

A study on the development and practice of school-based fine arts curriculum of traditional Chinese colors in junior high schools

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Abstract: Against the background of cultural confidence construction and the requirements laid out in the *Compulsory Education Art Curriculum Standards (2022 Edition)*, junior high school fine arts teaching remains dominated by Western color theories, with traditional Chinese color culture marginalized and fragmented. Most frontline art teachers lack professional knowledge of traditional colors and large-unit teaching design capabilities. Based on constructivist learning theory and backward design theory, this study takes a junior high school art club in Guizhou as the practical platform to develop a school-based curriculum on traditional Chinese colors. Through multi-dimensional investigations and cyclic action research, a systematic large-unit curriculum guided by the Five Elements and Five Orthodox Colors system is established, with teaching objectives aligned with the four core competencies of fine arts. Results show that the curriculum effectively improves students' core fine arts competencies and strengthens their cultural confidence, providing a feasible paradigm for traditional color teaching in basic education.

Keywords: traditional Chinese colors; school-based fine arts curriculum; large-unit teaching; core competencies of fine arts; regional folk art resources

1 Introduction

1.1 Research background

The *Compulsory Education Art Curriculum Standards (2022 Edition)* lists "cultural understanding" as one of the four core competencies of fine arts [4], requiring systematic integration of excellent traditional Chinese culture into primary and secondary fine arts classrooms to promote the curriculum transformation of traditional visual cultural resources. The *Outline for the Construction of a Powerful Education Country (2024–2035)* further emphasizes exploring regional intangible cultural heritage and folk aesthetic educational resources through school-based curricula to compensate for the shortcomings of traditional cultural teaching [5]. Despite the prevalence of national trend aesthetics and traditional artistic culture, compulsory fine arts education has long centered on Western trichromatic theory and light-and-shadow systems. The traditional Chinese Five-Colors system rooted in Yin-Yang and Five-Elements philosophy only sporadically appears in textbook appreciation modules without systematic curriculum support [6].

Different from Western science-based optical color systems, the traditional Chinese Five-Colors system forms a holistic cultural and symbolic framework centered on cyan, red, yellow, white, and black [10]. Closely associated with the Five Elements, five directions, and five seasons, traditional colors embody ancient philosophical thoughts, ritual systems,

and hierarchical norms. Folk color application carries people's spiritual pursuit of blessing and disaster avoidance, with natural mineral and plant pigments forming its material foundation. In this research, traditional Chinese colors refer not merely to visual color manifestations but to the complete cultural context including hierarchical systems, folk connotations, and traditional pigment manufacturing techniques [9]. As a multi-ethnic region, Guizhou boasts rich traditional color resources embodied in Miao-ethnic costumes, northern Guizhou residential architecture, and traditional indigo dyeing crafts. Nevertheless, these precious local resources are rarely incorporated into regular classroom teaching, making after-school clubs and school-based curricula vital supplements to national curriculum deficiencies.

1.2 Research status at home and abroad

International scholarship in fine-arts education focuses on project-based teaching of indigenous color resources and folk crafts. Scholars in Europe, America, and East Asia widely adopt backward design and large-unit teaching modes to integrate regional visual resources [2-3], yet few studies focus on the classroom practice of China's Five Elements and Five Colors system. Domestic research falls into two categories: text-based theoretical research on traditional color philosophy and ritual symbols conducted by academic institutions, and sporadic teaching explorations in primary and senior high schools. Most existing school-based curriculum studies focus on paper cutting, traditional Chinese painting, and calligraphy, while systematic action research on large-unit traditional color curricula for junior high schools remains insufficient [1].

1.3 Research significance

Theoretically, this study supplements localized empirical data on core competency-oriented large-unit teaching [11] and improves the theoretical system of traditional color education in basic education [7]. Practically, it conducts on-site teaching practice of traditional Chinese color culture and forms scalable teaching cases for compulsory fine arts education. This research presents two major innovations: dynamically optimizing curriculum design through cyclic action research [1] and quantitatively evaluating teaching effects via pre-test and post-test data; integrating northern Guizhou regional and Miao ethnic color resources to develop differentiated and stratified teaching tasks adapted to local student learning characteristics.

2 Research implementation and curriculum development paths

2.1 Current teaching problems based on investigation

Questionnaire surveys and follow-up studies among art club students in Guizhou junior high schools reveal four prominent teaching problems. First, teachers lack adequate teaching competence in traditional color education. 44.59% of teachers fully rely on Western color theories in teaching, and 56.76% only master basic color names with superficial understanding of Five Elements color culture and ritual-related color symbols in traditional costumes. Although 85.99% of teachers have received large-unit teaching training, merely 21.66% are capable of independent holistic unit design, and 58.6% report severe shortages of traditional color and folk craft teaching resources. Most teachers regard traditional color content as incidental appreciation materials rather than systematic curriculum units.

Second, students exhibit superficial cultural cognition and differentiated learning preferences. Over 70% of students are interested in color matching and dyeing practice, while only 6.67% actively explore the cultural connotations behind colors. Female students prefer costume color appreciation, whereas male students are more inclined toward architectural color research and pigment experiments, making unified teaching inefficient. In addition, 63.16% of students can only distinguish basic five colors without understanding their symbolic meanings, showing insufficient abilities in knowledge application and cultural creative design.

Third, curriculum content is fragmented and lacks contextual connections. Traditional color knowledge in textbooks is

scattered and unsystematic. Classroom teaching overemphasizes picture appreciation while neglecting hands-on practices such as mineral pigment grinding and indigo dyeing, resulting in insufficient intuitive experience and weak cultural identity among students.

Fourth, the evaluation system is unitary and skill-oriented. Current fine arts evaluation only assesses final artworks, lacking process-oriented evaluation of cultural interpretation, creative design, and practical participation, which fails to effectively measure students' cultural understanding competency.

2.2 Cause analysis of teaching problems

First, teacher training is homogenized, focusing excessively on Western color techniques without specialized training on traditional Chinese colors and ethnic aesthetic education. Second, regular fine arts class hours are limited, prioritizing basic painting instruction and leaving traditional color education dependent on after-school clubs. Third, Guizhou's local folk resources are scattered without standardized school-based resource packages, increasing teachers' material collection costs. Fourth, semester assessments prioritize painting skills while ignoring cultural exploration and practical achievements, reducing teachers' motivation for curriculum innovation. Fifth, undifferentiated instructional designs overlook gender-based disparities in student interests, and abstract theoretical content reduces classroom engagement.

2.3 Development and optimization of traditional-color themed school-based curriculum

2.3.1 Construction of six-themed large-unit curriculum framework

Centered on the Five Elements and Five Colors system, this study constructs a coherent curriculum system with hierarchical learning objectives, including six modules: traditional color cognition and Sino-Western color comparison, architectural color appreciation combining the Forbidden City and northern Guizhou dwellings, color culture of ancient official costumes and Miao ethnic costumes, color narrative in ancient paintings exemplified by *Zhongxing Ruiying Tu* [8], color symbolism of folk art in new-year paintings and folk customs, and traditional pigment production including mineral grinding and indigo tie-dyeing. The curriculum is closely connected to students' daily life scenarios, prioritizing learning-by-doing pedagogy to improve practical abilities and ensure high teaching effectiveness.

2.3.2 Differentiated teaching based on student learning characteristics

Gender-differentiated tasks are designed to adapt to learning preferences: female students focus on costume color matching and cultural and creative pattern design, while male students engage in architectural color investigation and pigment craft experiments. Abstract Five Elements theories are visualized through prism optical experiments and color card matching games. Obscure ancient painting theories are simplified and supplemented with modern cases such as national trend clothing and campus cultural creativity. Time-consuming dye fermentation procedures are completed in advance to ensure sufficient in-class creation time.

2.3.3 Exploration of local color-teaching resources of Guizhou

A localized teaching resource package is developed, comprising architectural atlases of northern Guizhou dwellings, local indigo planting-and-dyeing procedures, and color specimens of Miao embroidery. Field investigations of surrounding ancient buildings and on-site plant pigment extraction activities are organized to help students perceive traditional colors from daily environments and bridge the gap between students and traditional culture.

2.3.4 Construction of a four-dimensional and diversified evaluation system

Breaking the single artwork evaluation mode, this study establishes a closed-loop teaching evaluation system covering four dimensions: knowledge mastery through in-class theoretical questioning, artistic expression via tie-dye and color-matching works, creative practice through cultural-and-creative design of traditional colors, and cultural understanding based on cultural essays. The system integrates teacher evaluation, student self-evaluation, and peer evaluation. Portfolio

assessment is adopted to record classroom performance, experimental records, and after-school inquiry assignments, fully tracking students' competency development.

2.3.5 Iterative curriculum optimization through cyclic action research

After the first round of teaching, targeted adjustments are made to address low participation (34.21%) in ancient-painting modules and insufficient practical proficiency (below 50%). The research simplifies obscure historical narratives, adds modern color application cases, extends practical class hours for pigment production and dyeing, and develops micro-lesson demonstration videos. Supplementary activities including field trips and online lectures delivered by intangible cultural heritage inheritors are added. After iteration, students' curriculum satisfaction reaches 68.42%, with significantly improved cultural identity.

3 Conclusion

This study addresses the marginalization of traditional Chinese color culture in junior high school fine-arts education by developing and implementing a school-based curriculum centered on the Five-Elements and Five-Colors system. Through systematic curriculum development, cyclic action research, and integration of local folk color resources, the research constructs a localized, practical paradigm that bridges traditional cultural heritage and contemporary classroom teaching. The findings confirm that a well-structured large-unit curriculum with adequate hands-on practice and differentiated instruction can effectively cultivate students' cultural understanding competency and strengthen their cultural confidence.

3.1 Research findings

Through literature review, large-scale questionnaires, and two rounds of cyclic action research, this study clarifies core problems in current junior high school traditional color teaching, including fragmented curriculum content, insufficient teacher professional capacity, and students' superficial cultural cognition. The research verifies that school-based curriculum centered on the Five Elements and Five Colors, integrated with local folk resources and sufficient hands-on practice, can effectively improve students' core competencies of aesthetic perception and cultural understanding and make up for the deficiencies of traditional aesthetic education in regular classrooms.

After systematic curriculum learning, students can establish complete knowledge and skill systems: understanding the Five-Elements philosophy and hierarchical symbolism of orthodox and secondary colors; grasping the cosmological and ritual connotations of architectural and costume colors; interpreting the political symbolism of colors in classical paintings; mastering decorative and auspicious color-matching rules in folk art; and proficiently completing pigment production and tie-dye creation with independent innovative design capabilities.

3.2 Research limitations

First, the research samples are limited to junior high schools in Zunyi, Guizhou, restricting the generalizability of research conclusions, which requires further cross-regional verification. Second, the research cycle is relatively short without long-term tracking throughout a complete academic year, making it impossible to evaluate the sustained influence of the curriculum on students' aesthetic literacy.

3.3 Future research prospects

Subsequent research can expand sampling scope to conduct cross-regional comparative studies on school-based traditional color curricula, explore interdisciplinary integration with Chinese-language, history, and chemistry disciplines, and further improve the long-term comprehensive aesthetic education evaluation mechanism covering pre-class, in-class, and post-class teaching links.

Conflicts of interest

The author declares no conflicts of interest regarding the publication of this paper.

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