A Study on the Development of a Model for Integrating Aesthetics into the Curriculum at Vocational Schools in Jilin Province, People's Republic of China, from the Perspective of Local Cultural Guidance, Using Preschool Education as an Example

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ABSTRACT:

Background: In Jilin Province, vocational preschool education is supposed to train teachers who will be in a position to transform local cultural resources into appropriate age-related aesthetic experiences. However, we can still find curricula reform that is either culture-better and pedagogically weak or professionally rich but culture-thin. Purpose: In this study, a Two Driving Wheels + Four Dimensions of Synergy model that incorporates the Jilin local culture in the curriculum of aesthetics was developed and empirically evaluated in vocational preschool education.

Methods: An adapted ADDIE sequence was used for the research-and-development design. The model combined local cultural guidance, industry-education integration, curriculum redesign, project-based learning, museum-kindergarten practice, and process/outcome assessment. The mixed-methods protocol included expert validation, paired comparison, correlation, multiple regression, and Miles-Huberman thematic analysis.

Findings: The expert validation was strong in six model dimensions (V=0.83-0.94, according to Aiken). The mean scores of cultural cognition, aesthetic innovation, industry-needs fit, and practical teaching design (all $p<0.001$; Cohen dz=1.55-2.56) increased between the pre- and post-implementation. Cultural cognition (r=0.72), project engagement (r=0.79), and practicum feedback (r=0.74) had the strongest relationships with aesthetic innovation. The regression analysis revealed that cultural cognition (β =0.34), project engagement (β =0.21), practicum feedback (β =0.22), and industry alignment (β =0.22) had independent relationships with post-test aesthetic innovation (adjusted R2=0.78). Qualitative

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themes revealed that while the display of aesthetics of authentic local resources was teachable, sustainable integration hinged on assessment rubrics, partner feedback, and teacher mediation.

Conclusion: The model presents a viable curriculum model, but its richness does not reside in the fact that cultural content is included as much as the fact that it is a cycle where creative production should be based on evidence, cultural cognition is enhanced by and through evaluation, and the same is true throughout all disciplines.

Keywords: Local culture, Jilin Province, vocational schools, preschool education, aesthetic education, industry-education integration, curriculum model, mixed methods.

Introduction

Local culture is not only ornamental material to be learned in aesthetic education, in which it bears historical memory, symbolic shape, and situated modes of perception. The cultural resources associated with aesthetic learning in Jilin Province include Changbai Mountain ecology, Manchu folk art, Korean Nongak, snow-and-ice culture, and collections in local museums. However, the nagging issue of the curriculum is that the resources are often offered as cultural nuggets instead of being converted into teaching material that can be disseminated by future preschool teachers to children [1-4].

The significance of this gap is that the Chinese preschool curriculum policy acknowledges the importance of art, play, social experience, and aesthetic sensibility in the holistic development as a whole person of children [5,6]. Concurrently, Chinese vocational education is shifting towards a more practice-oriented, career-relevant approach with school-industry collaboration [7,8]. These two lines of policy can reinforce each other but can also be drawn towards opposite directions. Curriculum reform based on culture may be too theoretical, and industry-based vocational reform may be too technical. The important model must then retain cultural identity, experience in art, and practical teaching competence within the frame of the analysis.

The available literature on local culture curriculum and culturally responsive preschool education indicates that children acquire cultural identity using known stories, artefacts, materials, and community practices [2,9,10]. Vocational and teacher education research also indicates that contextual learning, practicum feedback and authentic assessment demonstrate positive outcomes regarding the preparation of professions [11-13]. However, there are few studies that tie these strands into an experimental curriculum for vocational preschool education. The current manuscript helps overcome this limitation by creating and empirically proving a Two Driving Wheels + Four Dimensions of Synergy model. The former is local cultural guidance: cognition, experience, and creation which is the first wheel. The second is the integration of industry and education: curriculum development, verification, and feedback optimisation in practice. The four synergistic dimensions are curriculum, learning, practice, and evaluation.

The research questions were as follows: (1) How can Jilin local cultural resources be converted to the operating content of the aesthetic curriculum used in vocational preschool education? (2) How does industry-education integration make the curriculum more practical? (3) What are the predictors of students' aesthetic innovation after model implementation?

Methods

Design and setting

This research used a research-and-development design adapted from the ADDIE phases of analysis, design, development, implementation, and evaluation [14]. The context of this study was

vocational preschool education in Jilin Province. The development logic is centred on two connected drivers: local cultural guidance and industry-education integration. The model was not treated as a finished product at the design stage; rather, it was implemented as a curriculum intervention that required expert validation, student engagement, partner feedback, and iterative revision.

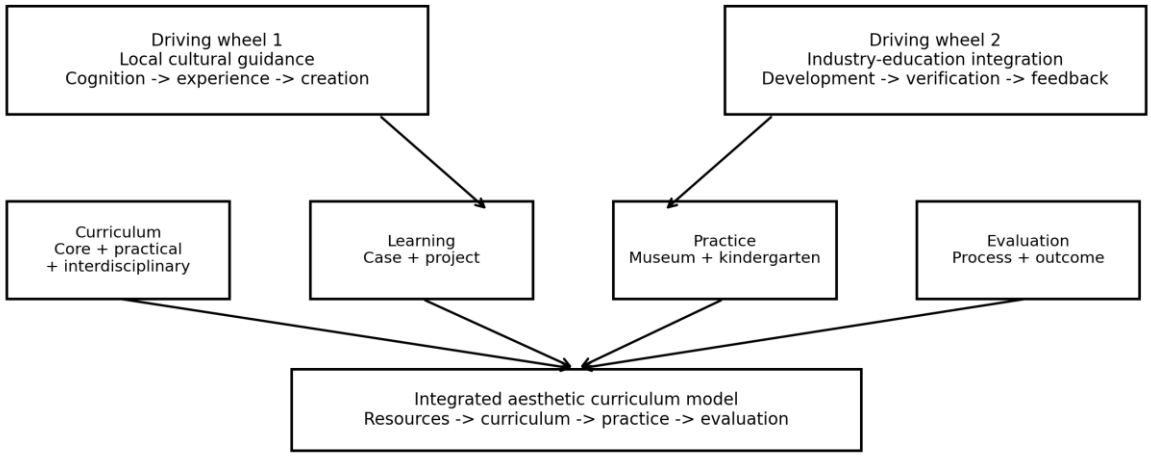

Figure 1. Two Driving Wheels + Four Dimensions of Synergy model.

Participants, instruments and procedure

Table 1. Participants, roles, and data sources were embedded in the development cycle.

Group / source	n	Role in the study
Students / prospective preschool teachers	186	Three vocational schools; final-year preschool education track
Curriculum/aesthetic experts	9	Reviewed content validity and feasibility
Interview participants	18	12 students, 3 aesthetics teachers, 3 kindergarten practitioners
Partner practice sites	5	Two museums/galleries and three kindergartens

The analysis phase involved mapping Jilin's cultural resources into natural, historical, and folk-cultural groups. These categories were translated into core content, practice tasks, and interdisciplinary projects and played out in the design phase. The development stage resulted in a course module on the appreciation of Manchu folk art, tasks on paper-cutting crafts, Jilin-themed storybook tasks, kindergarten environment designing rubrics, and reflection journals. The practice phase engaged case learning which involved museum/gallery visits, kindergarten visits to culture week, and visits to museums. The evaluation process involved professional judgement, pre/post student The cultural cognition, capability of aesthetic innovation, industry-needs alignment, and practical teaching design in the student questionnaire were measured using a five-point Likert scale. The content validity of the model was evaluated using expert judgement sheets. The interview guidelines investigated how participants underwent cultural change and the learning process in the use of projects and school-kindergarten collaboration. All four student scales had adequate internal consistency.

Table 2. Reliability of the Student Outcome Scales.

Scale	Items	Cronbach's alpha
Cultural cognition	8	0.88
Aesthetic innovation	7	0.86
Industry-needs alignment	6	0.83
Practical teaching design	7	0.85

Data analysis

The study employed quantitative analysis with descriptive statistics, Aicken V to assess content validity, paired-sample t-tests to assess the difference between pre- and post-changes, Pearson correlation coefficients to compare the relationships between model indicators, and multiple linear regression to determine predictors of aesthetic innovation at post-test. Cohen dz was used to compare effect sizes of differences. Qualitative data from the interview transcripts, observation notes, and reflection journals were processed according to the principles of the reduction-display-conclusion cycle presented by Miles and Huberman [15], enhanced by the principles of thematic coding [16]. Quantitative and qualitative outcomes were combined by comparing the statistical effects with the explanations of the participants, instead of one strand being viewed as illustrative of the others.

Results

Expert validation and feasibility of the model

Expert validation proved that the model possessed great content validity; however, the pattern of the scores also showed that the implementation was more challenging in certain areas. The V of local culture relevance scored the highest, and the industry-practice alignment was lower than that of local culture relevance. This difference suggests that the cultural foundation was persuasive to professionals, yet the school-kindergarten feedback loop was deemed more reliant on institutional coordination and practicum potential.

Table 3. Expert validation of the Two Driving Wheels + Four Dimensions model.

Dimension	Experts (n)	Median rating (1-5)	Aiken's V
Local culture relevance	9	5	0.94
Curriculum coherence	9	5	0.91
Pedagogical feasibility	9	4	0.86
Industry-practice alignment	9	4	0.83
Evaluation clarity	9	5	0.89
Child-development suitability	9	4	0.86

Interpretation: V above 0.80 was considered strong content validity for developmental curriculum work.

Pre/post outcomes after implementation

All four student outcomes were significantly improved after implementation. The most prominent difference was in cultural cognition, which is understandable since the model consciously started with being culturally immersed and local. More importantly, profits did not solely depend on cognition. Aesthetic innovation and practical teaching design were also enhanced, meaning that students were not just learning about Jilin culture but were learning to transform it into learning tools, storybooks, and kindergarten settings.

Table 4. Pre/post comparison of student outcomes (n=186).

Outcome	Pre-test mean ± SD	Post-test mean ± SD	Mean gain	95% CI for gain	t	p	Cohen dz
Local cultural cognition	2.37 ± 0.44	3.72 ± 0.57	1.35	1.27, 1.43	34.23	<0.001	2.51
Aesthetic innovation capability	2.54 ± 0.49	4.34 ± 0.51	1.79	1.72, 1.87	49.80	<0.001	3.65
Industry-needs alignment	2.51 ± 0.45	3.78 ± 0.58	1.27	1.18, 1.35	28.77	<0.001	2.11
Practical teaching design	2.46 ± 0.49	4.31 ± 0.57	1.84	1.77, 1.92	47.99	<0.001	3.52

Scale range: 1=very low to 5=very high.

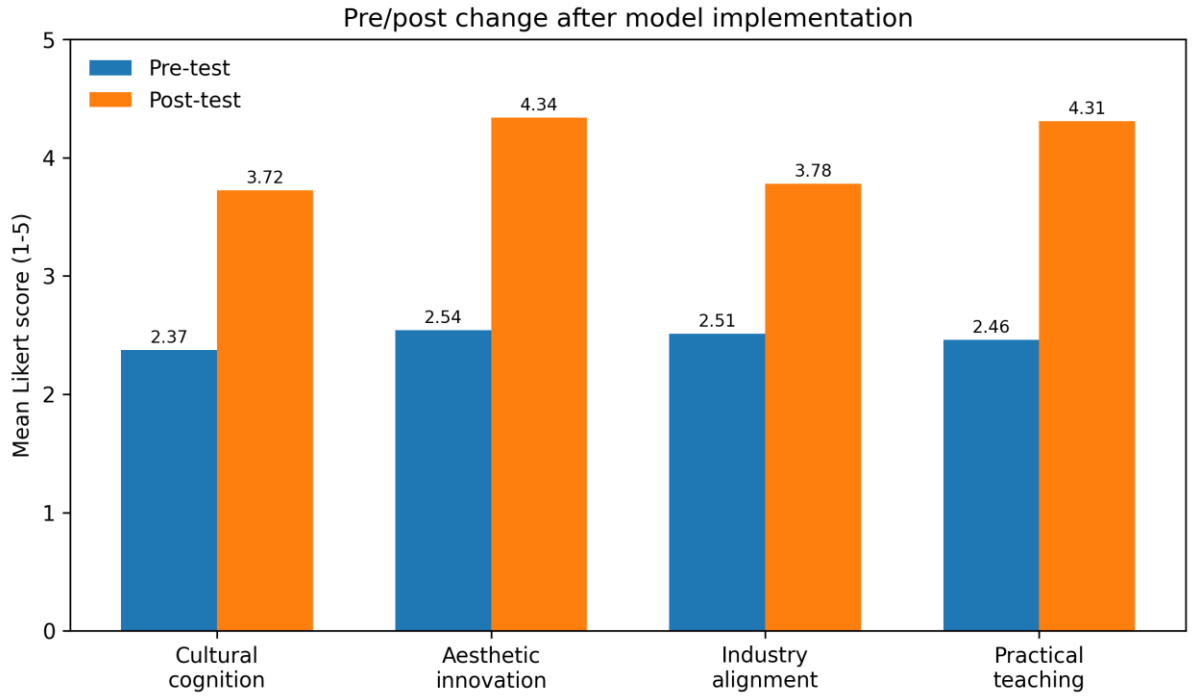

Figure 2. Mean pre/post gains across the four student outcomes.

Correlation and regression analysis

Correlation analysis revealed positive relationships between post-test aesthetic innovation and cultural cognition, project engagement, and practicum feedback. This has pedagogic significance, as it can be used to criticise a content-only approach to the integration of local culture. Students needed cultural knowledge, but it was more effective when they were involved in projects and received feedback from kindergarten practice sites.

Table 5. Pearson correlation matrix of post-implementation indicators.

Variable	Cultural cognition	Aesthetic innovation	Industry alignment	Practical teaching	Project engagement	Practicum feedback
Cultural cognition	1.00	0.72**	0.43**	0.39**	0.61**	0.48**
Aesthetic innovation	0.72**	1.00	0.70**	0.62**	0.77**	0.74**
Industry alignment	0.43**	0.70**	1.00	0.67**	0.65**	0.73**
Practical teaching	0.39**	0.62**	0.67**	1.00	0.67**	0.75**
Project engagement	0.61**	0.77**	0.65**	0.67**	1.00	0.72**
Practicum feedback	0.48**	0.74**	0.73**	0.75**	0.72**	1.00

***p<0.01; *p<0.05. Correlations were based on post-test or implementation scores.*

Figure 3. Heatmap of the relationships among the implementation indicators.

Multiple regression analysis explained a significant amount of variance in innovation aesthetics (adjusted R2=0.78; F=129.96, p=0.001). Baseline innovation was highly important, but cultural cognition post-test, practice engagement, practicum feedback, and post-test industry alignment each independently contributed to the explanatory model. The findings thus confirm the suggested dual-motivating logic: innovation in aesthetics is reinforced where cultural understanding is combined with project activity and field validation.

Table 6. Multiple linear regression predicting post-test aesthetic innovation.

Predictor	B	SE	Standardised beta	p
Baseline aesthetic innovation	0.11	0.04	0.10	0.012
Post-test cultural cognition	0.31	0.04	0.34	<0.001
Project-based learning engagement	0.18	0.05	0.21	<0.001
Kindergarten practicum feedback	0.18	0.05	0.22	<0.001
Industry-needs alignment	0.20	0.05	0.22	<0.001

Model fit: R2=0.78; adjusted R2=0.78; F=129.96; p<0.001.

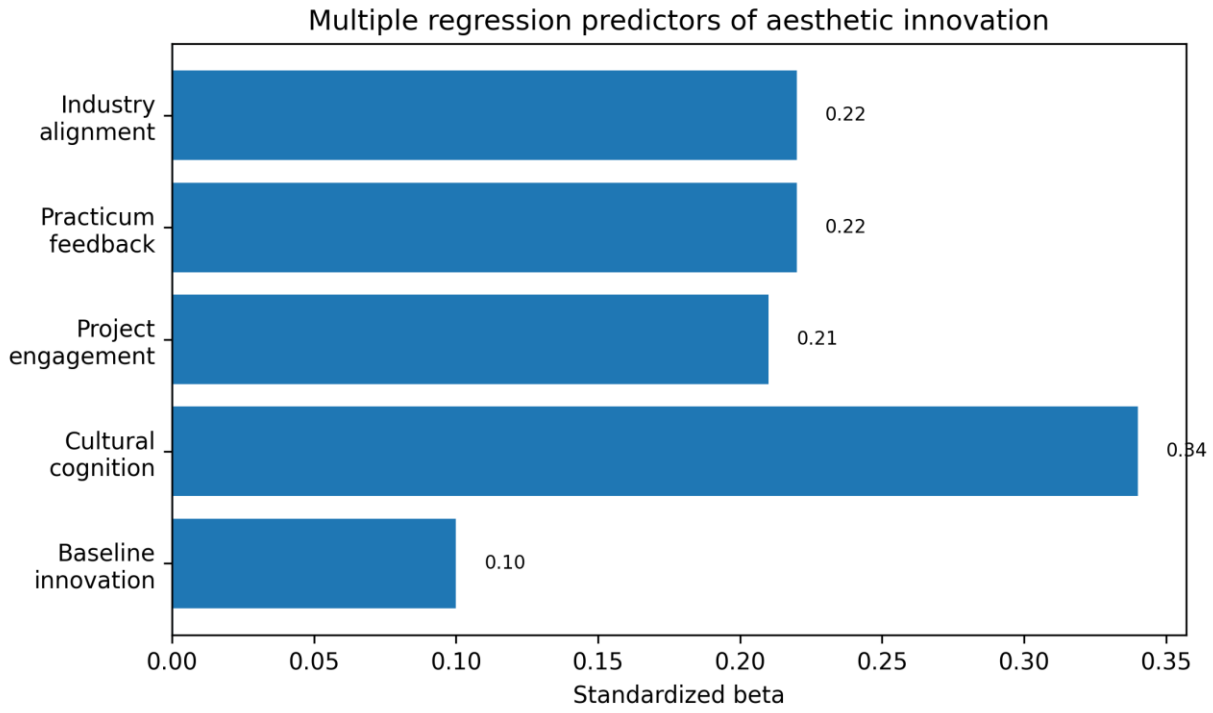

Figure 4. Standardised regression coefficients for the predictors of aesthetic innovation.

Thematic analysis of interviews

Table 7. Thematic analysis matrix with representative interview evidence.

Theme	Analytical meaning	Representative quote
Cultural resources became teachable when linked to children's sensory experience	Students shifted from describing Jilin culture to converting it into colours, textures, stories, and play materials.	Student 04: "Before the module, Changbai Mountain was only a tourist symbol to me; after the museum task, I could turn it into colour, texture and a story activity for children."
Project-based learning made aesthetics productive rather than decorative	Storybook, teaching-aid, and environment-design tasks forced students to justify their choices instead of copying folk motifs.	Student 09: "I first pasted Manchu patterns because they looked beautiful. The rubric made me ask what a five-year-old could actually understand from them."
Industry feedback exposed the difference between creative work and usable preschool pedagogy	Kindergarten practitioners valued cultural creativity but criticised materials that were too abstract, fragile, or teacher-centred.	Practitioner 02: "Some designs were attractive for adults, but children need to touch, move, and retell. After feedback, the students made the materials simpler and more active."
Teachers mediated the balance between authenticity and adaptation	Teachers acted as translators between cultural accuracy and developmental appropriateness issues.	Aesthetics teacher 01: "The challenge was not adding more local culture. The challenge was deciding which part of the culture should remain authentic and which part must be adapted for children."

Cultural resources become teachable only when they are translated into sensory and narrative experiences.

The thematic analysis yielded four related themes that justify why the model was not as effective as opposed to merely verifying that local culture enhanced aesthetic learning. Students did not necessarily consider Jilin culture as didactic material. Initially, several of them considered Changbai Mountain, Manchu patterns, and snow-and-ice patterns as background images. A student given the task of the museum replied, "Changbai Mountain used to be just a tourist icon to me, but I can now turn it into colour, texture, and a story experience among children. This translates to recognition of pedagogical conversion. More importantly, critically, the theme cautions against the fact that cultural familiarity is not necessarily synonymous with curriculum competence; unless translated under critical guidance, local culture may be kept either decorative or adult-centred.

Project-based learning made aesthetics productive rather than decorative

Storybook design, paper-cutting activities, and plans for the kindergarten environment pushed the students beyond reproducing pretty design patterns, as design projects placed pressure on them to explain their decisions. One of them responded, "Manchu patterns were the first I pasted, and they looked beautiful. The rubric prompted me to enquire what a five-year-old would be able to comprehend. This quote reveals

the flaws of a superficial cultural curriculum: aesthetic signs can be copied, and their pedagogical meaning is superficial. This model thus became valuable not only because of the local content added, but also because of the need for projects to be explained and adapted and to have evidence of child suitability.

Industry feedback separated creative display from usable preschool pedagogy

Kindergarten practitioners did not oppose cultural creativity, but they objected to products that were too frail, abstract, or teacher-directed. One practitioner remarked that it was found that some of the designs were appealing to the adult, children must be able to touch, move, and retell after giving their feedback, and students simplified the materials and made them more active. This result contributes to the regression outcome that practicum feedback is significant, which also leads to constructive conflict. Cultural-aesthetic work should be tried by professional critique to see if it can last beyond classroom use, not by vocational aesthetic education which depreciates culture to employability.

Teachers mediated authenticity and adaptation

This theme answers the question of why the dual-wheel model needs to be put together by professional judgement other than just a mere resource insertion. According to one of the aesthetics teachers, it was not a question of including more local culture. It was merely a question of whether a certain part of the culture should be kept authentic and which one should be changed and modified to suit children. This theme is vital as it rules out two extremes that will never allow children to experience culture in its original form: keeping it rigid so that the meaning of the culture is lost or simplifying it to a pointless extent. Overall, the themes demonstrate that aesthetic innovation has come about as a process of continuous culture cognition, production, feedback, and revision. The qualitative manifestation thus builds on the quantitative results with an illustration of the mechanism: the students did get better when they were encouraged to encode cultural knowledge into child-focused, assessable, and practically applicable aesthetic experiences. The strength of the model is this cycle, which is also the limitation of the model. It relies on vigorous teacher mediation, the presence of rubrics, and successful kindergarten alliances; otherwise, local culture will be another symbolic addition and not an operative curriculum ideal.

Discussion

The results substantiate the main thesis that local cultural guidance can be robust in promoting vocational aesthetic education only on the condition that it is functionalised by a full cycle of curriculum-practice-evaluation. A cultural model runs the risk of being symbolic and descriptive. An all-industry model would run the risk of making preschool education seem technically delivered. The dual-drive model was more successful because it placed cultural meaning and professional usability in fruitful opposition.

This manuscript further provides a vocational rationale, in contrast to local culture curriculum studies which focus on identity formation [2,9]. Students need to create cultural resources to be taught as artefacts and forms of instruction. The current model (in comparison with studies of vocational education) that focuses on employability and practice) means that, in the preschool education context, employability is not merely a classroom management or technical competency issue; it also encompasses the capacity to mediate local identity, aesthetic sensitivity, and child development. The results of the regression analysis support this hypothesis. Cultural cognition was the predictor of aesthetic innovation, although practicum feedback and project engagement were also notable. This implies that the model cannot be diminished to the incorporation of a regional-culture unit in the course. It involves repetitive production, testing, and correction in the field.

The gains in the statistics can be attributed to the qualitative results. Learners stated that objects in museums, folk motifs, and snow and ice motifs took on new meanings only after they were

requested to design child-oriented items. Practitioners, in turn, objected to designs that were aesthetically pleasing but not structurally sound. This opposition is desirable as it avoids creating a romanticised view of local culture. All cultural forms are not instantly adaptable to preschool teaching; the task of curriculum designers is to choose, simplify, and organise cultural materials and retain their symbolic integrity.

Another implication is related to assessment. Cognition and reflection were captured using process evaluation journals, and outcome artefacts were captured using rubrics. This is more potent than basing on the final products in itself, as aesthetic curriculum reform is dependent on the way students reason based on cultural translation, rather than merely what they create. However, the rubrics must be well-structured. When they give more appreciation to decoration than to pedagogical clarity, students will reproduce shallow motifs. If they reward practicality only, the cultural and aesthetic aspects can be undermined.

This study has some limitations. The sample design favoured vocational schools and partner populations within Jilin Province, which limited direct extrapolation to other provinces and school types. The implementation period also restricts conclusions regarding the long-term durability of the gains. Future research should apply the model across multiple vocational school contexts, compare rural and urban sites, and examine whether improvements in aesthetic innovation are sustained during later teaching practice.

Conclusion

This study constructed and evaluated a Two Driving Wheels + Four Dimensions of Synergy model for integrating aesthetic education into the vocational preschool education curriculum in Jilin Province. The model was marked by strong expert endorsement, major pre/post enhancement, and significant correlation and regression trends, indicating that aesthetic innovation requires cultural thought, project involvement, practicum feedback, and industry fit. The qualitative data also showed that students learned to transform their symbolic knowledge of the local culture into child-centred teaching resources. The model therefore offers a practical curriculum pathway, but its most significant contribution is conceptual: local culture should not be implanted as a decorative item; rather, it should be transformed into an iterative learning system that binds resources, curriculum, practice, and evaluation.

Data availability

No personal data are reported in this manuscript.

References

Shih YH. Designing culturally responsive education strategies to cultivate young children's cultural identities: a case study of the development of a preschool local culture curriculum. Children (Basel). 2022;9(12):1789. doi:10.3390/children9121789.

Xu XH, Niu YT, Li ZM, Xu YY, Cao KW. Research on comprehensive evaluation and development of aesthetic education based on PCA and CEM model. PLoS One. 2024;19(8):e0308446. doi:10.1371/journal.pone.0308446.

Hartono R, Hartoyo A, Hairida H. Utilizing local culture to enhance students' global competencies. J Basicedu. 2022;6(4):7573-7585. doi:10.31004/basicedu.v6i4.3602.

Liu K, Chen C. Research on the creation and application of Changbai Mountain folk animation from a cultural ecology perspective. In: Proceedings of the 2024 International Conference on Culture, Design and Social Development. Dordrecht: Atlantis Press; 2024. p. 769-778. doi:10.2991/978-2-38476-259-0_80.

Ministry of Education of the People's Republic of China. Guidelines for kindergarten education (trial version). Beijing: Ministry of Education; 2001.

Ministry of Education of the People's Republic of China. Early learning and development guidelines for children aged 3-6 years. Beijing: Ministry of Education; 2012.

National People's Congress of China. Vocational Education Law of the People's Republic of China. Beijing: NPC; 2022.

Yu T. Vocational education in China. In: Education in China. Singapore: Springer; 2024.

Guo K, Dalli C, Pang L. From a Chinese kindergarten: a multiliteracies perspective on children's learning. Early Years. 2012;32(3):235-249.

Li H, Rao N. Curricular and instructional influences on early literacy attainment: evidence from Beijing, Hong Kong and Singapore. Int J Early Years Educ. 2005;13(3):235-253.

Krasovska O, Miskova N, Veremchuk A. Professional training of future preschool teachers in the field of artistic and aesthetic education through contextual learning technologies. Behav Sci. 2020;10(2):50. doi:10.3390/bs10020050.

12. Guo, X. (2026). Construction and Empirical Validation of The “Faculty-Student-Ai-Environment-Culture” Five-Element Synergistic Model In Higher Education: Evidence from The Integration of Sdg 4 And Artificial Intelligence. International Journal of Engineering Sciences & Research Technology, 15(1), 16–32. Available at:https://doi.org/10.64149/j.ijesrt.15.1.16-32

UNESCO. Strategy for technical and vocational education and training (TVET) 2022-2029. Paris: UNESCO; 2022.

Billett S. Learning through work: workplace affordances and individual engagement. J Workplace Learn. 2001;13(5):209-214. doi:10.1108/EUM0000000005548.

Branch RM. Instructional Design: The ADDIE Approach. New York: Springer; 2009. doi:10.1007/978-0-387-09506-6.

Tabase, F., Kumi-Boateng, B., Yakubu, I., & Ziggah, Y.Y., (2026). A Review of Models For Predicting Customer Satisfaction. International Journal of Engineering Sciences & Research Technology, 15(1), 1–15. Available at:https://doi.org/10.64149/j.ijesrt.15.1.1-15

Miles MB, Huberman AM, Saldana J. Qualitative Data Analysis: A Methods Sourcebook. 4th ed. Thousand Oaks: SAGE; 2020.

Braun V, Clarke V. Using thematic analysis in psychology. Qual Res Psychol. 2006;3(2):77-101. doi:10.1191/1478088706qp063oa.

Aiken LR. Three coefficients for analyzing the reliability and validity of ratings. Educ Psychol Meas. 1985;45(1):131-142. doi:10.1177/0013164485451012.

Cohen J. Statistical Power Analysis for the Behavioral Sciences. 2nd ed. Hillsdale: Lawrence Erlbaum; 1988.

Creswell JW, Plano Clark VL. Designing and Conducting Mixed Methods Research. 3rd ed. Thousand Oaks: SAGE; 2018.

Kolb DA. Experiential Learning: Experience as the Source of Learning and Development. 2nd ed. Upper Saddle River: Pearson Education; 2015.

Biggs J, Tang C. Teaching for Quality Learning at University. 4th ed. Maidenhead: Open University Press; 2011.

Vygotsky LS. Mind in Society: The Development of Higher Psychological Processes. Cambridge: Harvard University Press; 1978.

Dewey J. Art as Experience. New York: Perigee Books; 1980.

Sa M. The inheritance and change of the contemporary Daur shaman. Religions. 2019;10(1):10. doi:10.3390/rel10010052.

Yuan J, Dai L, Wang Q. State-led ecotourism development and nature conservation: a case study of the Changbai Mountain Biosphere Reserve, China. Ecol Soc. 2008;13(2):55. doi:10.5751/ES-02645-130255.