Research on the Competency Reshaping and Training Paths for Cultural Tourism Translation Talents in the Digital Intelligence Era

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Abstract: *Against the backdrop of global digital transformation and the deep integration of cultural and tourism industries, digital intelligence technologies have given rise to new formats such as smart tourism, posing new demands for instant, accurate, and multi-modal translation in cultural tourism. Traditional training models, centered solely on language skills, are inadequate for these complex requirements. This study aims to explore the competency reshaping and training paths for cultural tourism translation talents in this new era. By constructing a "language-technology-cultural tourism" tripartite competency model, the paper systematically proposes three core training strategies: first, restructuring the curriculum system with interdisciplinary modules for deep knowledge integration; second, creating a "virtual-real fusion, data-driven" intelligent practical training platform to enhance students' practical and innovative abilities through real-world projects and multidimensional evaluation; third, implementing a "dual introduction and cultivation, two-way flow" faculty strategy to build a school-enterprise collaborative lifelong learning mechanism ensuring faculty currency. These measures aim to systematically cultivate composite talents possessing cross-cultural narrative skills, technological application capabilities, and industrial insight, ultimately serving the international upgrade of China's cultural tourism industry and the effective enhancement of its cultural soft power.*

Keywords: *Cultural Tourism Translation, Digital Intelligence Era, Talent Training, Competency Model, Interdisciplinary Integration*

1. Introduction

Driven by both global digital transformation and the integration of culture and tourism, digital intelligence technologies like 5G, artificial intelligence, and big data have catalyzed new formats such smart tourism and immersive cultural experiences, thereby reconstructing the practical scenarios for cultural tourism translation. Smart tourism requires instant and accurate multilingual and multi-modal translation to meet tourist information needs, while the deepening "Culture Going Global" strategy demands cultural tourism translation to become a key link in enhancing cultural soft power. However, traditional training of cultural tourism translation talents, focusing on language skills while neglecting technological literacy, cross-cultural communicative competence, and innovative thinking, can no longer meet the complex demands of the digital intelligence era[1]. In this context, this study holds both theoretical and practical value. Theoretically, by analyzing the new characteristics and demands of cultural tourism translation in the digital intelligence era and integrating theoretical approaches from translation studies, digital humanities, and artificial intelligence, it aims to expand the boundaries of translation studies, enrich its theoretical connotation, and construct a multidimensional competency model for cultural tourism translation talents, providing a framework for subsequent empirical research and teaching practice. Practically, the proposed competency structure can offer direct guidance for the reform of translation programs in higher education, helping to optimize curriculum design, innovate teaching methods, cultivate composite talents with both cultural awareness and technological literacy, and promote the international upgrade of China's cultural tourism industry.

2. Current Examination of the Competency Structure of Cultural Tourism Translation Talents in the Digital Intelligence Era

Against the backdrop where digital intelligence technologies are profoundly reshaping the cultural

tourism industry, the traditional competency structure and teaching system for cultural tourism translation talents are inadequate for new industry demands[2]. Their core limitations and structural issues can be systematically reviewed from two aspects: competency composition and teaching practice.

From the perspective of the traditional competency structure, teaching centered on language conversion exhibits significant limitations. In terms of language and cultural conversion ability, traditional training focuses on the static conversion of written texts between languages, employing foreignization and domestication strategies[3], yet fails to cope with the dynamic demands of digital intelligence scenarios. For instance, VR guided tours in smart scenic spots require simultaneous processing of real-time speech translation and dynamic graphic annotations, whereas the traditional system only emphasizes linguistic accuracy, making it difficult to achieve the complete transmission of cultural information and emotional resonance across dynamic scenarios and multi-modal carriers. Regarding domain knowledge, the traditional system is built around the linear narrative of tourism texts, focusing on traditional scenarios like scenic spot introductions and folk culture, lacking interdisciplinary knowledge required by new digital cultural tourism formats. Faced with areas like virtual tourism and immersive theaters, translators, due to a lack of understanding of VR interaction logic, trans-coding rules for cultural symbols in virtual scenes, relevant technical terminology, and multi-modal narrative frameworks, can only passively participate in post-production text patching, unable to deeply engage in the pre-translation design of digital cultural tourism products. In terms of professional quality, traditional cultivation focuses on linguistic rigor and cross-cultural communication awareness, neglecting the essential technological literacy and industrial collaboration skills required in the digital intelligence era. The industry's "AI initial translation + post-editing" model requires translators to be proficient in using computer-assisted tools and controlling the quality of AI-translated output. However, traditional talent cultivation treats technology merely as an auxiliary, leading to inefficiencies and insufficient communication precision. Simultaneously, as translators lack understanding of the cultural tourism industry chain logic and user needs, they find it difficult to collaborate with planners and engineers, often resulting in translation outcomes that are detached from the actual context and thus ineffective.

Existing translation teaching predominantly centers on translation theory and language skills, showing significant lag in curriculum design, teaching methods, and evaluation systems. In curriculum design, core translation courses mainly consist of linguistics, cross-cultural communication, and translation theory. Courses related to digital intelligence technology are mostly offered as electives with limited class hours and credits. Furthermore, traditional translation courses lack the integration of digital intelligence elements, such as AI post-editing and multi-modal translation practical training, preventing students from effectively connecting technical skills with translation practice. There is a disconnect between interdisciplinary knowledge and translation teaching. The absence of cross-disciplinary courses like the digital cultural tourism industry and multi-modal communication in cultural tourism, coupled with the lack of collaborative teaching mechanisms with computer science and tourism management departments, means students cannot grasp the technical logic and industrial demands of digital cultural tourism. Consequently, their translation outputs often misalign with the communication needs of digital cultural tourism products. At the teaching methodology level, instruction largely revolves around theoretical explanation and simulated translation, with limited inclusion of real digital intelligence cultural tourism translation projects, such as multi-modal guided tour translations for smart scenic spots or translations for digital museum artifacts. This prevents students from experiencing actual industry workflows. The lack of interdisciplinary collaborative teaching mechanisms and the failure to invite technical and planning personnel from cultural tourism enterprises to participate in teaching hinder students' access to cutting-edge industry trends, making it difficult to translate theoretical knowledge into practical skills. At the evaluation level, key indicators for cultural tourism translation in the digital intelligence era are overlooked, deviating from the core value of technology-enabled efficient cultural communication. Even if a translation is linguistically accurate, its failure to achieve cultural communication goals due to incompatibility with digital platform dissemination logic – resulting in low reach – is not captured by traditional evaluation systems. This not only fails to measure these crucial factors but also guides students to overemphasize linguistic accuracy at the expense of core competencies like technology application and communication effectiveness.

3. Competency Reshaping for Cultural Tourism Translation Talents in the Digital Intelligence Era

3.1. Deep Expansion of Language and Cultural Competence

Cross-cultural Narrative Ability: In the digital intelligence era, cultural tourism translation is no longer confined to textual conversion but requires mastering the trans-coding skills of multi-modal cultural symbols. For example, transforming cultural elements like ancient Chinese poetry and folk stories into audiovisual texts suitable for short video dissemination demands that translators possess not only solid language skills but also an understanding of different cultural narrative styles and audience psychology. By finding similar cultural images and emotional resonance points, foreign audiences can more easily understand and accept the content. During translation, it's crucial not only to accurately convey the story's plot but also to consider how to enhance cultural appeal through multi-modal elements like music and visuals.

Dynamic Context Adaptation Ability: The need for instant interaction in cultural tourism scenarios, such as smart guided tours and cross-border live streams, places higher demands on the translator's ability to provide colloquial translations and offer immediate explanations of cultural metaphors. During smart guided tours, tourists may ask questions at any time, requiring the translator to quickly understand the query's meaning and provide accurate, easy-to-understand translations based on the context. In cross-border live streams, frequent interaction between the host and viewers necessitates real-time translation of the host's speech and immediate interpretation of any cultural metaphors involved, ensuring the audience comprehends the broadcasting content[4].

3.2. Iterative Upgrade of Technology Application Capabilities

Digital Intelligence Tool Operation Ability: Proficiency in using AI translation tools, corpus management tools, and translation project management systems is an essential skill for cultural tourism translation talents in the digital intelligence era. AI translation platforms can quickly generate first drafts, improving translation efficiency; corpus management tools help translators access numerous translation examples and specialized terminology, enhancing translation quality; translation project management systems standardize and streamline the translation workflow.

Data-Driven Decision-Making Ability: By analyzing user browsing data, translation quality scores, and other information, translators can understand user needs and preferences, optimizing the cultural adaptation strategies of their translations. Utilizing data analysis tools also allows for the evaluation of the communication effectiveness of different translation versions, thereby enabling the selection of the most suitable translation strategy.

3.3. Composite Reconstruction of Professionalism

Cultural Tourism Industry Insight: Understanding the digital logic of the cultural tourism industry chain is a crucial quality for talents in this field. This involves grasping how digitization transforms service processes, product forms, and operational models in cultural tourism, clarifying the functional positioning of translation within smart cultural tourism scenarios. Translation should adapt to the logic of intelligent management and user experience. Simultaneously, based on industrial practice, understanding the full-chain operation of cultural tourism IPs and clarifying the adaptation logic of translation strategies in different scenarios allows translation to embed itself into the cultural tourism industry value chain, enhancing its practical value[5].

Ethical Responsibility Awareness: Upholding the role of cultural gatekeeper amidst the proliferation of AI translation. It is necessary to proactively avoid cultural misinterpretations caused by technology, ensuring the accurate transmission of content related to red culture, intangible cultural heritage, etc., and preventing the sacrifice of cultural value for the sake of efficiency. Furthermore, considering the social impact of translation, the goal should be to promote positive cultural exchange, transmit positive values, balance cultural cognitive gaps, and demonstrate the sociocultural value of translation.

4. Training Paths for Cultural Tourism Translation Talents in the Digital Intelligence Era

4.1. Constructing a "Language-Technology-Cultural Tourism" Integrated Curriculum System

This path aims to systematically cultivate students' composite knowledge structure through modular

restructuring of the curriculum. Specifically, it necessitates breaking away from the traditional single-subject setup centered on language. Instead, three core course modules should be established: Language and Culture Depth, Technology Enablement and Application, and Cultural Tourism Industry Insight. Active development of interdisciplinary courses in collaboration with schools of Computer Science and Tourism Management is also crucial. This path directly addresses the root cause of the current lack of technological literacy and industry knowledge in talent training. By elevating technology application and industry insight to a status equally important as language ability, it ensures students acquire a systematic knowledge framework supporting their multidimensional competency development. Core courses are shown in Table 1[6][7].

Table 1:Core Courses List

Course Name	Course Objectives
Integrated English	Builds general English language foundation, covering core content like vocabulary, grammar, and discourse comprehension; trains basic English reading and writing skills, focusing on complex sentence analysis and text logic structuring.
Cross-cultural Communication	Master the core logic of cross-cultural interaction; understand cognitive differences, communication etiquette taboos, and methods for interpreting cultural metaphors across different cultural backgrounds.
Introduction to Translation	Establish a cognitive framework for translation; select basic theories applicable to cultural tourism translation; use cultural tourism translation cases to analyze the translation process, guiding students to understand the core logic of translation.
Introduction to Digital Intelligence Translation	Systematically analyze the current industrial application of digital intelligence translation; introduce the basic principles and conceptual systems of core digital intelligence translation technologies; analyze the impact of digital intelligence technologies on translation industry production models and professional competency requirements.
Fundamentals of Cultural Tourism Translation Tools	Focus on basic practical operation of CAT tools, basic use of AI translation platforms, and application of translation quality inspection tools; enable students to master the use of technical tools to solve basic translation problems.
AI Translation Post-Editing	Teach the operation of AI translation tools; through practical training in cultural tourism scenarios, cultivate students' ability to identify and optimize AI-translated text, helping them use tools to complete actual translation tasks in the industry.
Practice in Translating Cultural Tourism Symbols	Address culturally challenging translation points in cultural tourism translation, such as folk proverbs, intangible cultural heritage symbols, and specific expressions of red culture; explain translation strategies like analogy, explanation, and cultural compensation; train students to accurately convey cultural connotations.
Construction and Application of Translation Corpora	Guide students in collecting translation materials in the cultural tourism field, perform tasks like data cleaning, terminology tagging, and categorized storage to build a small-scale dedicated cultural tourism corpus; learn to link the corpus with CAT tools for use.
Practice in Smart Scenic Area Translation	Focus on translation tasks for scenarios like smart guided tours, intelligent ticketing, and emergency services in smart scenic areas; train students' translation abilities while helping them understand the intelligent management processes of scenic areas, enabling translation services to align with scenic area operational logic.
Translation Project Management and Collaboration	Use a "Virtual Cultural Tourism Project Platform" to simulate processes like requirement alignment and progress control, providing understanding of the full workflow of cultural tourism translation projects; explain cross-role collaboration, project tool application, and risk response.
Innovative Entrepreneurship Project Design for Cultural Tourism Translation	Connect with unmet needs in the cultural tourism industry; guide students through the entire process of market research, scheme design, technology integration, and feasibility analysis for innovative entrepreneurship projects; cultivate their mindset for transforming translation ability into industrial value.
International Cultural Tourism Translation Standards and Ethical Norms	Explain internationally recognized translation standards; analyze the ethical boundaries of translation in special fields like red tourism and intangible cultural heritage; cultivate students' professional quality to adhere to ethical bottom lines and comply with industry standards in international projects.
International Cultural Tourism Communication and Translation Strategies	Explain the core logic and methods of international cultural tourism communication; for scenarios like digital platforms and cross-cultural events, cultivate students' ability to formulate culturally adapted communication and translation strategies.

4.2. Building a "Virtual-Real Fusion, Data-Driven" Intelligent Practical Training Platform and Evaluation System

Utilizing technologies like digital twins and big data, construct a highly simulated and iteratively optimizable intelligent training environment to address the pain points of difficulty in replicating digital

intelligence cultural tourism translation scenarios and quantifying competencies. On one hand, partner with technology companies and cultural tourism scenic spots to jointly develop a "Metaverse Practical Training Platform for Cultural Tourism Translation," simulating complex scenarios ranging from multilingual guided tours in smart scenic spots to cross-border e-commerce live streams for cultural tourism and online international intangible cultural heritage exhibitions. Introduce real-world projects currently operated by enterprises – such as smart guided tour systems, digital cultural tourism IPs, and cross-border live stream projects – into the platform in the form of "project work orders." Translation achievement completed by students on this platform can be directly linked to real enterprise application scenarios, achieving a fundamental shift from classroom exercises to industrial practice. Students' translation and communication practices within this virtual space, along with process data like response times, tool usage efficiency, and user interaction data, are recorded throughout. On the other hand, build a set of data-driven dynamic comprehensive evaluation system. This system will no longer rely solely on teachers scoring the final translation. Instead, it integrates machine evaluation (AI analysis of translation quality, terminology consistency), platform algorithm evaluation (based on behavioral data of virtual tourists, such as satisfaction and dwell time), and peer evaluation to generate a multidimensional "competency profile." This virtual-real fusion practice coupled with data-driven evaluation not only hones students' on-the-spot adaptability and technical application skills but also fosters a translation mindset oriented towards user experience and communication effectiveness, thereby aligning talent training standards with industry value.

4.3. Implementing a "Dual Introduction and Cultivation, Two-way Flow" Faculty Strategy and Lifelong Learning Mechanism

Implementing the "Dual Introduction and Cultivation, Two-way Flow" faculty strategy is a key path to solving the dual deficiencies of digital intelligence literacy and industrial experience among current cultural tourism translation teaching staff. This strategy aims to build a dual-qualified faculty team proficient in both theory and familiar with industry practices by establishing a talent flow mechanism between higher education institutions and the industry. Specifically, an industry mentor recruitment mechanism can be established to systematically recruit experts from cultural tourism technology enterprises with experience in cutting-edge technology application and international project operation. These experts should deeply participate in talent training program development, core course teaching, and graduation project supervision, directly introducing the latest industry practices and technical standards into the classroom. Simultaneously, the teacher enterprise practice system should be improved, supporting regular full-time residencies for in-service teachers at partner enterprises. Through participation in real digital cultural tourism product development and international communication projects, teachers can update their knowledge systems and gain industrial insights and problem-solving skills. Building on this, the establishment of industry-academia-research collaboration innovation platforms should be promoted to facilitate deep knowledge integration between schools and enterprises. Through joint efforts like building collaborated laboratories and tackling cutting-edge research topics together, we aim to achieve effective connection between industrial needs and academic research, promoting the rapid transformation of the latest research achievement into teaching content. We also advocate to establish school-enterprise collaborative teaching mechanisms where industry mentors are responsible for technical application and project practice guidance, while in-service teachers focus on theoretical construction and strategic analysis, forming a complementary teaching model. By implementing measures such as creating digital faculty development records and holding industry frontier seminars, we hope to build a sustainable professional development ecosystem. This series of institutional arrangements aims to create a learning organization capable of adapting to the rapid changes of the digital intelligence era, ensuring the faculty team remains cutting-edge and practical, thereby providing fundamental guarantee for cultivating composite cultural tourism translation talents that meet the demands of the times.

5. Conclusion and Outlook

This study, through systematic analysis of the new trends and requirements in the development of the cultural tourism industry in the digital intelligence era, has deeply explored innovative paths for training cultural tourism translation talents. The research results indicate that the traditional training model centered on language ability can no longer meet the development needs of new formats like smart tourism and immersive experiences. A systematic reshaping is necessary across multiple dimensions, including competency structure, training system, and evaluation mechanism. At the

theoretical level, the study constructs a competency model for cultural tourism translation talents comprising three dimensions: language and cultural competence, technology application ability, and professional quality. This model not only clarifies the core competency elements required for translators in the digital intelligence era but also provides a new theoretical perspective for translation studies. Introducing theoretical methods from emerging fields like digital humanities and artificial intelligence into translation studies expands its research boundaries and enriches the discipline's theoretical connotation. At the practical level, the three proposed innovative training paths hold significant application value. The three-dimensional integrated curriculum system breaks traditional disciplinary boundaries through modular design, achieving organic integration of interdisciplinary knowledge; the "virtual-real fusion, data-driven" intelligent practical training platform innovates practical teaching modes, providing students with a highly simulated practical environment through technologies like digital twins; the "dual introduction and cultivation, two-way flow" faculty strategy enhances the practical ability and industrial insight of the teaching staff by establishing a school-enterprise talent flow mechanism.

Looking forward, the training of cultural tourism translation talents in the digital intelligence era still faces numerous issues requiring in-depth exploration. With the rapid development of AI technologies like AIGC and large language models, how to maintain the accuracy and depth of cultural communication under human-machine collaborative translation models, and how to balance the relationship between technical efficiency and cultural value, are important topics requiring continuous attention.

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