

Needs Analysis for Designing an Aesthetic-Oriented Chinese Calligraphy Teaching Module via the ADDIE Model

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ABSTRACT

This study addresses the limited integration of aesthetic education in primary school calligraphy instruction and highlights the need for a more child-centred teaching approach. The research reports the analysis phase of the ADDIE instructional design model in developing an Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) for children aged 9-12. A mixed-method needs analysis was conducted through document review and semi-structured interviews involving calligraphy teachers, experts, and parents. The findings revealed that current calligraphy teaching is overly focused on repetitive technical drills, with insufficient attention given to aesthetic appreciation, cultural understanding, creativity, and learner engagement. Participants consistently emphasised the necessity of a new teaching module that balances technical skill with aesthetic experience, integrates cultural and heritage elements, and incorporates interactive and contemporary teaching strategies. The study also identified key challenges, including limited instructional time, lack of aesthetic-oriented teaching resources, and insufficient teacher preparation. Based on the findings, several design principles were proposed to guide the subsequent ADDIE development phases, including cultural storytelling, aesthetic appreciation activities, creative practice, and multimedia integration. This study contributes a systematic needs-analysis framework for innovating calligraphy education and provides a theoretical and practical foundation for developing an aesthetic-oriented Chinese Calligraphy Teaching Module for children.

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Contribution/Originality: This study contributes to calligraphy education by conducting an ADDIE-based needs analysis for developing an Aesthetic-Oriented Chinese Calligraphy Teaching Module. It integrates document analysis and stakeholder interviews to identify teaching gaps and proposes evidence-based principles

emphasizing aesthetics, cultural heritage, learner engagement, and child-centred pedagogy.

1. Introduction

Chinese calligraphy, one of the oldest continuously practiced visual art forms globally, represents a cornerstone of Chinese cultural heritage (Song, 2025) and has been officially integrated into primary school curricula through successive government policies (Ministry of Education of China, 2011, 2023). These policies explicitly recognize calligraphy's dual role in enhancing literacy skills and fostering aesthetic development, positioning it as a critical component of comprehensive quality education. Aesthetic ability defined as the capacity to perceive, interpret, appreciate, and create beauty in artistic expressions. It has emerged as a central educational objective globally, recognized for its role in developing creativity, critical thinking, and emotional intelligence (UNESCO, 2021).

The United Nations 2030 Agenda for Sustainable Development, particularly Goal 4.7, emphasizes education for sustainable development and global citizenship, including appreciation of cultural diversity and culture's contribution to sustainable development (UNESCO, 2015). In response, China's recent educational reforms have placed unprecedented emphasis on strengthening aesthetic education in schools, with calligraphy identified as a key vehicle for transmitting cultural values and nurturing artistic sensibility (Ministry of Education of China, 2020).

Despite these policy imperatives, classroom implementation remains significantly challenged. Current calligraphy instruction is overwhelmingly dominated by routine technical drills, with teachers spending most class time supervising character copying and correcting stroke order. Compounding these issues are systemic constraints including a severe shortage of qualified calligraphy teachers, limited weekly class time (typically 40 minutes), and textbooks prioritizing technical accuracy over artistic appreciation (Chen et al., 2025; Cao & Champadaeng, 2024).

This disjuncture between policy goals and classroom reality has prompted growing scholarly interest in reorienting calligraphy education toward a more aesthetic-centered approach. The ADDIE model, a widely recognized and empirically validated framework for systematic instructional design, offers a structured approach to addressing this gap (Branch, 2009). Its iterative, five-phase process ensures educational interventions are grounded in rigorous needs analysis, aligned with learner characteristics, and evaluated for effectiveness.

1.1. Research Objectives

This paper reports the analysis phase of a larger ADDIE-based research project aimed at developing an Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) for children aged 9-12. This age group was selected because it represents a critical period for aesthetic development, when children transition from concrete to abstract thinking and begin forming enduring attitudes toward art and culture (Milbrath & Lightfoot, 2013).

The primary objectives of this analysis phase were: (1) To identify specific aesthetic education gaps in current primary school calligraphy instruction. (2) To determine

diverse needs and expectations of key stakeholders (teachers, experts, and parents). (3) To derive evidence-based design principles to guide subsequent Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) development.

1.2. Research Questions

To achieve these objectives, we addressed three research questions: (1) What are the main limitations of current primary school calligraphy teaching practices in terms of aesthetic education delivery? (2) What specific needs and expectations do teachers, calligraphy education experts, and parents have for an aesthetic-oriented calligraphy teaching module? (3) What evidence-based design principles should inform the development of an effective Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) for aged 9-12 children?

By answering these questions, this study provides practical guidance for educators, instructional designers to improve calligraphy education. It also contributes to the international literature on culturally responsive arts education by demonstrating how a systematic instructional design framework can be adapted to preserve and transmit intangible cultural heritage in formal educational settings.

1.3. Statement of Problem

Although national guidelines mandate the integration of aesthetic education within calligraphy instruction, current teaching modules predominantly emphasise technical skills such as stroke replication and character structure, neglecting the systematic development of aesthetic perception, cultural appreciation, and creative expression (Tang, 2025; Zhang et al., 2024). This misalignment is further exacerbated by the lack of interdisciplinary connections and insufficient cultural contextualization, which are critical for nurturing holistic aesthetic literacy (Cao & Champadaeng, 2024). International scholarship on calligraphy education has highlighted that effective aesthetic integration requires not only technical proficiency but also cultural immersion and interactive engagement—elements that are largely absent in current primary school modules (Chen et al., 2025; Chen et al., 2026). Moreover, existing modules often fail to provide adequate support for teachers, many of whom lack specialized training in aesthetic pedagogy (Liu et al., 2024), and do not leverage digital tools that could enhance multisensory learning experiences (Vermeeren, 2017). These deficiencies hinder the achievement of stated educational objectives, constrain the overall development of students, and fail to align with UNESCO's call to embed intangible cultural heritage in schooling through engaging and culturally responsive pedagogy (Chen et al., 2025). A critical need therefore exists for a new Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) that systematically embeds aesthetic principles, integrates authentic cultural content, and aligns with contemporary pedagogical practices supported by international research.

1.4. Significance of the Study

This study makes a significant contribution to the field of art education by applying the ADDIE instructional design model to the development of a calligraphy teaching module that integrates aesthetic education. While previous research has either analysed policy gaps or described isolated case studies, this study provides a systematic, multi-stakeholder needs assessment that directly informs module design. The findings offer practical guidance for instructional developers, calligraphy teachers, and educational

policymakers seeking to promote the quality of aesthetic education. Furthermore, the methodological framework can serve as a model for future instructional design research in culturally grounded arts education.

2. Literature Review

2.1. Calligraphy Education in Primary Schools: Policy and Practice

Chinese calligraphy education has a history spanning millennia, traditionally transmitted through master-apprentice relationships centered on imitation of classical models. In modern formal education, however, calligraphy has undergone significant transformations. The Ministry of Education's 2011 Guidelines for Calligraphy Education in Primary and Secondary Schools marked a turning point, making calligraphy a compulsory component of the Chinese language curriculum for Grades 3-6 (Ministry of Education of China, 2011). This was further reinforced by the 2023 revised curriculum standards, which explicitly elevated calligraphy's status as an independent arts subject and strengthened requirements for aesthetic and cultural education (Ministry of Education of China, 2023).

Despite these policy advancements, empirical research consistently reveals a significant implementation gap. Commonly reported obstacles include a shortage of qualified calligraphy teachers with aesthetic training, limited time often 40-minute per week (Gao, 2024; Chen et al., 2026). A recent content analysis of 32 primary school calligraphy textbooks found that 78% of content was dedicated to technical skill instruction, with only 12% addressing aesthetic appreciation and 10% covering cultural context (Gao, 2024). Classroom observation studies corroborate these findings, showing that teachers typically allocate 75–85% of class time to copying exercises and stroke correction, leaving minimal time for discussion, appreciation, or creative expression (Chen et al., 2025).

This overemphasis on technical proficiency has several negative consequences. First, it fosters a narrow conception of calligraphy as merely good handwriting rather than a complex artistic practice with deep cultural roots (Chen et al., 2026). Second, it leads to student disengagement, with many children viewing calligraphy classes as tedious and repetitive. Third, it fails to develop the higher-order cognitive and affective skills that aesthetic education is intended to nurture, including critical thinking, emotional intelligence, and cultural identity (UNESCO, 2021).

2.2. Aesthetic Education in Calligraphy: Theoretical Foundations and International Perspectives

Aesthetic education in calligraphy encompasses more than simply teaching students to recognize "beautiful" characters. It involves developing a holistic set of competencies including perceptual skills (ability to discern variations in line quality, composition, and rhythm), interpretive skills (ability to understand the emotional and cultural meaning of calligraphic works), appreciative skills (ability to evaluate artistic merit), and expressive skills (ability to create original calligraphic works) (Deer, 2023).

Contemporary aesthetic education theory, particularly the work of Eisner (2017), emphasizes the importance of engaging students in authentic artistic practices that integrate perception, production, and criticism. Eisner argues that arts education should not be limited to technical skill acquisition but should focus on developing "aesthetic

literacy"-the ability to understand and participate in the visual culture of one's society. This perspective aligns with UNESCO's (2021) framework for arts education, which emphasizes the role of the arts in promoting cultural diversity, social cohesion, and sustainable development.

In the context of East Asian art education, several international studies have highlighted the benefits of integrating aesthetic and cultural elements into calligraphy instruction. For example, Scholarly research from South Korea has indicated that culture-oriented calligraphy curriculum design can effectively enhance students' cultural identity and aesthetic appreciation competence. Compared with conventional skill-dominated calligraphy teaching models, the culturally embedded curriculum framework shows more prominent advantages in shaping learners' artistic cognition and cultural awareness (Zeng, 2021). Similarly, relevant practice and exploration in Singapore have shown that encouraging calligraphy creators to break away from traditional fixed formats and integrate diverse artistic nourishment can effectively stimulate innovative thinking and personalized creative expression in calligraphy (Liu, 2024).

However, despite these promising findings, there remains a dearth of systematic research on aesthetic-oriented calligraphy education for primary school children (Chen et al., 2025). Most existing studies are either theoretical in nature or focus on secondary and tertiary education levels. Furthermore, few studies have adopted a multi-stakeholder perspective to understand the diverse needs and expectations of teachers, experts, and parents. It's an essential component of effective curriculum design (Malytska et al., 2022).

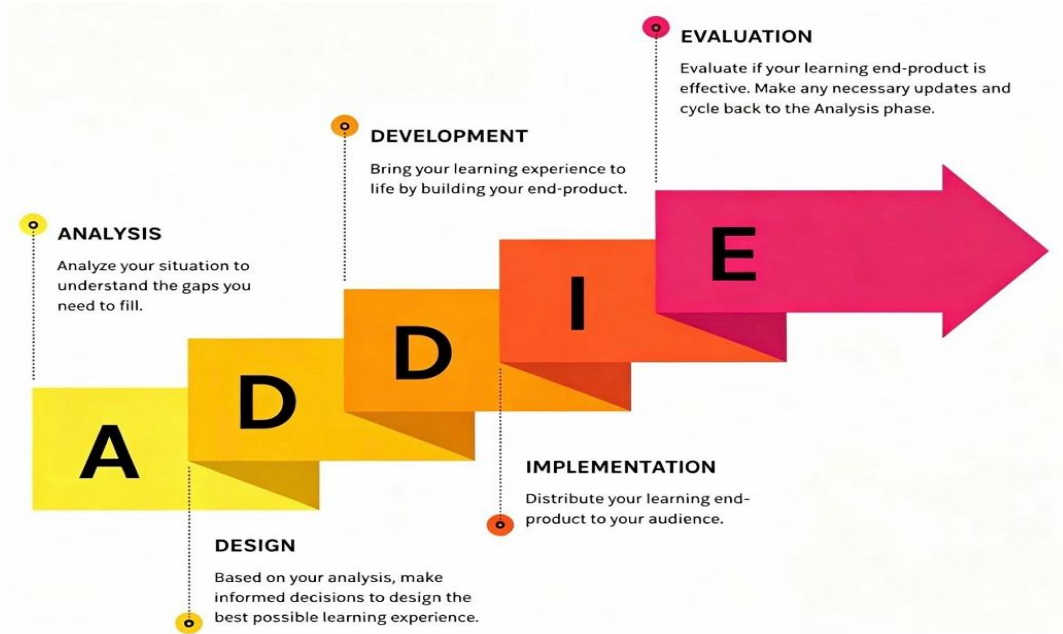
2.3. The ADDIE Model in Instructional Design: Applications and Adaptations

The ADDIE model is one of the most widely used instructional design frameworks globally, renowned for its systematic, iterative approach to developing effective educational interventions (Branch, 2009). The model consists of five interrelated phases (Figure 1): Analysis, Design, Development, Implementation, and Evaluation. The Analysis phase, which is the focus of this paper, is particularly critical as it lays the foundation for all subsequent phases by identifying instructional problems, defining learner characteristics, establishing goals and objectives, and assessing resource constraints.

While the ADDIE model was originally developed for corporate training programs, it has been successfully adapted for use in various educational contexts, including arts education. For example, ADDIE has been used to develop music education modules (Chang & Abidin, 2024), visual arts curricula (Ahamed et al., 2022), and digital art programs (Crompton et al., 2023). These studies demonstrate that the ADDIE model's structured approach helps ensure arts education programs are learner-centered, evidence-based, and aligned with educational goals.

In the specific context of calligraphy education, however, applications of the ADDIE model remain limited. A notable exception is the work of Cao and Champadaeng (2024), who used the ADDIE framework to develop a calligraphy teaching module for university students. Their study found that the systematic approach of ADDIE resulted in a more effective and engaging curriculum compared to traditional methods. However, their module was designed for adult learners and did not specifically address the unique needs of primary school children or prioritize aesthetic education.

Figure 1: ADDIE Model Framework



Source: Author, 2026

This study addresses this gap by applying the ADDIE model to the development of an aesthetic-oriented calligraphy teaching module for 9-12 year old children. By conducting a rigorous multi-stakeholder needs analysis in the initial phase, we aim to ensure that the resulting module is not only pedagogically sound but also responsive to the real-world constraints and expectations of teachers, parents, and students.

3. Research Methods

This study employed a mixed-method needs analysis within the Analysis phase of the ADDIE model. This approach involved combining document analysis and semi-structured interviews to capture multiple perspectives on current calligraphy education practices and stakeholder needs.

3.1. Document Analysis

Document analysis was conducted to provide a comprehensive overview of the current state of primary school calligraphy education in China. We analyzed 28 key documents published between 2011 and 2025, including:

National policy documents and curriculum standards (n = 5). Primary school calligraphy textbooks currently in use (n = 10). Peer-reviewed research articles on calligraphy education (n = 13)

Documents were retrieved from both Chinese and English databases, including the Chinese National Knowledge Infrastructure (CNKI), Scopus, Web of Science, and the official website of the Ministry of Education of China. Search terms included "calligraphy education," "primary school," "aesthetic education," "teaching module," and "instructional design."

A structured content analysis approach was used to code the documents. Two independent coders coded each document using a pre-developed coding framework that included categories such as proportion of content dedicated to technical skills vs. aesthetic appreciation, coverage of cultural context and interdisciplinary connections, pedagogical approaches recommended, and identified challenges and limitations in current practice.

Inter-coder reliability was calculated using Cohen's kappa coefficient, resulting in a score of 0.87, indicating substantial agreement (Landis & Koch, 1977). Discrepancies were resolved through discussion until consensus was reached.

3.2. Semi-Structured Interviews

Semi-structured interviews were conducted to gain in-depth insights into the experiences, perceptions, and needs of key stakeholders. Purposive sampling was used to recruit 7 participants representing three stakeholder groups, as shown in Table 1.

Table 1. Samples of the Semi-structured Interview

Respondents	Sampling Technique	Instruments	Data Analysis
2 Teachers	purposive	Semi-structured interview	Qualitative
3 Experts	purposive	Semi-structured interview	Qualitative
2 Parents	purposive	Semi-structured interview	Qualitative

Primary school calligraphy teachers (n = 2), each with 5+ years of teaching experience. Calligraphy education experts (n = 3), including university faculty and directors of calligraphy education institutes. Parents of children aged 9-12 who were currently attending calligraphy classes (n = 2). Semi-structured Interview guides were developed based on findings from the document analysis and validated by three calligraphy education experts before use. The guides included open-ended questions about current calligraphy teaching practices and challenges, perceptions of the importance of aesthetic education in calligraphy, needs and expectations for a new calligraphy teaching module, and suggestions for content, pedagogical approaches, and resources.

Interviews were conducted in Mandarin Chinese via video conferencing between October and December 2024. Each interview lasted approximately 45-60 minutes, was audio-recorded with the participant's consent, and transcribed verbatim. Representative quotes from participants are presented in Table 2.

Table 2: Quotations of Participants from Semi-Structured Interviews

Stakeholder Group	Participant ID	Representative Quote
Primary School Teachers	Teacher 1	"In our current system, the main goal is to make students write characters correctly and neatly. We have very little time to talk about why a particular stroke is beautiful or how different calligraphers express their emotions through their writing. It's all about copying the model exactly. Most of us are Chinese language teachers who were asked to teach calligraphy because no one else would. We have a basic understanding of calligraphy, but we don't have the expertise to teach it as an art form."

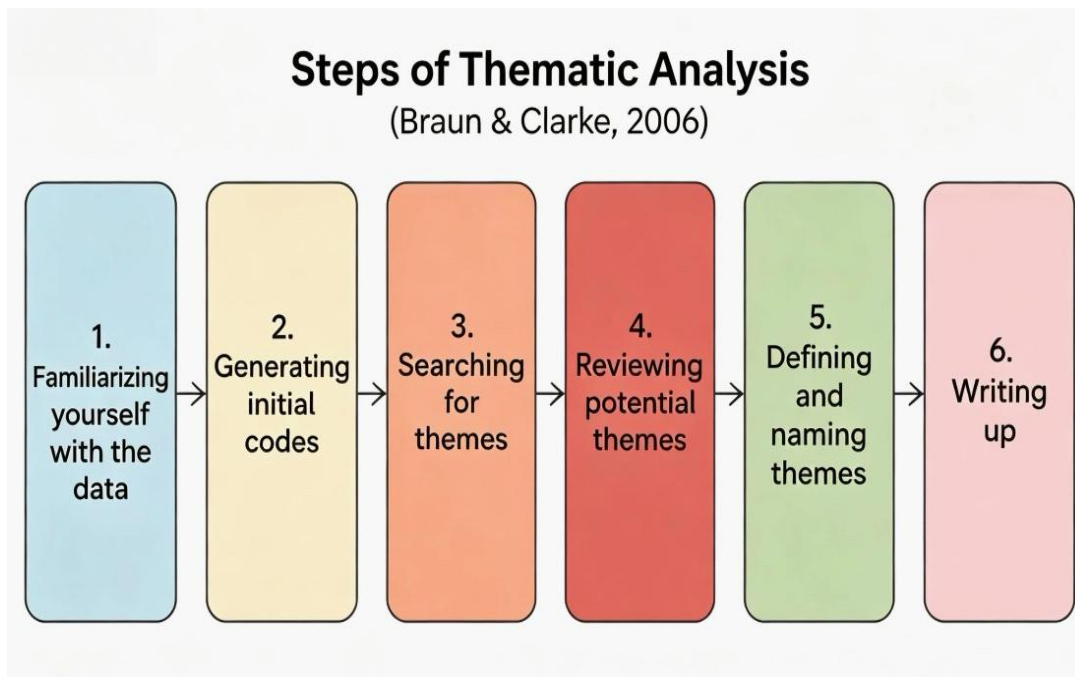
Calligraphy Education Experts	Teacher 2	"I know that cultural context is important, but I don't have enough training in art history or Chinese culture to teach it well. The textbooks don't provide much guidance either, so I just stick to teaching the technical aspects. Forty minutes a week is barely enough time to teach the basic strokes, let alone do any appreciation or creative activities. By the time the students get their materials ready and settle down, half the class is already over. We need a module that is practical and realistic given the constraints we face. It should provide us with everything we need to teach both technique and aesthetics, without requiring us to spend hours preparing additional materials."
	Expert 1	"The module should have clear learning objectives for aesthetic development, and it should include a progression of activities that build on each other. It should also include assessment tools that measure both technical skill and aesthetic understanding."
	Expert 2	"Calligraphy is not just handwriting; it's a visual art that expresses emotion, philosophy, and culture. When we reduce it to mechanical copying, we strip it of its soul and turn it into a boring chore that students quickly lose interest in."
	Expert 3	"Calligraphy is deeply intertwined with Chinese history, literature, and philosophy. You can't truly appreciate calligraphy without understanding the cultural context in which it was created. For example, the wild cursive script of Zhang Xu reflects the free-spirited culture of the Tang Dynasty, while the regular script of Yan Zhenqing embodies the Confucian values of strength and integrity."
	Parent 1	"My daughter used to enjoy drawing and painting, but she hates calligraphy class. She says it's just copying the same characters over and over again, and there's no room for creativity."
	Parent 2	"I enrolled my son in calligraphy classes not just to improve his handwriting, but also to help him connect with his cultural heritage. I want him to understand the history and meaning behind the characters, not just how to write them correctly. The module should be fun and interactive. It should include games, projects, and activities that allow children to express their creativity. If children enjoy calligraphy, they will be more motivated to learn and will develop a lifelong appreciation for the art form."

Note: All quotes were translated from Mandarin Chinese by the author.

3.3. Data Analysis

Transcribed semi-structured interviews were analyzed using Braun and Clarke's (2006) six-step thematic analysis approach (Figure 2): Familiarization with the data through repeated reading of transcripts. Generation of initial codes. Searching for themes across codes. Reviewing and refining themes. Defining and naming themes. Producing the final report. Data analysis was conducted using NVivo 12 software. To ensure trustworthiness, we used member checking (participants reviewed summaries of their interviews to verify accuracy) and peer debriefing among researchers.

Figure 2: Step of Thematic Analysis(Braun & Clarke, 2006)



Source: Author, 2026

4. Results

The combined analysis of documents and semi-structured interviews revealed four key findings that characterize the current state of primary school calligraphy education and the needs of stakeholders for a new aesthetic-oriented module.

4.1. Overemphasis on Technical Skills at the Expense of Aesthetic Development

Both document analysis and interviews confirmed that current calligraphy teaching is overwhelmingly dominated by technical skill acquisition. Content analysis of textbooks showed that an average of 78% of content was dedicated to stroke order, character structure, and copying exercises, with only 12% addressing aesthetic appreciation and 10% covering cultural context. This was corroborated by teacher interviews, who reported spending between 75% and 85% of class time supervising copying practice and correcting technical errors (see Table 2, Teacher 1).

Experts emphasized that this narrow focus distorts the nature of calligraphy as an art form, stripping it of its soul and turning it into a boring chore that students quickly lose interest in (see Table 2, Expert 2). Parents also recognized this issue, with many reporting that their children viewed calligraphy classes as tedious and repetitive, with no room for creativity (see Table 2, Parent 1).

4.2. Systematic Neglect of Cultural Context and Interdisciplinary Connections

A second major finding was the systematic neglect of cultural context and interdisciplinary connections in current calligraphy education. Textbooks rarely included stories about famous calligraphers, the historical evolution of characters, or connections to other art forms such as poetry, painting, or music. Interviews revealed that teachers

rarely incorporated these elements into their lessons, citing lack of time, lack of training, and pressure to cover technical content (see Table 2, Teacher 2).

Experts emphasized the importance of cultural context in calligraphy education, noting that calligraphy is deeply intertwined with Chinese history, literature, and philosophy and cannot be truly appreciated without understanding its cultural roots (see Table 2, Expert 3). Parents also valued the cultural dimension of calligraphy education, enrolling their children not just to improve handwriting but also to help them connect with their cultural heritage (see Table 2, Parent 2).

4.3. Systemic Constraints: Teacher Shortages, Limited Time, and Inadequate Resources

All stakeholder groups identified significant systemic constraints that hinder the implementation of high-quality calligraphy education. The most frequently mentioned challenge was the severe shortage of qualified calligraphy teachers. Most primary school calligraphy classes are taught by regular Chinese language teachers who have received little or no specialized training in calligraphy or art education (see Table 2, Teacher 1).

Limited class time was another major constraint. Most primary schools allocate only one 40-minute class period per week to calligraphy, which teachers described as insufficient to cover both technical skills and aesthetic education (see Table 2, Teacher 2). Inadequate teaching resources were also cited as a significant challenge, with teachers reporting that current textbooks are outdated, lack engaging visuals, and provide little support for teaching aesthetic appreciation.

4.4. Strong Consensus on the Need for an Aesthetic-Oriented Teaching Module

Despite these challenges, there was unanimous agreement among all stakeholder groups that a new aesthetic-oriented calligraphy teaching module is urgently needed. Teachers wanted a module that is easy to implement, provides clear lesson plans and teaching resources, and includes differentiated activities for students with different skill levels (see Table 2, Teacher 2).

Experts called for a module based on sound educational theory and research that takes a systematic approach to developing aesthetic competencies and includes assessment tools measuring both technical skill and aesthetic understanding (see Table 1, Expert 1). Parents emphasized the importance of making calligraphy classes engaging and enjoyable for children through games, projects, and activities that allow creative expression (see Table 2, Parent 2).

5. Discussion

5.1. Implications

The findings of this study have both theoretical and practical implications for calligraphy education and instructional design. Theoretically, this study enriches the existing literature by applying the ADDIE model (Branch, 2009) to aesthetic-oriented calligraphy module development, filling the gap in systematic instructional design research for culturally grounded arts education. It also extends previous research on calligraphy education (Cao & Champadaeng, 2024; Chen et al., 2025) by providing empirical evidence

of stakeholder needs and quantifying the imbalance between technical training and aesthetic development.

Practically, the study's findings inform curriculum developers, policymakers, and teachers on the critical improvements needed in current calligraphy instruction. The identification of systemic constraints (e.g., teacher shortages, limited resources) offers actionable insights for educational institutions to allocate resources and provide professional development for teachers (Liu et al., 2024). Additionally, the emphasis on cultural integration and interdisciplinary connections aligns with national curriculum standards (Zhou & Liu, 2023) and UNESCO's framework for arts education, guiding the practical implementation of cultural heritage education in primary schools.

5.2. Recommendations

Based on the findings from the needs analysis, we derived six evidence-based design principles to guide the development of the AO-CTM for 9–12 year old children. These principles address the identified gaps in current practice and reflect the needs and expectations of all stakeholder groups.

5.2.1. *Balanced Integration of Technical Skill and Aesthetic Development*

The module should balance technical skill acquisition with aesthetic development, ensuring that neither is neglected. Technical instruction should be embedded within aesthetic contexts, and students should be given opportunities to apply their technical skills in creative and expressive ways. For example, after learning a particular stroke technique, students could analyze how different calligraphers have used that stroke to create different effects, and then experiment with using it in their own creative compositions.

This principle is supported by contemporary aesthetic education theory, which emphasizes the importance of integrating perception, production, and criticism (Eisner, 2017). It also addresses the concern expressed by many stakeholders that current teaching focuses too much on technique at the expense of aesthetics.

5.2.2. *Authentic Integration of Cultural Context and Interdisciplinary Connections*

The module should authentically integrate cultural context and interdisciplinary connections throughout, rather than treating them as separate add-ons. Each unit should be centered around a cultural theme, such as a particular historical period, a famous calligrapher, or a classic literary work. Calligraphy lessons should be connected to other subjects such as Chinese language, history, and visual arts, helping students see the relevance of calligraphy to their broader learning.

This principle aligns with UNESCO's (2021) framework for arts education, which emphasizes the importance of cultural transmission and interdisciplinary learning. It also addresses the identified gap in current practice regarding the lack of cultural content and interdisciplinary connections.

5.2.3. Student-Centered and Differentiated Instruction

The module should adopt a student-centered approach that caters to the diverse needs, interests, and skill levels of 9-12 year old children. It should include a variety of engaging, hands-on activities such as games, projects, group work, and creative expression. Differentiated instruction strategies should be used to ensure that all students can participate and succeed, regardless of their prior experience with calligraphy.

This principle is supported by constructivist learning theory, which emphasizes the importance of active learning and student agency (Vygotsky, 1978). It also addresses the concern expressed by parents and teachers that current calligraphy classes are too teacher-centered and fail to engage students.

5.2.4. Strategic Use of Technology to Enhance Learning

The module should strategically integrate technology to enhance teaching and learning, particularly in addressing the constraints of limited teacher expertise and class time. Digital resources such as high-definition videos of master calligraphers, virtual museum tours, interactive apps, and online galleries can provide students with access to authentic calligraphic works and expert instruction that would otherwise be unavailable.

This principle is supported by research showing that technology can enhance student engagement and learning in arts education (Chen et al., 2026). It also addresses the practical challenges identified by teachers regarding limited resources and expertise.

5.2.5. Comprehensive Teacher Support and Professional Development

The module should include comprehensive teacher support materials to help teachers implement it effectively, even if they have limited specialized training in calligraphy. These materials should include detailed lesson plans, teaching guides, assessment rubrics, and background information on calligraphy history and aesthetics. The module should also be accompanied by professional development opportunities to help teachers develop the knowledge and skills needed to teach aesthetic-oriented calligraphy.

This principle addresses the significant challenge of teacher shortages and limited training identified by all stakeholder groups. It ensures that the module is practical and implementable in real-world classroom settings.

5.2.6 Holistic Assessment of Both Technical and Aesthetic Competencies

The module should include a holistic assessment system that measures both technical skill and aesthetic development. Assessment should be ongoing and varied, including formative assessments such as observation, portfolio assessment, and peer feedback, as well as summative assessments. Assessment rubrics should clearly define expectations for both technical proficiency and aesthetic understanding, and should be shared with students at the beginning of each unit.

This principle addresses the current lack of assessment tools for aesthetic development in calligraphy education. It ensures that aesthetic education is taken seriously and that students are held accountable for developing both technical and aesthetic competencies.

6. Conclusion

This analysis phase of the ADDIE model has identified critical gaps in current primary school calligraphy education and has provided a strong empirical foundation for the development of an Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM). The findings demonstrate that current teaching practices are overly focused on technical skill acquisition and systematically neglect aesthetic development and cultural transmission. All stakeholder groups unanimously support the need for a new module that balances technique with aesthetics, incorporates cultural context, and uses engaging, student-centered pedagogical approaches.

The six evidence-based design principles presented in this paper will guide the subsequent phases of module development, including design, development, implementation, and evaluation. Future research will focus on creating a prototype module based on these principles, testing it in real classroom settings, and refining it based on feedback from teachers and students.

This study makes important contributions to both theory and practice. Theoretically, it demonstrates how the ADDIE instructional design model can be adapted to culturally specific arts education contexts. Practically, it provides a systematic needs assessment framework and evidence-based design principles that can be used by educators, curriculum designers, and policymakers to improve calligraphy education.

The main limitation of this study is its relatively small sample size, which was drawn from a single region in China. Future research should conduct broader needs assessments in other regions of China and in other countries where Chinese calligraphy is taught, to enhance the generalizability of the findings. Additionally, future research should explore the effectiveness of the Aesthetic-Oriented Chinese Calligraphy Teaching Module (AO-CTM) in improving student aesthetic development, cultural identity, and engagement with calligraphy.

Ethics Approval and Consent to Participate

The researchers used the research ethics provided by the Research Ethics Committee of Universiti Teknologi MARA (RECUiTM). All procedures performed in this study involving human participants were conducted in accordance with the ethical standards of the institutional research committee. Informed consent was obtained from all participants according to the Declaration of Helsinki.

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Conflict of Interest

The authors declare no conflicts of interest.

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