

ADDIE-Based Instructional Design for Chengdu Cultural IP across K-16: The Case of Du Fu Thatched Cottage

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Abstract: The curricular transformation of local cultural intellectual property (IP) represents a critical issue in contemporary cultural heritage preservation and educational reform. This paper takes Chengdu's Du Fu Thatched Cottage as the core cultural symbol, and employs the ADDIE (Analysis, Design, Development, Implementation, Evaluation) instructional design model—a systematic five-phase framework—to systematically construct a curriculum resource development path spanning primary, secondary, and tertiary levels. Through cultural value deconstruction and learner needs diagnosis in the Analysis phase, the spiral humanistic literacy objective system in the Design phase, differentiated grade-level resource packages in the Development phase, interdisciplinary integration instructional strategies in the Implementation phase, and continuous developmental tracking in the Evaluation phase, this research establishes a progressive chain from cultural perception to cross-cultural communication, providing a applicable theoretical paradigm and practical framework for the educational transformation of local cultural IP.

Keywords: Du Fu Thatched Cottage; ADDIE Model; Chengdu Cultural IP; Instructional Design; K-16; Humanistic Literacy

1. Introduction

The curricular transformation of local cultural resources constitutes the convergence point of cultural heritage preservation and educational innovation in the new era. As a national historical and cultural city, Chengdu possesses abundant cultural IP resources, among which Du Fu Thatched Cottage, with its unique material space, profound textual accumulation,

and exalted spiritual value, has emerged as a core cultural symbol with exceptional potential for educational development.

In the second year of the Qianyuan era (759 CE) under Emperor Suzong of the Tang Dynasty, Du Fu took refuge in Chengdu, residing in a thatched cottage by the Huanhua Stream, where he composed over two hundred and forty poems, including such immortal masterpieces as Song of My Thatched Cottage Ruined by the Autumn Wind, A Happy Rain on a Spring Night, and The Temple of Zhuge Liang, thereby forming the unique phenomenon of “Chengdu Poetry” in Chinese literary history [1]. This cultural resource not only carries the historical memory of the Tang Dynasty and the art of classical poetry, but also embodies the benevolent spirit of “How I wish I could have ten thousand. To shelter all the poor scholars and make them happy,” possessing educational value that transcends temporal and spatial boundaries.

However, current educational utilization of Du Fu Thatched Cottage is generally characterized by fragmented resources, disarticulated grade-level progression, and superficial experiential engagement. At the primary level, instruction typically remains confined to simple poetry recitation and sightseeing visits; at the secondary level, internal articulation between junior and senior high school is lacking, with disconnections between historical contextual reconstruction and critical analysis; and at the tertiary level, the resource remains disconnected from professional education. This disarticulated state prevents students from developing systematic understanding and sustained humanistic literacy development regarding the Du Fu Thatched Cottage as a cultural IP.

The ADDIE instructional design model, as a classical systematic instructional design framework encompassing Analysis, Design, Development, Implementation, and Evaluation

phases, provides methodological support for the curricular transformation of local cultural IP through its cyclic iterative structure (Branch, 2009: 12). This study aims to integrate the ADDIE (Analysis, Design, Development, Implementation, Evaluation) model with the educational development of the Du Fu Thatched Cottage cultural IP, constructing a curriculum resource development path that covers primary, secondary, and tertiary levels, thereby realizing the progressive development of humanistic literacy from cultural perception to cultural communication.

2. Theoretical Foundation and Analytical Framework

The ADDIE (Analysis, Design, Development, Implementation, Evaluation) model originated in the 1970s within the American military training domain, comprising a cyclic iterative structure of five phases: Analysis, Design, Development, Implementation, and Evaluation [2]. Zhong Qiquan notes that curriculum development based on core competencies must respond to the challenges of globalization and informatization, and instructional design must transition from “knowledge transmission” to “competency cultivation”—the systematic characteristics of the ADDIE model precisely providing an operational framework for this transformation [3].

Bruner’s [4] spiral curriculum theory provides the cognitive developmental basis for whole-academic-level articulation. Bruner posits that any fundamental concept of any discipline can be taught in some intellectually honest form to any child at any stage of development; the key lies in presenting it in a form consonant with the child’s mode of thinking and subsequently deepening and expanding it through successive learning [4]. Guo Hua further emphasizes that the essence of project-based learning lies in creating complex problems within authentic contexts, enabling students to achieve deep understanding and transfer application of knowledge through sustained inquiry [5].

This theoretical insight suggests that the Du Fu Thatched Cottage cultural IP can be presented in the form of experiential perception at the primary level, deepened through historical understanding and critical analysis at the secondary level, and transformed through academic innovation at the tertiary level,

forming a spirally ascending cognitive chain.

This study integrates the ADDIE model with spiral curriculum theory to construct a three-dimensional analytical framework: the vertical dimension represents the linear progression and cyclic iteration of the ADDIE five phases; the horizontal dimension represents the gradient articulation across primary, secondary, and tertiary levels; and the depth dimension represents the value excavation of the Du Fu Thatched Cottage cultural IP at the material spatial layer, textual heritage layer, and spiritual kernel layer.

3. Analysis Phase: Cultural Value Deconstruction and Learner Needs Diagnosis

The core task of the Analysis phase lies in identifying the multi-layered educational value of the cultural IP, diagnosing the cognitive characteristics and developmental needs of learners at different academic levels, and clarifying curriculum policy interfaces.

The Du Fu Thatched Cottage cultural IP possesses three layers of progressive educational value. The material spatial layer encompasses physical relics, including the thatched cottage residence, the Gongbu Shrine, the Flower Path, and the Tang Dynasty archaeological site, providing learners with perceptible historical contexts and spatial cognitive objects. The textual heritage layer encompasses over two hundred and forty poems composed by Du Fu during his Chengdu period, constituting the rare phenomenon of a “local poetry corpus” in Chinese literary history, providing abundant textual resources for interdisciplinary learning. The spiritual kernel layer manifests through three dimensions of Du Fu’s personality: the patriotic sentiment of concern for the country and people, the benevolent spirit of extending one’s empathy to others, and the poetic pursuit of “not resting until one’s words astonish the world” [6].

Significant differences exist in the cognitive characteristics and humanistic literacy developmental needs of learners across academic levels. At the primary level, children’s thinking is dominated by concreteness and emotion; humanistic literacy development emphasizes cultural perception and aesthetic enlightenment, with educational objectives aimed at establishing the intimate identity recognition that “my city has a poetic sage.” At the secondary level, students’ abstract logical thinking develops, historical chronological consciousness takes form, and

dialectical thinking and critical consciousness are progressively enhanced; humanistic literacy development shifts from historical understanding and cultural comparison at the junior high stage toward cultural critique and subject construction at the senior high stage, requiring the reconstruction of Du Fu as “a Tang Dynasty resident of Chengdu” and examining the historical formation of the “Poetic Sage” title. At the tertiary level, students demonstrate methodological consciousness in their disciplines and expanded global perspectives; humanistic literacy development points toward cultural communication and academic innovation, encompassing professional domains such as cross-cultural encoding in English translation of Du Fu’s poetry and international curatorial practice at the Thatched Cottage Museum.

Curriculum policies provide interface spaces for the three levels. At the primary level, the Chinese course requires recitation of excellent poetry and emotional experience, while the Morality and Law course addresses community and hometown themes. At the secondary level, the History course covers the Sui-Tang period content, and the Chinese Language Arts course requires understanding the development of poetry; senior high elective courses and school-based curricula provide flexible space for specialized in-depth learning, while the Ideology and Politics course’s theme of cultural confidence aligns highly with the spiritual kernel of Du Fu Thatched Cottage. At the tertiary level, professional courses in Chinese language and literature, cultural heritage, and cultural communication provide platforms for academic research and communication practice.

4. Design Phase: Spiral Objective System and Interdisciplinary Integration Pathways

The Design phase establishes the spiral humanistic literacy objective system and plans grade-level differentiated interdisciplinary integration pathways.

The core objectives across the three academic levels present a spirally ascending structure. At the primary level, cultural perception serves as the core, articulated as “The rain on the thatched cottage—I understand,” emphasizing the establishment of aesthetic experience and local identity. At the secondary level, historical understanding and critical thinking serve as the core; the junior high objective is articulated as

“Du Fu in Chengdu—I seek,” emphasizing comprehension of historical context and literary value, while the senior high objective is articulated as “The title of Poetic Sage—I question,” emphasizing examination of the construction process and contemporary significance of cultural heritage. At the tertiary level, cultural communication serves as the core, articulated as “Du Fu’s world—I transmit,” emphasizing the identity transformation from cultural consumer to cultural communicator.

The interpretive depth of the same cultural theme demonstrates gradient differentiation across academic levels. Taking Song of My Thatched Cottage Ruined by the Autumn Wind as an example: at the primary level, the focus is on the sensory experience of “rain”, establishing an emotional bridge between the poem and individual experience; at the secondary level, the junior high focus is on the historical context of “ruined”, situating the poem within the background of the An Lushan Rebellion, while the senior high focus is on the constructiveness of “song”, analyzing the dynastic formation history of the “Poetic Sage” title and heritage politics; at the tertiary level, the focus is on the cross-cultural transformation of “transmission”, exploring English translation strategies for Du Fu’s poetry and digital humanities presentation.

Interdisciplinary integration pathways progressively deepen with advancing academic levels. At the primary level, Chinese language arts serve as the primary discipline, integrated with fine arts and morality and law. At the secondary level, Chinese language arts and history serve as primary disciplines, with junior high integrating geography and information technology, and senior high integrating ideology and politics. At the tertiary level, Chinese language and literature, cultural communication, and translation studies serve as primary disciplines, integrated with digital humanities.

5. Development Phase: Differentiated Resource Packages by Academic Level

The Development phase translates the objectives established in the Design phase into operable instructional resources, forming a system of grade-level differentiated resource packages and cross-level articulation resources.

The primary resource package is characterized by experiential connection and aesthetic enlightenment. Recitation audio employs children’s chanting versions; the original picture

book *The Rain at Du Fu's House* employs a narrative framework in which a contemporary Chengdu child travels back to the Tang Dynasty thatched cottage; learning tool design emphasizes embodied cognition, such as the thatched cottage leaking rain simulation experiment [7].

The secondary resource package is characterized by historical reconstruction, field investigation, and critical analysis. The junior high component includes: the digital map of Du Fu's Chengdu itinerary based on geographic information systems; a poetry corpus reader selecting ten representative works from Du Fu's Chengdu period; and the Thatched Cottage Museum investigation task designing inquiry activities [8]. The senior high component includes: excerpts from Mo Lifeng's *Critical Biography of Du Fu* and Stephen Owen's *The Great Age of Chinese Poetry Du Fu* forming a methodological contrast between indigenous interpretation and overseas Sinology; a compiled statistical sourcebook of the historical usage of the "Poetic Sage" title across dynasties; comparative materials on Thatched Cottage Museum curatorial schemes; and the debate topic "Is Poetic Sage a Literary Evaluation or a Cultural Construction?" [9].

The tertiary resource package is characterized by professional methodology and a global perspective. The parallel text database of Du Fu's poetry in English translation collects versions by translators including Xu Yuanchong [10] and Stephen Owen [11], accompanied by translation strategy annotations. The digital humanities toolkit provides guides for Python sentiment analysis and Gephi semantic network visualization [12]. The international communication material library collects practical materials, including reports on overseas exhibitions of the Thatched Cottage.

Cross-level articulation resources ensure the continuity of cognitive development [13]. Poetry-and-painting works from the primary level are transformed into primary image materials for historical context analysis at the secondary level; investigation records and debate position statements from the secondary level, after academic rewriting, become pre-survey texts for research-based learning at the tertiary level.

6. Implementation Phase: Interdisciplinary Integration Instructional Strategies

Primary level implementation emphasizes situated immersion and experiential awakening. Classroom instruction introduces Chengdu autumn rain sound effects to establish pre-verbal connections between sound and emotion. Poetry recitation employs a multi-pass progressive structure, moving from pronunciation correction to rhythmic reading to affective comprehension. Key questioning focuses on experiential comparison, such as "How is the rain at Du Fu's house similar to the rain at your house?" Place-based extension activities guide children to discover traces of Du Fu in daily life [14].

Secondary level implementation emphasizes historical reconstruction, field inquiry, and critical seminar discussion. At the junior high stage: preparatory instruction in history classes reviews the background of the An Lushan Rebellion; field investigation adopts a task-driven model; poetry instruction employs a poetry corpus comparison strategy, juxtaposing the joy of *A Happy Rain on a Spring Night* with the sorrow of *Song of My Thatched Cottage Ruined by the Autumn Wind* [15]. At the senior high stage: issue setting focuses on the constructiveness of cultural heritage; reading materials provide dual perspectives of indigenous and overseas scholarship; academic writing training emphasizes argumentative logic rather than position selection [16].

Tertiary level implementation emphasizes project-based learning and interdisciplinary integration. The course adopts a 16-week seminar structure, divided into three modules: translation strategy comparison, digital humanities analysis, and international communication practice. The translation module focuses on the methodological differences between Xu Yuanchong's "Three Beauties" theory and Stephen Owen's "historical translation" [17]. The digital humanities module teaches Python sentiment analysis and Gephi network visualization techniques. The communication module takes the Thatched Cottage Museum's international curation as a case study [18].

7. Evaluation Phase: Continuous Humanistic Literacy Development Tracking

The evaluation emphases and instruments across the three academic levels demonstrate differentiated design. The primary level emphasizes emotional resonance and local identity, employing poetry-and-painting portfolios and classroom observation records.

The secondary level emphasizes historical interpretation, field investigation, and critical depth, with junior high employing investigation report rubrics and poetry corpus reading tests, and senior high employing academic paper evaluation rubrics and debate performance scoring. The tertiary level emphasizes academic rigor and cross-cultural transformation, employing peer review and supervisor evaluation [19].

Cross-level continuous tracking constitutes the core innovation of the Evaluation phase. The “Du Fu Thatched Cottage Humanistic Literacy Development Portfolio” is designed to record student developmental trajectories across three dimensions: cognition, affect, and behavior. The cognitive dimension tracks the deepening of understanding from “the feeling of rain” to “the condition of people and the construction of the title” and finally to “cross-cultural communication.” The affective dimension tracks the maturation of emotion from “liking Du Fu” to “understanding and questioning Du Fu” and finally to “transmitting Du Fu.” The behavioral dimension tracks the expansion of practice from “reciting poetry” to “field investigation and academic writing” and finally to “curatorial translation digital projects.”

Key assessment nodes are established at grade-level transition points; through portfolio transfer and core competency checklists, students are diagnosed for cognitive readiness to enter the next academic level. Meta-evaluation focuses on implementation reflection across ADDIE phases: whether cultural value deconstruction is excessively academical in the Analysis phase; whether spiral objectives truly form progression in the Design phase; resource appropriateness in the Development phase; time costs of interdisciplinary coordination and teacher collaboration mechanisms in the Implementation phase; and resolution of the quantification dilemma of humanistic literacy in the Evaluation phase. These reflections are collected through teaching logs, student feedback, and expert review, feeding back to the starting point of the ADDIE cycle to drive continuous iteration of curriculum resources [20].

8. Conclusion

This study, taking Du Fu Thatched Cottage as the core case, and employing the ADDIE

instructional design five-phase model, has systematically constructed a curriculum resource development path for Chengdu cultural IP covering the full academic spectrum from primary school through university. The research confirms that the educational transformation of local cultural IP must transcend simple sightseeing visits and knowledge inculcation, establishing systematic analytical frameworks, spiral objective systems, differentiated resource development, and continuous evaluation tracking. The material space, textual heritage, and spiritual kernel of Du Fu Thatched Cottage are presented at different depths and in different forms across academic levels, forming a progressive chain of humanistic literacy development from cultural perception to cultural communication. This pathway provides an applicable paradigm for the curricular development of other Chengdu cultural IPs such as Wuhou Shrine, Jinsha Site, and Kuanzhai Alley, and offers theoretical reference and practical guidance for the school-based educational transformation of local cultural resources nationwide.

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