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Artificial Intelligence-Enabled Reform of Teaching Models in Tourism Management Education: Practice Based on the “Smart Cultural Tourism Learning” Teaching System at Beijing Union University

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Abstract: The deep integration of artificial intelligence (AI) and the tourism industry is driving profound changes in the talent cultivation model of tourism higher education. At present, the traditional teaching of tourism management programs faces four major challenges: lagging knowledge updating, insufficient competency cultivation, difficulties in teachers' transformation, and fragmentation of the talent cultivation system, making it difficult to effectively respond to the new demands for interdisciplinary talents brought about by the intelligent transformation of the cultural tourism industry. Taking the first tourism AI disciplinary knowledge engine and the “Smart Cultural Tourism Learning” teaching system developed by the School of Tourism of Beijing Union University as an example, this paper systematically reviews its innovative practice of constructing an intelligent teaching ecosystem covering the entire process of teaching, learning, practice, and application, based on core modules including a discipline-specific knowledge base, a knowledge fragment repository, a fine-grained knowledge graph, dual intelligent partners, a professional prompt library, scenario-based intelligent agents, and personalized learning path planning. The study shows that the system significantly reconstructs the dynamic generation mechanism of teaching content, breaks through the temporal and spatial limitations of learning, reshapes highly simulated practical training scenarios, and establishes a multidimensional data-driven teaching evaluation system. It effectively achieves the dual goals of reducing teachers' workload while enhancing their teaching capacity and improving students' learning quality and efficiency, thereby effectively addressing the challenges faced by traditional tourism education.

Keywords: Artificial Intelligence (AI); Tourism Management Education; Teaching Model Reform; Intelligent Teaching System; Smart Cultural Tourism Learning

1. Introduction

With the rapid development of digital technologies and artificial intelligence (AI), higher education is undergoing a profound and extensive digital transformation. From ChatGPT to DeepSeek, the iterative advancement of generative AI has driven a paradigm shift from closed-source monopolization to open-source collaboration, providing rich and effective practical pathways for the integration of AI and education. The Opinions of the

Ministry of Education and Eight Other Departments on Accelerating the Advancement of Education Digitalization clearly propose the guiding principle of “comprehensively promoting intelligent development and facilitating educational transformation through artificial intelligence”(Jiaoban, 2025). The document emphasizes the need to “adhere to digital empowerment to promote holistic reform in educational philosophy, teaching models,

and educational governance” and to “uphold reform and innovation by proactively adapting to the development trends of emerging technologies such as artificial intelligence.” These national strategic initiatives have provided clear guidance for AI-enabled reform in higher education and policy support for the intelligent transformation of teaching models in tourism management programs.

As a strategic pillar industry of the national economy, the tourism industry is accelerating its digital and intelligent transformation. At present, the cultural tourism industry has fully entered an era characterized by data-driven operations, immersive experiences, and intelligent services. Technologies such as big data analytics, AI-powered customer service, intelligent scheduling, and digital marketing have been widely applied in positions related to tourism destination management, hotel management, and tourism marketing. This industrial transformation requires tourism professionals to possess not only solid professional knowledge but also AI application capabilities, comprehensive practical competence, and innovative thinking. However, traditional teaching in tourism management programs faces significant challenges in terms of knowledge updating (Zhang, D. Y. 2015), competency development (Li, Y. J., & Wei, H. T. 2008), teacher transformation (Gan, C. 2026), and talent cultivation systems (Yang, J., Song, Y. L., & Li, Z. 2026), making it difficult to effectively respond to the new demands of industry transformation. As an interdisciplinary discipline with a strong emphasis on practice and application, tourism management education must keep pace with industrial transformation by updating its teaching content, teaching methods, and practical training models, proactively embracing artificial intelligence technologies and completing the transition from traditional teaching to intelligent teaching.

As a pioneering institution in undergraduate tourism education in China, the School of Tourism at Beijing Union University has taken the lead in comprehensively integrating artificial intelligence into ten core tourism courses, establishing the nation’s first AI disciplinary knowledge engine for tourism, developing the “Smart Cultural Tourism Learning” teaching ecosystem, and constructing an integrated intelligent teaching system encompassing teaching, learning, practice, and application. Taking the “Smart Cultural Tourism Learning” teaching system of the School of Tourism at Beijing Union University as a case, this paper systematically reviews its innovative practice in building an intelligent teaching ecosystem based on core components including a disciplinary knowledge base, a knowledge fragment repository, a fine-grained knowledge graph, dual intelligent partners, a professional prompt library, scenario-based intelligent agents, and personalized learning path planning. It further analyzes the underlying development logic and practical outcomes of the system, with the aim of providing a replicable paradigm and valuable reference for tourism higher education institutions in promoting AI + discipline teaching reform and cultivating interdisciplinary talents for

the smart cultural tourism industry.

2. The Value Implications of Artificial Intelligence for Teaching Reform in Tourism Management Programs

The deep integration of artificial intelligence technologies has injected new momentum into the teaching reform of tourism management programs. Its core value is reflected in multiple dimensions, including the transformation of teaching content production, the development of personalized training models, and the restructuring of practical teaching systems, thereby providing an innovative technological pathway for addressing the challenges of traditional tourism education.

2.1 Reconstructing the Teaching Content Generation Mechanism to Bridge the Gap Between Teaching and Industry Development

Before the widespread application of generative artificial intelligence, the design, organization, updating, and optimization of teaching content in tourism management programs were primarily undertaken by professional teachers. Teaching activities were conducted through textbook compilation, lesson planning, and case collection. However, the traditional teaching model exhibited significant limitations in resource integration, dynamic adjustment, and the simulation of industry scenarios. While the tourism industry has fully entered the stage of intelligent operation, classroom teaching content has been updated at a relatively slow pace. Core textbooks and course cases have remained largely unchanged for extended periods, with much of the content still focusing on traditional operational models and failing to incorporate emerging technologies and the latest industry practices on time.

The introduction of generative artificial intelligence has fundamentally transformed this situation. Through deep learning and algorithmic processing of massive datasets, generative AI can reconstruct knowledge structures and enrich knowledge content, thereby revolutionizing the way teaching content is generated (Li, F. Q. 2017). In tourism management education, teachers can interact with AI teaching assistants to integrate the latest tourism industry cases, policy developments, and operational data in real time, generating teaching resources that closely reflect the forefront of industry development. The School of Tourism at Beijing Union University has established a tourism discipline-specific knowledge base that systematically integrates high-quality resources, including MOOCs, electronic textbooks, teaching materials, presentation slides, exercises and examination papers, authentic industry cases, and audio-visual materials. The system has also conducted structured organization and technical segmentation of core tourism textbooks. Since its implementation, the knowledge base has integrated 6,750 teaching resources, decomposed them into 5,812 independent knowledge fragments, and comprehensively covered 4,279 tourism-related knowledge points. This human–AI collaborative content generation mechanism has transformed teaching content from static and fixed materials to dynamically generated resources and from a single-source model to an

integrated multi-source approach, effectively bridging the time lag between classroom teaching and industry development.

2.2 Breaking the Constraints of Time and Space in Learning to Establish a New Paradigm for Personalized Education

Traditional teaching in tourism management programs adopts a standardized training model characterized by a unified curriculum schedule and uniform teaching content, overlooking differences in students' academic foundations, interests, and career aspirations, thereby making it difficult to achieve individualized instruction. AI-enabled smart learning platforms can provide 24-hour learning support, enabling in-depth interaction between teachers and students anytime and anywhere while enhancing the flexibility and effectiveness of learning.

Based on disciplinary knowledge graphs and students' learning data, AI systems can generate personalized learning pathways for each student, thereby realizing precision education tailored to individual needs. Relying on a specialized and visualized tourism disciplinary knowledge graph covering 6,403 knowledge points, the "Smart Cultural Tourism Learning" system of Beijing Union University enables students to engage in "knowledge graph-based exploratory learning." By clicking on any knowledge point, the system automatically links and displays multimodal resources from other courses, including related textbooks, exercises, industry cases, and practical audio-visual materials, guiding students to extend their learning from individual knowledge points to the entire knowledge network. In terms of personalized learning path planning, the system automatically recommends appropriate course content, learning resources, and practical tasks according to students' disciplinary foundations, learning progress, interests, and career plans, ensuring that learning content consistently aligns with each student's zone of proximal development. This approach not only prevents students with weaker academic foundations from falling behind but also avoids repetitive low-level learning for more advanced students, thereby effectively implementing differentiated instruction and individualized education.

2.3 Reshaping the Practical Teaching System to Address the Imbalance Between Theory and Practice

Tourism is a highly practice-oriented discipline that requires professionals to possess competencies in on-site problem-solving, integrated operations management, communication and service, and project planning (Tian, L., & Liu, Y. 2021). However, traditional teaching has long been characterized by an emphasis on theory over practice. Classroom instruction is primarily textbook-based; practical training accounts for a relatively small proportion of the curriculum, and practical activities are generally limited to short-term visits or simple simulations, lacking highly realistic, full-process training scenarios.

Artificial intelligence provides an effective solution to this challenge. The establishment of a professional prompt

library further strengthens the systematic and routine implementation of practical training. The curriculum has developed a professional prompt library covering key areas such as tourism project planning, destination operation and management, convention and exhibition service optimization, and tourism marketing innovation. By invoking the corresponding prompts, students can trigger AI-generated practical guidance, process simulations, and optimization recommendations for specific tasks, thereby developing their problem-solving capabilities in authentic professional contexts through interactive learning. More than a functional tool, the prompt library establishes a tourism disciplinary thinking framework. Through structured and scenario-based prompt design, it systematically guides AI to analyze and respond within the professional domain. During human-AI interaction, students are no longer passive recipients of knowledge; instead, they actively initiate tasks, participate in analysis, and refine solutions, gradually developing the analytical thinking, logical reasoning, and practical competence required of tourism professionals.

2.4 Promoting the Establishment of a Multidimensional Teaching Evaluation System to Achieve Precision-Oriented Teaching Improvement

Traditional teaching evaluation has largely relied on summative examinations and subjective assessment, lacking both process-oriented and dynamic evaluation mechanisms (Luo, F., Tian, X. T., Tu, Z. R., et al. 2021). Artificial intelligence technologies, however, can record students' learning trajectories in real time and provide multidimensional data analysis, making process-based teaching evaluation more objective and comprehensive.

The intelligent recommendation tool embedded in the "Smart Cultural Tourism Learning" system collects real-time data on students' learning behaviors, responses to exercises, and mastery of knowledge points. It dynamically identifies areas of insufficient understanding and proactively recommends corresponding fragmented learning resources, including conceptual explanations, practice exercises, and representative cases. Students can also retrieve learning materials independently according to their own needs with a single click, shifting from blindly completing exercises and searching through massive amounts of information to targeted learning, thereby substantially improving learning efficiency. Based on real-time classroom teaching data and student learning data collected by the AI system, teachers can generate visualized teaching analysis reports, adjust the teaching pace, optimize instructional content and methods, and achieve data-driven, precision-oriented improvements in teaching.

3. Application Pathways of the AI-Enabled "Smart Cultural Tourism Learning" Teaching System: A Case Study of the School of Tourism at Beijing Union University

Using ten core tourism courses as the foundation, the School of Tourism at Beijing Union University has established a tourism AI disciplinary knowledge engine by

integrating technologies such as artificial intelligence, knowledge graphs, retrieval-augmented generation (RAG), and intelligent agents. From the perspectives of teaching resources, learning models, practical training, and whole-process application, it has systematically developed the integrated “Smart Cultural Tourism Learning” intelligent teaching ecosystem that encompasses teaching, learning, practice, and application.

3.1 Intelligent Teaching Resource System: From Knowledge Base to Knowledge Graph

3.1.1 A Discipline-Specific Knowledge Base as the Foundation of Intelligent Teaching Resources

The semantic and structured organization of teaching resources is a prerequisite for the practical application of AI technologies (Wu, S., & Zhang, X. Z. 2026). The course team broke away from the fragmentation of traditional single-course resources by systematically integrating a wide range of high-quality teaching materials, including MOOCs, electronic textbooks, teaching notes, presentation slides, exercises and examination papers, authentic industry cases, and audio-visual materials. Through the structured organization and technical segmentation of core tourism textbooks, a discipline-specific knowledge base for tourism was established. The knowledge base enables interoperability among resources across different courses, transforming previously scattered teaching materials into an integrated whole. At the same time, it provides a solid domain-specific knowledge foundation for large AI models, ensuring the professionalism and accuracy of functions such as AI-assisted question answering, resource recommendation, and case analysis, while preventing conceptual errors and mismatches between generated cases and disciplinary knowledge that may occur when using general-purpose large language models.

3.1.2 A Knowledge Fragment Repository for Precise Knowledge Recommendation and Efficient Learning

Building upon the disciplinary knowledge base, the development team adopted a dual mechanism combining technical decomposition and validation by industry experts to refine a large volume of teaching resources into a knowledge fragment repository consisting of a concept database, an exercise database, a case database, and a practical operation procedure database. Each knowledge fragment is precisely linked to its corresponding course and knowledge point, forming a dynamic learning resource network that can be flexibly retrieved and recombined. The system is equipped with an intelligent recommendation tool that collects real-time learning analytics, including students' learning behaviors, responses to exercises, and mastery of knowledge points. Based on these data, it dynamically identifies areas of insufficient understanding and proactively recommends relevant fragmented learning resources, such as conceptual explanations, practice exercises, and representative cases.

3.1.3 A Fine-Grained Knowledge Graph for Constructing a Networked Disciplinary Knowledge System

To address the problems of fragmented knowledge and weakened interconnections among knowledge points, the School has developed a specialized and visualized tourism disciplinary knowledge graph based on ten core courses, covering 6,403 knowledge points. With individual knowledge points serving as core nodes, the knowledge graph systematically organizes the logical relationships, progressive structures, and interdisciplinary connections among knowledge points across different courses and modules, thereby facilitating cross-course knowledge integration and interdisciplinary convergence. At the learning application level, students can engage in knowledge graph-based exploratory learning through the knowledge graph. At the teaching management level, the system establishes a bidirectional mapping mechanism between knowledge points and educational objectives, linking each knowledge point to the three dimensions of knowledge, competence, and quality. Based on these educational objectives, the AI system can intelligently match learning resources and design training tasks, promoting the transformation of tourism education from knowledge transmission to comprehensive competency development.

3.2 Personalized Learning Support System: Intelligent Learning Companions and Personalized Learning Pathways

3.2.1 Dual Intelligent Learning Companions, “Boxueban” and “Yayanban,” Providing Comprehensive Learning Support

In line with the School of Tourism's educational philosophy of “Broad Knowledge, Elegant Conduct, and Learning Through Travel”, the development team has created two dedicated AI learning companions that focus respectively on academic support and the cultivation of comprehensive competencies, providing 24/7 companion-style learning assistance.

As an intelligent learning companion integrating retrieval-augmented generation (RAG) technology with multiple AI engines, “Boxueban” provides round-the-clock professional academic support. Whether assisting with course content interpretation, in-depth explanations of knowledge points, academic writing guidance, or strategic planning for disciplinary competitions, it draws upon the tourism disciplinary knowledge engine to deliver systematic and context-specific answers and recommendations, serving as a mobile academic mentor for students.

“Yayanban” focuses on developing students' communication skills, interpersonal competence, and professional etiquette. It supports seamless switching between Chinese and English as well as dialogue simulations in multiple communication styles. For instructors, the tool facilitates intelligent classroom interaction, prompt orchestration, and classroom atmosphere management. For students, it simulates authentic professional scenarios, including hotel service communication, tour guiding, workplace presentations, job interviews, and cross-cultural communication. Through

these simulations, students can improve their language expression, standardize professional service communication, and strengthen their ability to respond effectively in real-world situations, making communication competence a key advantage in their future career development.

3.2.2 Personalized Learning Path Planning for Differentiated and Individualized Instruction

Drawing upon the disciplinary knowledge graph and students' learning analytics, the AI system generates personalized learning pathways for every student, enabling precision education tailored to individual needs. Based on each student's academic foundation, learning progress, interests, and career aspirations, the system automatically recommends appropriate course content, learning resources, and practical tasks. The recommended learning content consistently aligns with the student's zone of proximal development, preventing students with weaker academic backgrounds from falling behind while avoiding repetitive low-level learning for more advanced learners. In this way, the system effectively implements differentiated instruction and individualized education, breaking away from the traditional one-size-fits-all model of standardized talent cultivation.

3.3 Scenario-Based Practical Training System: Prompt Library and Intelligent Agents

3.3.1 A Professional Prompt Library for Cultivating Disciplinary Thinking and Independent Practical Competence

To accommodate the practice-oriented and application-driven nature of tourism education, the course has developed a professional prompt library covering key areas such as tourism project planning, tourism destination operation and management, convention and exhibition service optimization, and tourism marketing innovation. By invoking the corresponding prompts, students can activate AI-generated practical guidance, process simulations, and optimization recommendations for specific tasks, thereby developing their ability to solve problems in authentic professional contexts through interactive learning. More than a functional tool, the prompt library serves as an important vehicle for disciplinary development. It establishes a tourism disciplinary thinking framework that systematically guides AI to reason and respond within the professional domain through structured and scenario-based prompt design.

3.3.2 Scenario-Based Intelligent Agents for Highly Realistic Practical Training

The intelligent agents integrate knowledge from multiple core courses, including Event Planning and Management, Tourism Destination Management, Convention and Exhibition Organization and Management, and Tourism Consumer Behavior, to recreate the complete operational process of large-scale cultural tourism events. Students can independently choose different professional roles, such as planning, operations, marketing, on-site management, and customer service, and participate throughout the entire

project lifecycle, including preliminary planning, resource allocation, on-site implementation, risk management, and post-event evaluation. A representative example is the "Million-Scale Music Festival Operation Simulation Agent," which integrates knowledge from multiple core courses to faithfully reproduce the complete operational workflow of a large-scale cultural tourism event. Students are free to assume various professional roles and participate at all stages of project implementation, thereby achieving deep integration of theoretical knowledge and practical competence.

3.4 Whole-Process Teaching Application: An Integrated Model for Pre-Class, In-Class, and Post-Class Learning

3.4.1 Personalized Support for Pre-Class Preparation

After logging into the platform, students receive a brief diagnostic pre-class assessment to evaluate their mastery of prerequisite knowledge quickly. Based on the assessment results, the system dynamically assembles personalized preview packages from the knowledge fragment repository. Students with insufficient prerequisite knowledge are provided with supplementary explanations and foundational exercises, while those with a stronger academic foundation receive extended case studies and more challenging tasks. Students can also explore the knowledge structure of upcoming course topics through the knowledge graph and consult the AI teaching assistant at any time during their preparation.

3.4.2 Resource Support for In-Class Discussion

During classroom discussions, instructors can instantly retrieve relevant resources from the knowledge base or knowledge graph and display them on the classroom screen, transforming teaching resources from pre-prepared materials into real-time instructional support. At the same time, instructors can present preliminary analyses or solution proposals generated by AI based on the professional prompt library as the starting point for classroom discussion, encouraging students to conduct critical analysis. In this way, AI is transformed from an answer provider into a provider of discussion materials, while the role of the instructor evolves from a knowledge transmitter to a facilitator of critical thinking.

3.4.3 Targeted Support for Post-Class Consolidation and Extension

After class, the system identifies students' areas of insufficient understanding based on their classroom participation and post-class assessment results, and recommends customized exercises and case studies from the knowledge fragment repository. The recommended materials include both foundational exercises and open-ended analytical tasks that require students to apply what they have learned to solve practical problems. The system provides immediate grading and generates feedback reports that not only indicate whether answers are correct or incorrect but also analyze the underlying causes of errors and recommend appropriate remedial learning resources.

3.4.4 Cross-Course Integration in Project-Based

Learning

In semester-long projects and disciplinary competitions, students are required to address authentic and complex industry problems that do not have standard solutions. Students can systematically utilize the knowledge base, knowledge graph, and professional prompt library to construct the knowledge framework required for solving complex problems. They first use the knowledge graph to conduct a knowledge scan, identifying all relevant knowledge points and their relationships. They then employ planning prompts from the prompt library to generate a preliminary solution framework. Finally, through independent thinking and creative design, students revise, refine, and personalize the AI-generated solution. Throughout this process, AI is responsible for knowledge retrieval and framework generation, while students are responsible for judgment, selection, and innovation, thereby embodying the ultimate objective of applying knowledge in practice.

4. Challenges and Coping Strategies for AI-Enabled Teaching in Tourism Management Programs

4.1 The Risk of Inappropriate Content Generation

Artificial intelligence is driven by big data and computational algorithms, and the quality of its outputs as well as the depth of professional knowledge they embody largely depend on the data on which the system is trained and the underlying algorithmic logic (Zhang, Y. M. 2026). In tourism management education, AI-generated content may exhibit problems such as inaccurate interpretations of industry practices and insufficient alignment between generated cases and course content. For example, AI-generated tourism marketing cases may fail to reflect the institutional context and operational realities of the Chinese tourism market, or they may oversimplify complex tourism destination management issues into generic business strategy templates, lacking a thorough understanding of the unique characteristics of the tourism industry.

Therefore, to ensure the standardized and effective application of artificial intelligence in tourism management education, it is necessary to establish a collaborative review mechanism involving both academic instructors and industry experts. Drawing upon their solid disciplinary knowledge and educational expertise, academic instructors are responsible for evaluating the disciplinary relevance, theoretical accuracy, and alignment of AI-generated content with instructional objectives. Industry experts, relying on their extensive practical experience, focus on assessing the consistency of the generated content with industry development trends and professional competency requirements. Through this collaborative mechanism, AI systems can be continuously refined through domain-specific training to generate content that better reflects the characteristics of tourism education and industry talent development. At the same time, a systematic review of AI-generated content helps ensure its theoretical rigor, disciplinary appropriateness, and alignment with emerging industry practices, thereby providing reliable content support for the deep integration of tourism education with

industry needs.

4.2 Technological Dependence and the Challenge of “Dehumanization”

The teacher–student relationship is the most fundamental interpersonal relationship in educational activities, and the participation of artificial intelligence in education has reshaped this traditional relationship. This transformation calls for educators to return to the essence of education and reflect on the fundamental questions of whom to educate, how to educate, and for whom education is provided. At the same time, it is essential to adhere to the core principle that AI should assist rather than replace teachers. Teachers should continue to focus on the core educational tasks of in-depth interpretation of disciplinary knowledge, value guidance in professional ethics, and targeted development of practical competencies, while AI should primarily undertake supportive functions such as intelligent generation of teaching resources, dynamic analysis of learning data, and personalized learning assistance.

It is important to recognize that excessive reliance on artificial intelligence in teaching practice may not only diminish the emotional connection between teachers and students but also weaken the subtle and continuous cultivation of professional values. This educational process, which depends on emotional interaction and authentic experience, represents a unique strength that artificial intelligence cannot replicate. Furthermore, when teachers and students, as co-learners, become overly dependent on AI in knowledge acquisition, problem-solving, and solution development, their independent reasoning and critical thinking abilities may be undermined, and the autonomous construction of systematic knowledge may be hindered, ultimately deviating from the educational objective of fostering the all-round development of students in moral, intellectual, physical, aesthetic, and vocational dimensions.

5. Conclusion

Artificial intelligence has injected new momentum into the reform of teaching models in tourism management programs, particularly by transforming the production of teaching content, overcoming the temporal and spatial constraints of learning, reshaping practical teaching systems, and promoting the establishment of multidimensional teaching evaluation mechanisms (Guo, Q., Wang, Q. N., & Shen, K. 2025). The “Smart Cultural Tourism Learning” teaching system developed by the School of Tourism at Beijing Union University demonstrates the significant empowering role of AI in tourism education. Through the establishment of a discipline-specific knowledge base and knowledge graph, the implementation of dual intelligent learning companions, the development of a professional prompt library and scenario-based intelligent agents, and the integration of pre-class, in-class, post-class, and project-based learning, the system has reconstructed the mechanism for generating teaching content, implemented personalized learning pathways, and innovated the practical teaching system. These innovations have effectively promoted the transformation of teaching from one-way knowledge

transmission to interactive inquiry-based learning, strengthened the integration of tourism education with industry needs and professional competency development, and provided strong support for cultivating high-quality interdisciplinary professionals characterized by broad knowledge, elegant conduct, and the ability to learn through travel.

Based on the practical experience of Beijing Union University, the following recommendations may serve as references for other tourism higher education institutions seeking to integrate AI into their curricula. First, institutions need not pursue comprehensive implementation from the outset but may begin with a pilot project in one core course by selecting one or two courses with strong teaching teams and abundant teaching resources. The complete process of developing a knowledge base–knowledge fragment repository–knowledge graph–prompt library can then be implemented, evaluated, and gradually expanded based on accumulated experience. Second, the professional prompt library may serve as a pilot initiative, as it requires a shorter development cycle and yields faster results than the construction of knowledge bases and knowledge graphs, which involve greater initial investment. Third, institutions should make full use of existing technological platforms and focus their efforts on the discipline-specific development and refinement of teaching content. Fourth, a sustainable co-construction mechanism involving both teachers and students should be established to create a virtuous cycle of application–feedback–optimization. Finally, inter-institutional collaboration and resource sharing should be promoted so that tourism education institutions can jointly develop shared disciplinary knowledge bases and case repositories, thereby reducing development costs for individual institutions and fostering a collaborative ecosystem for the advancement of tourism education.

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