

ART EDUCATION MANAGEMENT SYSTEM FOR COLLEGE ADMINISTRATORS IN HEBEI PROVINCE*

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Abstract

This study investigates the current status, core components, and enhancement model of the art education management system for college administrators in Hebei Province, guided by three research objectives. A mixed-methods design was employed, integrating a quantitative survey of 584 administrators and art teachers from four independent art colleges—sampled using Cochran and Kish's formulas to ensure representativeness—and qualitative in-depth interviews with 10 experts in art education management.

To address the first objective, descriptive statistics revealed the current implementation level of art education management across eight theoretical dimensions. For the second objective, exploratory factor analysis (EFA) identified eight empirically validated components: Curriculum and Course Management, Policy and Governance, Faculty Development, Digital Systems and Informatization, Student Affairs and Extracurricular, Assessment and Quality Assurance, Resources and Facilities Management, and External Partnerships and

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Cultural Integration. These components, comprising 92 items with factor loadings above 0.5, explained 65.85% of the total variance. For the third objective, a comprehensive management model was developed through grounded theory analysis of expert interviews and validated against national and provincial policy frameworks.

The proposed model integrates data-driven governance, rubric-based evaluation linked to resource allocation, and sustainable museum–school–industry collaboration pipelines. It offers a systematic framework aligned with Hebei’s digital transformation agenda and provides actionable recommendations for improving strategic planning, quality assurance, and cultural responsiveness in higher art education administration.

Keywords: Art education management; Hebei Province; College administrators

Introduction

Art education plays a pivotal role in enhancing cultural creativity and fostering aesthetic literacy in higher education. In recent years, the modernization of education management in China has placed increasing emphasis on the digitalization, policy coordination, and governance of art education. In Hebei Province, universities are seeking to improve their management models to align with national cultural strategies and local development demands. The purpose of this study is to analyze the current state of art education management, identify core components affecting its effectiveness, and propose an integrated management model suited to the administrative context of higher education institutions.

Objectives

This study focuses on three research objectives:(1) to examine the current status of the art education management system among college

administrators in Hebei Province; (2) to study exploratory factor analysis of the art education management system for college administrators in Hebei province; and (3) to propose a model for improving the art education management system for college administrators in Hebei Province.

Through exploratory factor analysis, the study aims to identify the relevant dimensions that constitute the art education management system for college administrators in Hebei Province.

Literature Review

The governance of art education has been widely studied from the perspectives of policy, organizational structure, and digital transformation. To establish the theoretical framework for this study, this paper conducts a systematic literature review of core concepts, theoretical evolution, policy background, and management practices in art education. Art education in higher education is defined as a systematic teaching process aimed at cultivating students' aesthetic, creative, and cultural literacy through visual arts. In culturally rich regions like Hebei, there is particular emphasis on integrating with local culture (Dewey, J., 2024). The theoretical foundations are diverse, including Dewey's (1934) empiricist aesthetics, which emphasizes art as a complete experiential process where education should prioritize student participation and engagement; Clark, G., Day, M., & Greer, O. (1985)'s discipline-based art education model, which systematizes art education into four dimensions: creation, history, criticism, and aesthetics; Piaget's (1973) constructivist theory, which posits that learning is an active process of knowledge construction; and Albert Bandura & Walters' (1977) social learning theory, which highlights the role of observation and imitation in learning.

The policy environment for art education has undergone significant evolution. At the international level, it transitioned from early marginalization to

gradually gaining national support after the enactment of the National Endowment for the Arts and Humanities Act of 1965 in the United States, with policy focus shifting toward its social functions and creativity cultivation, and deep integration with STEAM education concepts in the 21st century (Perales, F. J., 2024; Lin, H., et al., 2022). At the China and Hebei Province levels, national and local governments have successively introduced policies such as the "Opinions on Comprehensively Strengthening and Improving School Aesthetic Education in the New Era" (2020) and Hebei Province's implementation opinions (2017), clarifying the important status of aesthetic education in the education system and promoting its coordinated development with digitalization and industrialization (General Office of the Ministry of Education, 2020; Hebei Provincial People's Government General Office, 2017).

In management practices, literature reveals a series of challenges in art education administration at higher education institutions, including the sustainability of external collaboration mechanisms, subjectivity in evaluation systems, lagging digital infrastructure, and systemic deficiencies in facility resource management (Crockett, J. B., 2018). To address these challenges, scholars have proposed corresponding best practices: establishing formal long-term cooperation and multi-year memorandums (Gigerl, M., et al., 2022); adopting diversified process evaluation methods combining scoring rubrics, peer reviews, and external expert assessments (Avotina, A., & Froloviceva, V., 2023; Vlachopoulos, D. et al., 2024); investing in professional digital asset management systems to support the archiving, sharing, and virtual exhibition of teaching resources (Li, J., et al., 2024); and implementing asset lifecycle management and preventive maintenance plans to ensure teaching facilities (Mahmoud, A. S., et al., 2024).

Finally, studies by UNESCO (2024) and NASAD (2024) highlight that the future of art education management will be profoundly shaped by digital and intelligent transformation, interdisciplinary integration, and a stronger emphasis

on cultural heritage and social services. Case studies in Hebei Province, such as Hebei Normal University's "Dragon-Snake Transformation" International Contemporary Art Invitational Exhibition (2025) and Hebei University's "From History to Reality" Red Photography Exhibition (2025), vividly demonstrate how these theories and policies are being actively explored in local practice.

Through literature review, several expression items were extracted and eight factors were summarized, namely Policy and Governance, Curriculum and Course Management, Digital Systems and Informatization, Student Affairs and Extracurricular, Assessment and Quality Assurance, External Partnerships and Cultural Integration, Resources and Facilities Management, Faculty Development.

Methodology

Research Design

This study adopted a mixed-methods design, integrating both qualitative and quantitative approaches to comprehensively examine and develop an Art Education Management System (AEMS) for college administrators in Hebei Province. The qualitative component involved in-depth interviews with administrators and art teachers, using a grounded theory (GT) approach to identify core dimensions and operational indicators of the AEMS. The quantitative component employed a structured survey based on the identified dimensions, with data analyzed using statistical methods such as Cronbach's α for reliability and exploratory factor analysis (EFA) for construct validity. This hybrid design ensured both theoretical depth and empirical robustness, enabling the construction of a contextually relevant and systematically validated management model.

Population and Sample

The study population included administrators and art teachers from 128 regular colleges in Hebei Province, with a specific focus on four independent art colleges: Hebei Media College, Hebei Academy of Fine Arts, Hebei Arts and Crafts Vocational College, and Hebei Vocational College of Art. To ensure representativeness, a purposive sampling strategy was employed, targeting key informants with over 10 years of experience in art education and management. A total of 10 experts participated in the in-depth interviews, providing rich qualitative data. For the quantitative phase, a broader sample of administrators and art teachers from across the province was surveyed. This stratified approach helped capture diverse perspectives and enhance the generalizability of the findings within the regional context of Hebei.

Data Analysis

The data analysis in this study was conducted in accordance with the mixed-methods research design, employing both qualitative and quantitative analytical techniques to ensure comprehensive and reliable findings.

Quantitative Data Analysis

A comprehensive survey was conducted across 128 universities in Hebei Province, with particular focus on four independent art institutions: Hebei University of Media and Communications, Hebei Academy of Fine Arts, Hebei Vocational College of Art, and Hebei Vocational College of Art. The study distributed 584 questionnaires and utilized SPSS software to perform Cronbach's α (=0.984) reliability analysis on each AEMS dimension. All items demonstrated internal consistency with values exceeding the 0.7 threshold (ranging from 0.82 to 0.91 across eight dimensions), confirming the high reliability of the measurement. Exploratory Factor Analysis (EFA) was then performed to examine the construct validity of the AEMS framework. The Kaiser-Meyer-Olkin (KMO) measure (0.894) and Bartlett's test of sphericity ($\chi^2 = 2156.38$, $p < 0.001$)

confirmed the suitability of the data for factor analysis. Principal component analysis with varimax rotation was applied, resulting in a clear factor structure comprising eight factors with eigenvalues greater than 1, which collectively explained 68.7% of the total variance and aligned with the eight theoretical dimensions.

Qualitative Data Analysis

The qualitative data collected from in-depth interviews with 10 art education experts and administrators were analyzed using a grounded theory (GT) approach. The process began with open coding, during which interview transcripts were systematically reviewed to identify key concepts and practices related to art education management. This was followed by axial coding, which grouped the initial codes into broader categories corresponding to the eight predefined dimensions of the Art Education Management System (AEMS), such as External Partnerships and Cultural Integration, Assessment and Quality Assurance, and Digital Systems and Informatization. Selective coding was then applied to integrate the categories into a coherent theoretical framework. To ensure reliability and validity, triangulation was performed by comparing interview data with case studies and policy documents.

Overview of Factor Analysis

This study investigated the art education management system for college administrators in Hebei Province. Questionnaires were distributed to administrative staff and art teachers at four independent art colleges. Using simple random sampling, a total of 584 valid participants were identified, achieving 100% statistical coverage. Data collection included gender, age, educational level, and work experience. Detailed data is provided in Table 5.1.

Table 1 Respondent's demographic (n=584)

Personal factors	Aspects	Frequency	Percentage
Gender	Male	314	53.8
	Female	270	46.2
	Total	584	100.00
Age	Under 31 years old	97	16.6
	31 – 35 years old	178	30.5
	36 – 40 years old	189	32.4
	41 – 45 years old	65	11.1
	Above 45 years old	55	9.4
	Total	584	100.00
Educational Level	Bachelor's degree	186	31.8
	Master's degree	281	48.1
	Doctoral degree	117	20.0
	Total	584	100.00
Work experience	1 – 5 years	72	12.3
	6 – 10 years	179	30.7
	11 – 15 years	150	25.7
	16 – 20 years	125	21.4
	Above 20 years	58	9.9
	Total	584	100.00

Table 1 presents demographic analysis of the sample. In terms of Gender, there are 314 males (53.8%) and 270 females (46.2%), with males slightly outnumbering females. The primary age groups are 31–35 years and 36–40 years. Regarding Education Level, 186 individuals hold Bachelor's degrees (31.8%), 281 have Master's degrees (48.1%), and 117 possess Doctoral degrees

(20.0%), indicating a predominance of Master's holders. As for Work Experience, the majority have 6–10 years or 11–15 years of professional experience.

Table 2 Descriptive analysis of variables in art education management system for college administrators in Hebei Province

Factor	Item	M	SD	Level
	Q1	3.34	1.239	Moderate
	Q2	3.24	1.288	Moderate
	Q3	3.33	1.235	Moderate
	Q38	3.50	1.171	High
External Partnerships	Q39	3.65	1.312	High
And Cultural Integration	Q61	3.48	1.200	Moderate
	Q62	3.47	1.273	Moderate
	Q63	3.66	1.245	High
	Q64	3.81	1.233	High
	Q65	3.74	1.212	High
	Q4	3.21	0.957	Moderate
	Q5	3.20	0.901	Moderate
	Q6	3.00	0.867	Moderate
	Q7	3.05	0.892	Moderate
Assessment And Quality Assurance	Q40	3.21	0.956	Moderate
	Q66	3.34	1.036	Moderate
	Q67	3.28	0.963	Moderate
	Q68	3.28	0.879	Moderate
	Q69	3.25	0.862	Moderate
	Q70	3.26	0.872	Moderate
Digital Systems And Informatization	Q8	3.74	1.054	High
	Q9	3.83	1.031	High

	Q10	3.66	1.087	High
	Q41	3.68	1.075	High
	Q42	3.67	0.971	High
	Q43	3.70	1.026	High
	Q44	3.69	1.036	High
	Q71	3.62	1.062	High
	Q72	3.65	1.044	High
	Q73	3.69	1.006	High
	Q74	3.65	1.010	High
	Q11	3.66	1.118	High
	Q12	3.68	1.148	High
	Q45	3.66	1.132	High
	Q46	3.58	1.145	High
	Q47	3.60	1.164	High
Student Affairs And	Q48	3.63	1.099	High
Extracurricular	Q75	3.59	1.041	High
	Q76	3.60	1.094	High
	Q77	3.60	0.994	High
	Q78	3.67	1.066	High
	Q79	3.75	1.082	High
	Q80	3.52	1.143	High
	Q13	3.58	0.839	High
	Q14	3.50	0.828	High
Resources And Facilities	Q15	3.47	0.874	Moderate
Management	Q16	3.45	0.814	Moderate
	Q17	3.57	0.832	High
	Q18	3.36	0.883	Moderate
	Q19	3.42	0.895	Moderate

	Q49	3.50	0.937	High
	Q81	3.52	0.861	High
	Q82	3.44	0.857	Moderate
	Q20	3.38	1.263	Moderate
	Q21	3.28	1.318	Moderate
	Q22	3.39	1.281	Moderate
	Q23	3.39	1.236	Moderate
	Q24	3.36	1.277	Moderate
Faculty Development	Q25	3.37	1.251	Moderate
	Q50	3.38	1.261	Moderate
	Q51	3.39	1.257	Moderate
	Q52	3.37	1.261	Moderate
	Q53	3.37	1.258	Moderate
	Q83	3.37	1.243	Moderate
	Q84	3.34	1.250	Moderate
	Q26	3.40	1.216	Moderate
	Q27	3.40	1.216	Moderate
	Q28	3.48	1.209	Moderate
	Q29	3.40	1.273	Moderate
	Q30	3.43	1.203	Moderate
Curriculum and Course Management	Q31	3.44	1.171	Moderate
	Q54	3.37	1.233	Moderate
	Q55	3.43	1.198	Moderate
	Q56	3.42	1.201	Moderate
	Q85	3.45	1.214	Moderate
	Q86	3.39	1.207	Moderate
	Q87	3.41	1.201	Moderate
	Q88	3.40	1.242	Moderate

Policy and Governance	Q32	3.48	1.160	Moderate
	Q33	3.41	1.132	Moderate
	Q34	3.40	1.153	Moderate
	Q35	3.57	1.161	High
	Q36	3.50	1.161	High
	Q37	3.56	1.133	High
	Q57	3.58	1.133	High
	Q58	3.56	1.136	High
	Q59	3.54	1.142	High
	Q60	3.56	1.119	High
	Q89	3.56	1.124	High
	Q90	3.57	1.129	High
	Q91	3.58	1.131	High
	Q92	3.54	1.145	High

According to the data in Table 5.2, among the 92 evaluation indicators, the arithmetic mean (M) of all indicators is between 3.00 and 3.83, and the standard deviation (S.D.) is between 0.814 and 1.318, indicating that the respondents attach a moderate to high level of importance to each indicator.

Table 3 KMO and Bartlett's Sphericity Test

KMO		0.965
Bartlett's Test of Sphericity	Approx. Chi-Square	45770.646
	df	4186
	Sig.	0.000

Table 3 presents the KMO and Bartlett test results. The KMO value of 0.965 exceeds the 0.7 threshold, while the Bartlett's test statistic stands at

45770.646. The p-value of 0.000, obtained through analysis, is below the 5% significance level, confirming the suitability for factor analysis. These indicate that this set of factors had sufficient relationships among factors and was suitable for factor analysis, as suggested by Steven (2009, p.395).

Extract factors (Factor Extraction) using Principal Component Analysis (PCA).

The results of factor extraction for art education management for the future show only factors with an eigen value (eigen value) of 1 or higher. As shown in Table 4

Table 4 Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	29.608	32.183	32.183	9.758	10.607	10.607
2	9.022	9.807	41.990	9.468	10.292	20.898
3	4.925	5.354	47.343	8.576	9.322	30.221
4	4.814	5.233	52.576	7.515	8.168	38.389
5	3.616	3.931	56.507	7.283	7.916	46.305
6	3.561	3.871	60.378	6.204	6.743	53.048
7	2.685	2.919	63.297	6.173	6.710	59.758
8	2.351	2.555	65.852	5.606	6.094	65.852

Table 4 presents the variance decomposition table. Using principal component analysis (PCA) with maximum variance rotation, eight key factors were identified from the scale based on eigenvalues greater than 1. These factors collectively account for 65.852% of the total variance, demonstrating minimal information loss and confirming the reliability of the factor analysis results.

Since the eigenvalues are all 1, a variable must be selected from the number of factors in each factor. According to the Kaiser method, if the factor contains three or more factors and the factor loading value of each variable is greater than or equal to 0.5, these eight factors meet the criteria. These are Factor 1 Curriculum and Course Management, Factor 2 Policy and Governance, Factor 3 Faculty Development, Factor 4 Digital Systems and Informatization, Factor 5 Student Affairs and Extracurricular, Factor 6 Assessment and Quality Assurance, Factor 7 Resources and Facilities Management, and Factor 8 External Partnerships and Cultural Integration, for a total of 92 questions.

As can be seen from Table 5.5, a total of 8 factors were extracted from the art education management system for college administrators in Hebei Province, factor 1 contains 13 questions, factor 2 contains 14 questions, factor 3 contains 12 questions, factor 4 contains 11 questions, factor 5 contains 12 questions, factor 6 contains 10 questions, factor 7 contains 10 questions, and factor 8 contains 10 questions.

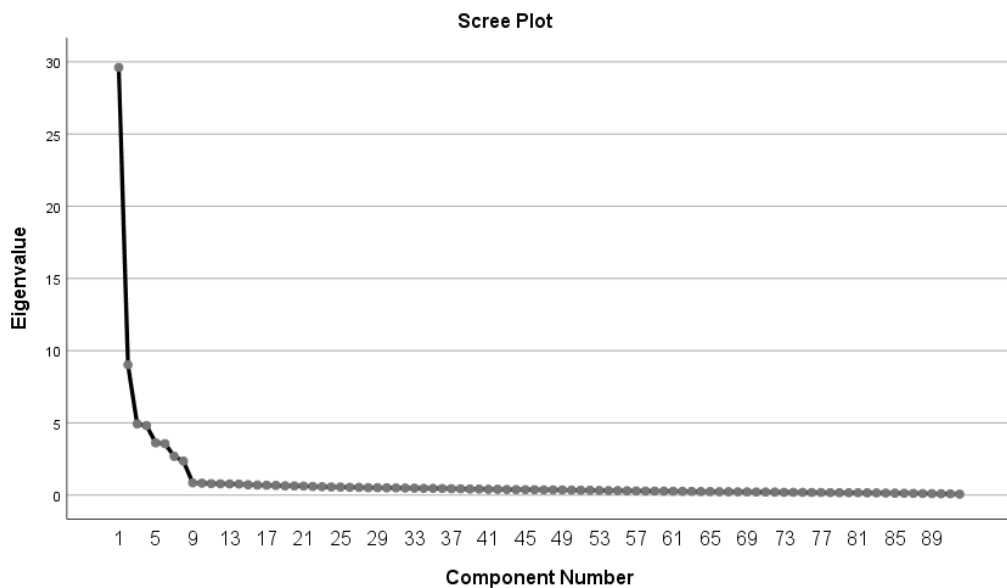


Figure 5 Scree plot

In the scree plot shown in Figure 5.1, the first eight common factors exhibit relatively large eigenvalues, with distinct turning points in the curve. Starting from the ninth common factor, the eigenvalues begin to stabilize, and all subsequent components have eigenvalues below 1. This confirms the appropriateness of the extracted eight common factors.

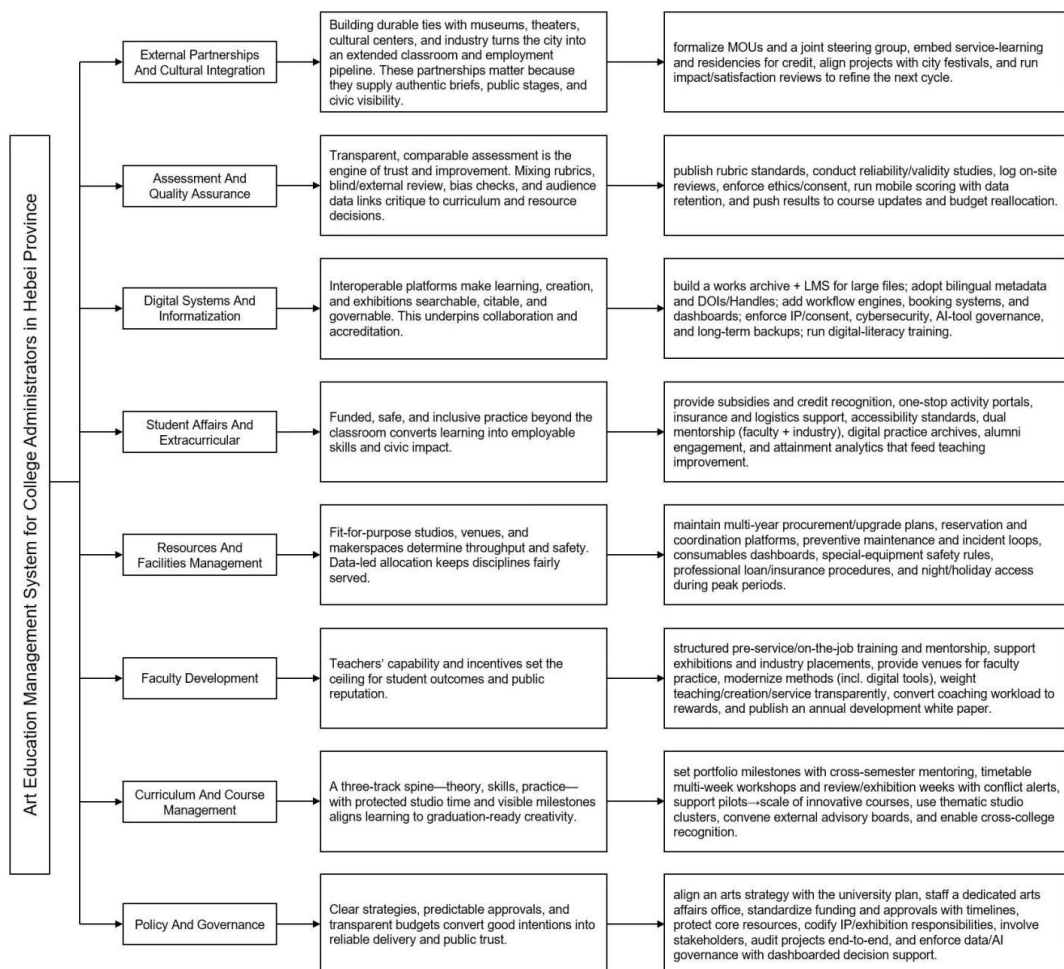
Table 5 Factors Element Analysis

Factors	Item	Quantity	Factor loading
1	26, 27, 28, 29, 30, 31, 54, 55, 56, 85, 86, 87, 88	13	0.695-0.824
2	32, 33, 34, 35, 36, 37, 57, 58, 59, 60, 89, 90, 91, 92	14	0.530-0.849
3	20, 21, 22, 23, 24, 25, 50, 51, 52, 53, 83, 84	12	0.657-0.806
4	8, 9, 10, 41, 42, 43, 44, 71, 72, 73, 74	11	0.587-0.805
5	11, 12, 45, 46, 47, 48, 75, 76, 77, 78, 79, 80	12	0.545-0.771
6	4, 5, 6, 7, 40, 66, 67, 68, 69, 70	10	0.655-0.808
7	13, 14, 15, 16, 17, 18, 19, 49, 81, 82	10	0.638-0.775
8	1, 2, 3, 38, 39, 61, 62, 63, 64, 65	10	0.602-0.723
	Total	92	0.530-0.849

Table 5 presents the variable item descriptions, with all items demonstrating factor loadings exceeding 0.5. The scale has 8 factors and 92 items. Factor 1 contains 13 questions, Factor 2 contains 14 questions, Factor 3 contains 12 questions, Factor 4 contains 11 questions, Factor 5 contains 12 questions, Factor 6 contains 10 questions, Factor 7 contains 10 questions, and Factor 8 contains 10 questions. The load range of Factor 1 is between 0.695-

0.824, Factor 2 is between 0.530-0.849, Factor 3 is between 0.657-0.806, Factor 4 is between 0.587-0.805, Factor 5 is between 0.545-0.771, Factor 6 is between 0.655-0.808, Factor 7 is between 0.638-0.775, and Factor 8 is between 0.602-0.723..

Through the analysis of the elements of art education management, a total of 8 elements were extracted, and the first model was constructed, as shown in Figure



Discussion

This study was guided by three research objectives: (1) to examine the current status of the art education management system among college administrators in Hebei Province; (2) to identify the core components of this system through exploratory factor analysis; and (3) to propose an enhancement model. The discussion below interprets the findings in relation to each objective, drawing on theoretical frameworks, prior research, and the provincial context.

Current Status of Art Education Management

The first objective aimed to assess the implementation level of art education management practices. Descriptive analysis of 92 items revealed a moderately high overall level of implementation ($M = 3.00\text{--}3.83$), indicating that administrators and art teachers perceive existing management practices as functional but not fully optimized. Notably, items related to Digital Systems and Informatization received the highest mean scores ($M = 3.62\text{--}3.83$), reflecting progress in digital infrastructure—consistent with Hebei’s 2025–2027 education digitalization plan (Hebei Provincial Department of Education et al., 2025). Conversely, items in Faculty Development and Assessment and Quality Assurance showed relatively lower scores, suggesting persistent challenges in teacher support and evaluation mechanisms. These findings align with prior research highlighting uneven faculty development opportunities and subjective assessment practices in art education (Avotina & Froloviceva, 2023). The moderate ratings for External Partnerships and Cultural Integration ($M = 3.24\text{--}3.81$) also echo calls for more structured and sustainable collaboration between universities and cultural institutions (Gigerl et al., 2022).

Core Components of Art Education Management

The second objective sought to identify the underlying structure of art education management. Exploratory factor analysis (EFA) yielded eight distinct

components with eigenvalues greater than 1, cumulatively explaining 65.85% of the total variance. These components were: (1) Curriculum and Course Management, (2) Policy and Governance, (3) Faculty Development, (4) Digital Systems and Informatization, (5) Student Affairs and Extracurricular, (6) Assessment and Quality Assurance, (7) Resources and Facilities Management, and (8) External Partnerships and Cultural Integration.

Factor 1, Curriculum and Course Management, accounted for the largest proportion of variance (32.18%), underscoring its centrality in the management system. This finding supports Dewey's (1934) emphasis on experiential learning and the need for curricula that integrate theory, skills, and practice. It also resonates with Discipline-Based Art Education (Clark, Day, & Greer, 1985), which advocates for a comprehensive curriculum encompassing creation, history, criticism, and aesthetics. The high loading of items related to interdisciplinary courses and alignment with learning outcomes reflects current policy priorities in China's 2022 curriculum guidelines (Ministry of Education, 2022).

Factor 2, Policy and Governance, emerged as the structural backbone, with items emphasizing strategic planning, transparency, and compliance. This aligns with UNESCO's (2024) call for coordinated policy frameworks and NASAD's (2024) accreditation standards, which require clear governance structures and stakeholder engagement.

Factors 3, 4, and 7—Faculty Development, Digital Systems and Informatization, and Resources and Facilities Management—function as enabling pillars. Their identification confirms the multi-dimensional nature of art education management, where human, technological, and physical resources must be systematically developed and maintained (Mahmoud, et al., 2024; Li, et al., 2024). The relatively lower loadings of some resource-related items (e.g., consumables procurement) suggest areas needing institutional attention, consistent with findings from facility management studies (Timly, 2023).

Factors 5 and 6—Student Affairs and Extracurricular and Assessment and Quality Assurance—serve as bridging mechanisms that connect formal curricula with authentic learning experiences. The inclusion of co-curricular activities and fair evaluation rubrics reflects best practices identified in prior research (Vlachopoulos, et al., 2024; Taylor, et al., 2024). These components ensure that student engagement is systematically supported and that learning outcomes are rigorously assessed and fed back into curriculum improvement.

Factor 8, External Partnerships and Cultural Integration, captures the institution’s embeddedness in local cultural ecosystems. This finding validates the importance of museum–school–industry collaboration pipelines, as demonstrated in Hebei case studies (Hebei University, 2025). It also aligns with international frameworks emphasizing place-based learning and cultural mediation (UNESCO, 2024).

Toward an Integrated Enhancement Model

The third objective involved constructing a model to enhance art education management. Grounded in the eight empirically validated components and enriched by expert interviews, the proposed model synthesizes these elements into a synergistic ecosystem. The model posits that effective management requires: (a) a coherent curriculum guided by clear policy and governance; (b) sustained investment in faculty, digital systems, and physical resources; (c) systematic support for student engagement and fair assessment; and (d) strategic external partnerships that embed the institution within cultural and industry networks.

This integrated framework aligns with established international benchmarks, including NASAD’s (2024) accreditation standards and the QAA’s (2017) subject benchmarks for art and design. It also reflects the priorities of China’s education modernization agenda, particularly the emphasis on digital transformation, quality assurance, and cultural responsiveness. The model’s

dashboard-driven governance approach and rubric-based evaluation linked to resource allocation offer practical tools for administrators to operationalize these priorities.

Compared to prior models that focus on isolated dimensions (e.g., curriculum or digital tools alone), this study's eight-factor model provides a more holistic and actionable framework. It recognizes that sustainable improvement in art education management depends on the interplay of multiple components rather than isolated initiatives. The model's applicability extends beyond Hebei, offering a replicable structure for other provinces seeking to modernize their art education administration.

Theoretical and Practical Implications

Theoretically, this study contributes to the literature by empirically validating a comprehensive management model for art education in the Chinese higher education context. It extends Dewey's experiential aesthetics and Bandura's social learning theory into the administrative domain, demonstrating how these theories can inform governance, resource allocation, and partnership development. The findings also reinforce the relevance of constructivist principles in curriculum design and faculty development.

Practically, the model provides university administrators with a diagnostic tool to assess current practices and identify priority areas for improvement. The 92 validated items serve as a checklist for self-evaluation and external review. The emphasis on data-driven decision-making and transparent governance aligns with the requirements of China's next-round undergraduate teaching evaluations (2021–2025). Furthermore, the model's recommendations for museum–school–industry collaboration offer concrete pathways for integrating local cultural resources into academic programs, thereby enhancing both educational quality and regional cultural development.

Research Limitations

This study has several limitations. First, the sample was drawn exclusively from four independent art colleges in Hebei Province, which may limit the generalizability of findings to comprehensive universities or institutions in other provinces. Second, the cross-sectional design captures perceptions at a single point in time, precluding analysis of causal relationships or long-term trends. Third, while the model was validated through expert interviews, its practical effectiveness in real-world implementation requires further testing through longitudinal case studies.

Conclusion

This study constructs a comprehensive management model for art education in Hebei Province, integrating eight essential dimensions that support sustainable, data-driven, and culturally responsive governance. The findings underscore that effective art education management requires synergy between digital transformation, policy innovation, and quality assurance. By aligning institutional governance with regional cultural strategies, Hebei's universities can enhance both educational outcomes and societal contributions. The proposed framework provides a replicable model for other provinces seeking to modernize their art education administration systems.

Recommendations

Recommendations for Practical Implementation

Colleges should enhance digital literacy programs for faculty and students, integrate cross-institutional data systems, and develop transparent evaluation platforms. Continuous feedback loops between assessment results and curriculum improvement are essential to ensure dynamic adaptability.

Recommendations for Policy

Provincial education authorities should establish a unified governance framework for art education, incorporating clear data governance policies, standardized evaluation criteria, and incentives for external collaborations. Strengthening policy alignment between universities and local cultural institutions will enhance implementation efficiency.

Recommendations for Further Research

Future research should focus on comparative studies across provinces, exploring how digital transformation and policy standardization can jointly drive art education modernization. Longitudinal analyses of policy impact and the integration of AI tools in educational governance are also recommended.

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