyzes the challenges and revitalization strategies of rural aesthetic education through a cultural governance lens [19].

(6) Theoretical deepening and academic systematization of aesthetic education

Scholars continue to reflect on the ontological, functional, and foundational aspects of aesthetic education. Liu posits "pleasure as cultivation" as a core principle of aesthetic pedagogy [20], while He emphasizes the importance of strengthening disciplinary boundaries and interdisciplinary collaboration to establish a systematic academic framework for aesthetic education [21].

3.3 Future Research Trends

Figure 3, generated using CiteSpace software, provides a comprehensive overview of the top 20 keywords in the field of aesthetic education from 2015 to 2024. This analysis encompasses the frequency of each keyword, the intensity of their citation bursts, and their respective onset and conclusion years. The temporal tracking of each keyword's emergence and decline is meticulously documented. The "strength" metric reflects the intensity of a keyword's citation burst, while the "beginning" and "ending" years indicate the duration of its prominence in academic discourse. The red segments in the figure denote periods during which each keyword experienced significant popularity within scholarly conversations, highlighting their temporal relevance. Consequently, this burst detection analysis serves as a vital tool for delineating the historical and current contours of educational research and forecasting future academic trajectories.

Keywords	Year	Strength	Begin	End	2015 - 2024
Aesthetic Education	2015	8.28	2015	2019	
Music Education	2016	1.83	2016	2017	
Cai Yuanpei	2015	5.01	2017	2018	
Dance Aesthetic Education	2017	2.8	2017	2018	
Modernity	2017	1.86	2017	2019	
Chinese Aesthetics	2015	1.55	2017	2020	
Higher Education Institutions	2015	1.57	2018	2019	
Children's Aesthetic Education	2019	1.53	2019	2020	
Poetry-Based Education	2020	2.21	2020	2021	
Friedrich Schiller	2017	1.56	2021	2022	
Curriculum Ideological and Political Education	2021	1.52	2021	2024	
Comprehensive Aesthetic Education	2021	1.52	2021	2024	
General Education	2021	1.44	2021	2022	
Chinese Aesthetic Education	2021	1.44	2021	2022	
Rural Revitalization	2022	2.29	2022	2024	
Aesthetic Literacy	2021	2	2022	2024	
Connotation	2022	1.91	2022	2024	
Aesthetics	2017	1.69	2022	2024	
Aesthetic Education Instruction	2022	1.52	2022	2024	
Value of Aesthetic Education	2022	1.52	2022	2024	

Figure 3. Top 20 Keywords with the Strongest Citation Bursts

Based on the evolution of keyword hotspots depicted in Figure 3, the new phase of Chinese aesthetic education research is anticipated to progress as follows:

3.3.1 Predictions for future development directions

Based on the evolution of keyword hotspots depicted in Figure 3, the forthcoming phase of aesthetic education research in China is anticipated to progress along the following trajectories:

(1) Deepening interdisciplinary theoretical integration

As research perspectives broaden, aesthetic education is expected to further integrate with disciplines such as philosophy, aesthetics, ethics, political science, and sociology, exploring more profound theoretical propositions. For instance, contemporary reinterpretations of Cai Yuanpei's aesthetic education thought may incorporate political and cultural perspectives to analyze the role of aesthetic education in national ideological construction. Discussions on the relationship between aesthetic education and moral or intellectual education may delve into ethical dimensions, elucidating how aesthetic education fosters well-rounded personalities and civic virtues. Additionally, gender studies may emerge as a new perspective-empirical analyses have revealed that the development of aesthetic literacy among children of different genders is influenced by varying factors. Future research should focus on how aesthetic education shapes gender aesthetic orientations and awareness of equality, thereby enriching the anthropological connotations of aesthetic education. In summary, future theoretical research will transcend the confines of pure aesthetics, thoroughly examining the intrinsic connections between aesthetic education and various humanities fields, aiming to construct a comprehensive disciplinary system of "grand aesthetic education" at the theoretical level.

(2) Expanding practical domains

On the practical front, aesthetic education will extend into more diverse socio-cultural spaces. In terms of ecological aesthetic education, more studies and projects are expected to integrate aesthetic education into ecological civilization education, such as implementing natural aesthetics experiential courses and constructing aesthetically pleasing green campuses to cultivate students' ecological aesthetic

awareness and sustainable development concepts. Rural aesthetic education will accelerate in tandem with the rural revitalization strategy-future research may summarize experiences from various rural aesthetic education experiments, advocating for the stimulation of local aesthetic creativity through intangible cultural heritage preservation and folk art education, thereby promoting a more balanced distribution of aesthetic education resources between urban and rural areas. This indicates that folk arts and other forms of popular art hold significant potential in rural aesthetic education, warranting deeper practical exploration in the future. Simultaneously, intelligent media-based aesthetic education, as an emerging field, will continue to witness innovative practices: the use of short videos, virtual reality (VR), immersive theater, and other digital media for public aesthetic education has already begun to take shape. For example, mainstream media's cultural variety shows enhance the dissemination of traditional cultural aesthetics through dramatization. It is foreseeable that future aesthetic education practices will more proactively embrace media transformations, constructing a new ecosystem of aesthetic education that integrates online and offline experiences both within and beyond campuses, embedding aesthetic education into people's daily life scenarios.

(3) Deepening integration within the educational system

As aesthetic education becomes a crucial component of national educational policy, its integration within the educational system is expected to deepen further. Firstly, curriculum integration will become more profound: aesthetic elements will permeate various levels and types of curricula, achieving organic integration between aesthetic education and subject teaching. For instance, aesthetic education will no longer be confined to art classes but will be incorporated into subjects like language, history, and science through "aestheticization of curricula," facilitating the concurrent transmission of knowledge and aesthetic cultivation. Secondly, the mechanism of holistic education encompassing moral, intellectual, physical, aesthetic, and labor education will be more robust: aesthetic education will be integrated throughout all educational stages, with various educational

components collaboratively nurturing well-rounded talents. Researchers have proposed the concept of "five educations coalescing through aesthetics," viewing aesthetic education as a bridge connecting the other four educational domains; future educational practices should establish specific measures to ensure the implementation of this integration, such as creating interdisciplinary collaborative mechanisms and clarifying the synergistic objectives of each educational component within curricula and activities. Thirdly, the construction of evaluation systems will accelerate: the assessment of aesthetic education outcomes will be incorporated into school evaluations and students' comprehensive quality assessments, realizing measurable aesthetic education. Currently, the evaluation of aesthetic education remains relatively weak, but some scholars have developed intelligent evaluation platforms for aesthetic education teaching in primary and secondary schools, employing multi-agent and multi-dimensional indicators to assess the development of aesthetic literacy among teachers and students. Future efforts should build upon this foundation to refine aesthetic education evaluation standards, constructing multi-level evaluation systems from schools to society, such as incorporating students' artistic literacy into entrance examinations and establishing regional aesthetic education development monitoring indicators, thereby promoting the normalization and long-term effectiveness of aesthetic education work.

(4) Innovation driven by technology and media

Advancements in digital technology will continuously drive innovation in aesthetic education research and practice. Digital art and AI-based art education will become focal areas-artificial intelligence creation and virtual reality art are expanding the boundaries of aesthetics; future aesthetic education research should explore their educational value and application methods. For instance, utilizing AI-generated artworks to cultivate students' creative thinking and aesthetic judgment has already been attempted; subsequent efforts can involve more systematic experimental research and the development of AI-based aesthetic education teaching tools and curricula. Smart campuses and immersive aesthetic education also hold broad prospects: leveraging the Internet of Things and AR/VR technologies to build digital

art laboratories and virtual museums, aesthetic education teaching will no longer be constrained by time and space, allowing students to experience outstanding art and beautiful scenery anytime, anywhere. This necessitates future research to focus on cutting-edge areas like human-computer interaction and aesthetic computing, exploring the principles of technology-empowered aesthetic experiences. Meanwhile, new media platforms will become important arenas for aesthetic education-short videos and social media's aesthetic content creation and dissemination warrant in-depth research, aiming to harness their advantages in popularizing aesthetics while being vigilant against the aesthetic.

3.3.2 Future-oriented recommendations for aesthetic education research and practice

In response to the aforementioned trends, the following actionable recommendations are proposed to further deepen research on aesthetic education in China and guide its practical implementation:

(1) Deepening interdisciplinary theoretical research in aesthetic education

Broadening theoretical perspectives to foster dialogue between aesthetic education and the humanities and social sciences. It is recommended that academia strengthen interdisciplinary theoretical research in aesthetic education, deepening the understanding of its essence and value from perspectives such as philosophy, aesthetics, and pedagogy. For instance, incorporating frameworks from aesthetics and ethics to explore how aesthetic education promotes moral development and character formation, elucidating the mechanism of integrating "truth, goodness, and beauty" in education. Additionally, employing political philosophy perspectives to analyze the role of aesthetic education in enhancing national cultural soft power and citizens' aesthetic literacy, aligning aesthetic education theory with contemporary ideological currents.

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Addressing the needs of diverse groups to enrich the theoretical connotation of aesthetic education theory. Researchers are encouraged to explore aesthetic education theories tailored to different groups. For example, theories on children's aesthetic education should integrate developmental psychology, focusing on the developmental patterns and gender differences

in children's aesthetic abilities. Theories on aesthetic education in higher education can incorporate perspectives on gender equality and multiculturalism, discussing how aesthetic education cultivates students' gender awareness and cultural identity. By segmenting audiences and integrating perspectives from gender studies and psychology, a more inclusive theoretical system for aesthetic education can be constructed, providing targeted guidance for practice.

Inheriting indigenous traditions to advance innovation in aesthetic education discourse. While drawing on Western aesthetic education thought, it is essential to further explore traditional Chinese aesthetic education resources (such as the "rites and music education" philosophy and classical aesthetics from various dynasties), achieving creative transformation and innovative development. Systematic research on the aesthetic education thoughts of Chinese scholars like Cai Yuanpei, Zhu Guangqian, and Zong Baihua is recommended, summarizing their essence and developing them in contemporary contexts, gradually forming a disciplinary discourse system for aesthetic education with Chinese style.

(2) Expanding the fields and pathways of aesthetic education practice

Promoting ecological and local aesthetic education practices. It is recommended that educational departments and schools offer courses and activities related to ecological aesthetic education, such as nature aesthetics classes and ecological art practice camps, enabling students to enhance their ecological aesthetic awareness through close contact with nature and environmental beautification. Simultaneously, actively implementing aesthetic education projects in rural schools and communities, utilizing local folk art and intangible cultural heritage resources to conduct aesthetic education activities, thereby empowering rural revitalization through "educating people with beauty." Establishing urban-rural aesthetic education collaboration communities can be considered, where urban artists and aesthetic education teachers regularly teach or conduct workshops in rural areas, cultivating local aesthetic education talents and achieving sustainable development of rural aesthetic education.

Building a social support network for aesthetic education. Aesthetic education should not be confined to the classroom but extended to extracurricular cultural venues and mass media. It is recommended to integrate resources from museums, art galleries, and cultural centers to develop aesthetic education social practice projects targeting adolescents, such as guided art appreciation and traditional craft experiences, creating platforms for collaborative education between schools and social cultural institutions. Utilizing television and new media for public aesthetic education dissemination is also a crucial pathway. Encouraging the production of high-quality aesthetic education programs and digital content (such as aesthetic education-themed documentaries and online aesthetic appreciation courses) can foster a favorable atmosphere for public participation in aesthetic education. Through the joint efforts of families, communities, and media, a societal synergy supporting the development of aesthetic education can be formed.

Enhancing training and incentives for aesthetic education teachers. High-quality aesthetic education practice relies on well-qualified teachers. Educational administrative departments at all levels should implement policies to strengthen the construction of the aesthetic education teaching workforce. For example, adding courses related to aesthetic education in teacher training institutions to improve future teachers' aesthetic literacy and teaching abilities; conducting specialized training on aesthetic education for in-service teachers; and encouraging non-art subject teachers to acquire basic aesthetic education methods, becoming "aestheticized" educators. Simultaneously, establishing incentive mechanisms that incorporate aesthetic education performance into teacher evaluations, recognizing and promoting teachers who make outstanding contributions to aesthetic education practice, thereby motivating teachers to actively engage in aesthetic education.

(3) Deepening the integration of aesthetic education into the educational system

Advancing curriculum reform to integrate aesthetic education. It is recommended to revise and improve curriculum standards at all educational levels, embedding aesthetic education requirements throughout the basic and higher education curricula. In basic education, implementing a "aesthetic education

+ subject" integrated teaching model-such as enhancing literary appreciation in language classes, incorporating art and cultural heritage content in history and geography, and introducing natural beauty and technological aesthetics in science classes-can collaboratively cultivate students' aesthetic literacy across disciplines. In higher education, expanding the availability of aesthetic education courses within general education, including modules on aesthetic principles, art appreciation, and civic aesthetic education, can provide university students with systematic aesthetic and humanistic cultivation. Through curriculum integration, aesthetic education can transition from being a standalone component to an omnipresent element in education.

Establishing a robust mechanism for the implementation of the "Five Educations". Schools should establish a coordinated mechanism for integrating the "Five Educations" (moral, intellectual, physical, aesthetic, and labor education), ensuring that aesthetic education progresses in tandem with other educational domains. Specifically, forming working groups led by school leadership and involving departments responsible for moral and aesthetic education to regularly discuss integration plans; designing comprehensive activities or projects that simultaneously achieve multiple educational objectives (e.g., incorporating aesthetic creation into labor practices, combining sports activities with artistic performances). As research indicates, within the "Five Educations," aesthetic education can provide emotional nourishment and aesthetic motivation to other educational areas, serving as a transformative mechanism that promotes mutual enhancement. Schools should also develop evaluation methods that assess the synergy between aesthetic education and other educational domains, such as considering students' artistic talents and aesthetic literacy in awards and honors, and recording their aesthetic education practices in comprehensive quality profiles, guiding the effectiveness of integrated education.

Establishing a scientific and comprehensive evaluation system for aesthetic education. To ensure the effective implementation of aesthetic education, a practical evaluation system is necessary. Educational administrative departments should lead the development of aesthetic education evaluation standards and tools to monitor and assess students' aesthetic literacy and the effectiveness of aesthetic education curricula. Evaluations should encompass dimensions such as aesthetic perception, artistic practice, creative expression, and humanistic cultivation, employing a combination of qualitative and quantitative methods. Existing explorations, such as the use of information technology to build intelligent evaluation platforms for aesthetic education teaching, utilizing expert assessments and student self-evaluations to measure the development of aesthetic literacy, can serve as references. These platforms or evaluation systems should be piloted and promoted in more regions, with continuous refinement based on practical feedback, gradually establishing a national-level aesthetic education evaluation index system. This will help identify weaknesses, disseminate best practices, and standardize and optimize aesthetic education efforts.

(4) Leveraging technological and media innovations to innovate aesthetic education models

Developing new digital aesthetic education teaching models. In response to the digital age, it is recommended to actively integrate technologies such as AR/VR, artificial intelligence, and big data into aesthetic education, thereby innovating the forms and content of aesthetic education. Research indicates that by constructing a teaching model combining "theory-design-practice," utilizing AI for artistic creation can enrich students' aesthetic experiences and stimulate creativity. Therefore, it is suggested that schools with the necessary conditions establish digital art laboratories equipped with VR art galleries, virtual instruments, and other facilities to support students in immersive art appreciation and creative experiences. Developing aesthetic education apps or online platforms is also feasible; for instance, creating virtual aesthetic education communities that offer features such as famous artwork appreciation, interactive music classes, and AI art tutoring, thereby achieving digital sharing of aesthetic education resources. Teachers should attempt blended teaching methods, combining online digital resources with offline practices, enabling students to enhance their aesthetic abilities in interactive and gamified learning environments.

Exploring AI-enhanced aesthetic creation. Artificial intelligence technology is profoundly transforming the creative field. In the future, aesthetic education should explore new models where AI serves as a "creative partner." For example, guiding students to use AI painting and composition tools for human-machine collaborative creation, encouraging them to reflect on the uniqueness of human aesthetics through comparison, thereby deepening their understanding of the essence of art. Universities can offer elective courses like "AI and Art," teaching the principles of generative art and discussing the integration of technology and aesthetics. At the basic education level, simple AI creation demonstrations can be appropriately introduced in art and music classes, allowing students to experience the beauty of technology. Simultaneously, the development of AI-assisted teaching systems should be encouraged, which intelligently push aesthetic education learning content based on students' interests and levels, achieving personalized aesthetic education guidance. With the assistance of artificial intelligence, the breadth and depth of aesthetic education teaching can be expanded. However, research should be strengthened to ensure appropriate application of technology without over-reliance, always placing the cultivation of students' aesthetic judgment and creative imagination at the core.

Expanding aesthetic education dissemination through new media platforms. Given the highly media-oriented lifestyle of adolescents, aesthetic education efforts should proactively occupy new media platforms. On short video platforms, topics like #DailyBeauty can be initiated, with professional aesthetic educators creating concise and insightful aesthetic appreciation videos covering art, design, natural beauty, and more, fostering adolescents' aesthetic habits during fragmented time. Establishing aesthetic education public accounts or live-streamed classes on social media, regularly pushing aesthetic knowledge, famous artwork appreciation, and showcasing outstanding student art pieces, can form online aesthetic education communities, enhancing participation and interactivity. Of course, it is also necessary to guide adolescents in discerning online aesthetic information and resisting distorted and ugly trends. To this end, research institutions and educators can jointly develop online aesthetic education content,

producing more digital cultural products that promote truth, goodness, and beauty, using healthy and high-quality aesthetic content to occupy public opinion spaces and lead aesthetic trends. Through the coordinated efforts of traditional and new media, a favorable social aesthetic environment can be cultivated.

Promoting the integration of aesthetic education research and the technology industry. Encouraging the integration of production, education, and research can facilitate the transformation of aesthetic education research achievements into technological applications. For instance, collaborating with technology companies to develop aesthetic education games and VR experience projects, embedding aesthetic evaluation indicators and educational strategies from research into products, can enhance both engagement and educational effectiveness. Regularly hosting aesthetic education and technological innovation competitions to solicit aesthetic education technology ideas aimed at schools and the public, and supporting the implementation and incubation of outstanding projects, can be beneficial. Such collaborations not only provide advanced tools for aesthetic education but also inject humanistic care into the technology industry, achieving mutual empowerment. Looking ahead, the integration and innovation of aesthetic education and technology will continue to emerge. We should adopt a cautious yet open attitude, boldly embracing the opportunities brought by new technologies while upholding the original intention of aesthetic education, allowing aesthetic education to flourish anew in the digital era.

4. Conclusion

The status of aesthetic education in China is undergoing progressive development, consolidation, and expansion, garnering increasing attention across related disciplines and fields. Over the past decade, under the guidance of national policies, China's aesthetic education has witnessed significant growth in theoretical exploration and discipline construction. Notably, policy documents issued in 2015 and 2020 have underscored the pivotal role of aesthetic education in talent cultivation, providing clear directives for its advancement. Consequently, research in aesthetic education has surged, with a continuous increase in related publications from 2015 to 2024.

Emerging research hotspots include the essence of aesthetic education, curriculum reform practices, and the integration of aesthetic education with other educational domains, reflecting an expanding academic landscape.

However, several challenges persist: the theoretical foundations of aesthetic education research remain underdeveloped, with fragmented content and an incomplete academic system; disparities exist between urban and rural areas, as well as across different educational stages, with rural and primary-level aesthetic education lagging behind; the integration of aesthetic education into curricula is often superficial, leading to gaps between policy intentions and practical implementation, particularly at the grassroots level. These issues hinder the deepening of both theoretical and practical aspects of aesthetic education and necessitate prompt resolution.

Employing bibliometric methods, this study delineates the knowledge structure and evolutionary trends of Chinese aesthetic education research from 2015 to 2024, demonstrating the utility of such methods in clarifying academic landscapes, revealing developmental trajectories, and enhancing theoretical frameworks. The analysis identifies "aesthetic education" and "school aesthetic education" as high-frequency keywords, highlighting a research focus that balances theory and practice. Research hotspots have evolved in response to contemporary policies, such as the "fostering virtue through education" initiative, and the emergence of digital aesthetic education themes. This bibliometric analysis not only maps research focal points and knowledge clusters but also uncovers areas requiring further investigation, thereby providing a foundation for refining the theoretical system of aesthetic education.

Looking ahead, China's aesthetic education research should deepen interdisciplinary integration, embedding aesthetic principles into curriculum and instruction to achieve holistic education; embrace digital technologies by exploring applications of artificial intelligence and virtual reality in aesthetic education, thereby constructing a blended online-offline educational ecosystem; develop indigenous discourse systems for aesthetic education that inherit the spirit of Chinese aesthetics while incorporating contemporary characteristics to bolster cultural confidence; and strengthen empirical research at the grassroots level, focusing on rural and frontline school practices to inform policy implementation. By harmonizing theory and practice, tradition and innovation, aesthetic education can progress healthily, providing the aesthetic nourishment essential for the comprehensive development of talents.

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