

A Study on Interdisciplinary Practical Teaching for Tourism Management Majors under the New Liberal Arts Concept—A Case Study of the Landscape Ecology Course

Yue Junsheng^{1,a,*}, Yu Yongchang^{1,b}, Chen Lei^{1,c}, Liu Min^{1,d}, Li Chuanzhang^{1,e}

¹School of Tourism, Taishan University, Tai'an, 27100, China

^a414327812@qq.com, ^b565325348@qq.com, ^c1151367481@qq.com, ^d757431010@qq.com,

^e502381628@qq.com

*Corresponding author

Abstract: The "New Liberal Arts" initiative in China's higher education calls for cultivating composite talents with interdisciplinary knowledge and practical innovation skills. This strategic shift responds to the complex demands of a new technological revolution and evolving societal needs. However, the current practical teaching in applied disciplines like Tourism Management often suffers from knowledge fragmentation, disciplinary silos, and a significant gap between theoretical instruction and real-world application. This inadequacy hampers the development of students' ability to solve complex, multifaceted problems prevalent in the modern tourism industry. This study aims to construct and rigorously evaluate an interdisciplinary practical teaching model, using the "Landscape Ecology" course for Tourism Management majors as a case study. The primary goal is to bridge the theory-practice divide and enhance students' comprehensive analytical abilities, spatial thinking, collaborative problem-solving skills, and sustainability literacy, thereby aligning talent cultivation with the core tenets of the New Liberal Arts. Questionnaire surveys administered to students and faculty, combined with qualitative analysis of student projects and interview data, are used to assess the teaching effectiveness from multiple perspectives. The proposed interdisciplinary practical teaching model, which integrates theory, technology, and project-based learning, demonstrates significant improvements over traditional methods. Quantitative analysis of survey data reveals a statistically significant increase in students' self-perceived competencies in critical thinking, practical application skills, and teamwork capabilities in the experimental group. Student satisfaction and engagement levels were also markedly higher. Qualitative feedback from students and faculty highlights a more dynamic, relevant, and effective learning experience that fosters deeper understanding and innovative thinking. Interdisciplinary practical teaching, guided by the New Liberal Arts concept, is a highly effective pathway for cultivating the innovative and applied talents urgently needed in the Tourism Management field. The "Theory-Technology-Project" (TTP) model proposed in this study offers a valuable, structured, and replicable framework for curriculum reform, not only for landscape ecology but also for other applied humanities and social science disciplines seeking to enhance the quality and relevance of their educational offerings.

Keywords: New Liberal Arts; Tourism Management; Interdisciplinary; Practical Teaching; Landscape Ecology; Competency-Based Assessment; Curriculum Reform

1. Introduction

1.1 The Imperative of the New Liberal Arts for Tourism Education

The 21st century is characterized by an unprecedented wave of technological revolution and industrial transformation, marked by the rise of artificial intelligence, big data, and the Internet of Things. These changes are profoundly reshaping economic structures, social norms, and the very nature of professional work. In response, China's higher education system has initiated the "New Liberal Arts" construction plan, a strategic reform aimed at revitalizing and redefining liberal arts education for the new era [1]. Unlike traditional liberal arts, the New Liberal Arts concept emphasizes the deep integration of humanities and social sciences with modern science and engineering, fostering interdisciplinary inquiry, and cultivating students' innovative spirit, practical capabilities, and critical thinking skills. Its core

mission is to produce composite, high-caliber talents who can address complex, real-world challenges and contribute to national development strategies.

Tourism Management, as an applied discipline with inherent interdisciplinary characteristics, stands at a critical juncture for reform under this new paradigm. The tourism industry itself is a complex system, interwoven with economic, social, cultural, and ecological dimensions. Effective tourism management requires professionals who can not only master business and management principles but also understand spatial planning, cultural heritage, environmental sustainability, and community development [2]. Therefore, the New Liberal Arts initiative provides a crucial theoretical and policy-driven impetus for transforming tourism education from a narrow, discipline-bound model to a holistic, integrated, and problem-oriented one.

1.2 Current State and Challenges in Interdisciplinary Practical Teaching for Tourism Management

Despite the clear need for interdisciplinary skills, practical teaching in many Tourism Management programs faces significant challenges that hinder the cultivation of truly competent graduates. These challenges can be summarized into three main areas: First, Disciplinary Silos and Fragmented Knowledge: Traditional tourism curricula often present knowledge in isolated modules. Students may learn about marketing, finance, and human resources in separate courses, with little connection to subjects like geography, ecology, or sociology. This fragmentation prevents students from forming a holistic understanding of tourism phenomena. For instance, a course on tourism planning might lack sufficient grounding in ecological principles, leading to unsustainable development proposals. This issue of "narrow vocationalism" has been a long-standing critique in tourism and hospitality education, undermining the intellectual and civic roles that higher education should play; Second, Theory-Practice Disconnect: A persistent criticism of tourism education is the chasm between academic theory and industry practice. Curricula are often perceived as either too theoretical, failing to equip students with practical skills, or too vocational, neglecting the development of critical and analytical thinking. This disconnect means that graduates may struggle to apply abstract concepts to solve complex, unstructured problems they encounter in the workplace. The demand from the industry is for graduates who can not only perform specific tasks but also think strategically, adapt to change, and innovate; Third, Outdated Practical Training Methods: Conventional practical teaching methods, such as passive field trips or simplified case studies, are often insufficient for developing deep analytical and innovative capabilities. Field trips may devolve into mere sightseeing tours rather than structured scientific investigations. Classroom-based simulations might lack the complexity and ambiguity of real-world scenarios. These methods often fail to engage students in active, inquiry-based learning, which is essential for fostering higher-order thinking skills like critical analysis, synthesis, and evaluation.[3]

The "Landscape Ecology" course, often offered as an elective or a minor course for Tourism Management students, exemplifies these challenges. While its principles are fundamental to sustainable tourism planning and ecotourism, it is frequently taught as a pure science course, detached from the management and business contexts of tourism[4]. This study uses this course as a critical case to explore how these challenges can be overcome through a systematic reform of practical teaching guided by the New Liberal Arts philosophy.

1.3 The Nexus of Landscape Ecology and Tourism Management

1.3.1 Inherent Interdisciplinarity of Landscape Ecology

Landscape Ecology is, by its very nature, an interdisciplinary science. It emerged from the intersection of geography and ecology and integrates concepts from biology, geology, sociology, and planning. It studies the spatial patterns of landscapes, the ecological processes that create and affect these patterns, and the changes in pattern and process over time. Because it explicitly considers human activities as a key driver of landscape change, it provides a natural bridge between the natural and social sciences, making it an ideal vehicle for interdisciplinary education. [5]

1.3.2 Practical Applications in Tourism

The principles of landscape ecology are directly applicable to numerous aspects of tourism management, providing a scientific basis for sustainable practices: Sustainable Tourism Planning: Landscape ecological principles help in identifying suitable areas for development while protecting sensitive ecosystems. Concepts like landscape connectivity and fragmentation are crucial for designing tourism infrastructure (e.g., trails, resorts) that minimizes negative environmental impacts; Ecotourism

Development: The entire concept of ecotourism is built on the foundation of ecological understanding. Landscape ecology provides the tools to plan and manage ecotourism areas, ensuring that tourism activities support conservation and provide authentic natural experiences; Destination Management and Aesthetics: Landscape ecology also informs the aesthetic assessment of tourism landscapes. Understanding landscape patterns and visual quality can help in managing destinations to enhance visitor experience while maintaining ecological integrity. For example, Tongji University integrates Landscape Architecture with Tourism Management to train professionals in planning scenic areas and urban landscapes.[6]

1.4 Summary and Research Gap

The literature review confirms that the New Liberal Arts initiative provides a strong impetus for interdisciplinary practical teaching in Tourism Management. Internationally, mature pedagogical models like PBL and experiential learning exist, and the inherent connection between landscape ecology and tourism provides a fertile ground for such integration. While domestic research has begun to explore these reforms, a significant gap remains. There is a lack of systematic, empirically-driven research that focuses on constructing a competency-based practical teaching model specifically for a course like Landscape Ecology within a Tourism Management program. Furthermore, few studies provide a rigorous, comparative evaluation of the effectiveness of such a model against traditional methods. This study aims to fill this gap by designing, implementing, and evaluating a novel interdisciplinary practical teaching model, thereby providing both theoretical insights and a practical blueprint for curriculum innovation.

2. Research Design and Methodology

2.1 Selection of Research Methods

2.1.1 Case Study Method

A case study approach is employed to allow for an in-depth, multi-faceted exploration of the complex issue of teaching reform within a real-life context. The "Landscape Ecology"; course for second-year Tourism Management undergraduates at a specific university in Xi'an, China is selected as the case. This case is representative because it embodies the typical challenges of integrating a science-based course into an applied social science curriculum. The in-depth focus allows for a rich understanding of the processes, challenges, and outcomes of the teaching intervention. [7]

2.1.2 Questionnaire Survey Method

Questionnaire surveys are the primary tool for collecting quantitative data on student perceptions and learning outcomes. A structured questionnaire was designed and administered to both the experimental and control groups at the end of the semester. [8]

Questionnaire Design: The questionnaire was developed based on a review of relevant literature on course evaluation and competency assessment SuperSurvey, Curriculum Implementation; It consists of three main sections: 1. Demographic Information: Basic information about the student. 2. Competency and Experience Evaluation: This section uses a 5-point Likert scale (from 1=Strongly Disagree to 5=Strongly Agree) to measure student perceptions across several dimensions: Perceived development of critical thinking and problem-solving skills. Perceived improvement in practical application and technical skills (e.g., GIS). Effectiveness of teamwork and collaborative skills. Learning engagement and motivation. Overall satisfaction with the course teaching methods and assessment. 3. Open-Ended Questions: Two open-ended questions were included to gather qualitative feedback, asking students to identify the most valuable aspects of the course and to provide suggestions for improvement. This allows for capturing nuanced experiences not covered by the scaled questions.

Implementation: The survey was administered to the control group (n=65, previous academic year) and the experimental group (n=62, current academic year). A total of 127 questionnaires were distributed, with 120 valid responses received, yielding a high response rate of 94.5%. A separate, shorter survey was also sent to 5 faculty members involved in tourism and ecology teaching to gather their perspectives on the reform.

2.1.3 Comparative Study Method

A quasi-experimental design is used to compare the effectiveness of the reformed teaching model against the traditional one. Control Group: Consists of 65 students from the previous academic year who

took the "Landscape Ecology"; course under the traditional, lecture-based model. Their data on course satisfaction and final project quality serve as the baseline. Experimental Group: Consists of 62 students from the current academic year who experienced the newly designed interdisciplinary practical teaching model. Variables for Comparison: The key variables compared between the two groups include: (1) mean scores from the Likert-scale survey questions, (2) final course grades, and (3) qualitative assessment of their final project reports and designs based on a standardized rubric. This comparative approach allows for a more objective assessment of the reform's impact by isolating the effect of the teaching intervention.

2.2 Data Processing and Analysis

The collected data were processed and analyzed using a combination of quantitative and qualitative techniques to ensure a comprehensive interpretation of the results. Quantitative Analysis: The quantitative data from the Likert-scale questionnaires were coded and analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis included: Descriptive Statistics: Frequencies, means, and standard deviations were calculated to summarize the overall responses for both groups; Inferential Statistics: Independent samples t-tests were conducted to determine if there were statistically significant differences in the mean scores between the experimental and control groups on the key competency and satisfaction dimensions; Correlation Analysis: Pearson correlation was used to explore the relationships between specific teaching methods (e.g., frequency of practical workshops) and learning outcomes (e.g., perceived skill development). Qualitative Analysis: The qualitative data from open-ended survey questions and faculty interviews were analyzed using thematic analysis. This involved a systematic process of: 1. Familiarization with the data. 2. Generating initial codes. 3. Searching for themes by grouping codes. 4. Reviewing and refining themes. 5. Defining and naming themes. This process helped to identify recurring patterns, key insights, and nuanced perspectives on the strengths and weaknesses of both teaching models. The qualitative findings were used to complement and explain the quantitative results, providing a richer, more detailed story.[9]

3. Case Analysis: Implementation and Effectiveness of Interdisciplinary Practical Teaching in the Landscape Ecology Course

3.1 Diagnosis of the Traditional Teaching Model

Before implementing the reform, a thorough diagnosis of the traditional teaching model was conducted based on survey data from the control group and interviews with senior students and faculty. The analysis revealed several critical deficiencies that hindered effective learning.

3.1.1 Analysis of Control Group Data

Survey results from the control group (n=65) indicated mediocre levels of satisfaction and perceived skill development. The mean score for "The course effectively connected ecological theory to real-world tourism problems" was only 2.8 out of 5. Similarly, the item "The practical activities (field trips) significantly improved my analytical skills" scored an average of 2.5. These quantitative findings pointed to a significant disconnect between theory and practice.

3.1.2 Key Issues Identified

Qualitative feedback and faculty interviews further illuminated the underlying problems: Knowledge Silos: The course was taught by an ecology department faculty member with limited background in tourism. As one student noted, "We learned a lot about ecological succession and patch dynamics, but we never discussed how a hotel developer should apply these concepts." The focus was on ecological theory in isolation, failing to bridge the gap to tourism planning and management realities; Passive Learning Environment: The primary teaching method was lecture-based, with students acting as passive recipients of information. Over 80% of class time was dedicated to PowerPoint presentations. Student interaction was minimal, and opportunities for critical inquiry were scarce; Superficial Practice: The course included one mandatory field trip to a local nature reserve. However, it was largely observational. A student described it as "more of a guided tour than a scientific investigation. We walked, listened, and took pictures. We didn't collect any data or do any real analysis." This approach failed to develop hands-on research and assessment skills; Memorization-Based Assessment: The final grade was determined almost entirely by a final exam (80%) that consisted of multiple-choice questions and short-answer definitions. This assessment method primarily tested students' ability to recall theoretical knowledge, neglecting to evaluate their capacity for practical application, critical analysis, or innovative thinking.

3.2 Design and Implementation of the Interdisciplinary Practical Teaching Reform

Based on the diagnosis and guided by the principles of the New Liberal Arts, a comprehensive reform of the "Landscape Ecology" course was designed and implemented for the experimental group (n=62). The reform targeted four key areas: teaching objectives, content, methods, and assessment.

3.2.1 Reconstruction of Teaching Objectives

The learning objectives were shifted from being knowledge-centric to competency-based. The goal was not just for students to "know" landscape ecology but to be able to "use" it. The new objectives focused on developing: Systems Thinking Competency: The ability to analyze tourism landscapes as complex, dynamic socio-ecological systems, identifying key components, interactions, and feedback loops. Spatial Analysis Competency: Foundational proficiency in using Geographic Information System (GIS) software to analyze landscape patterns (e.g., fragmentation, connectivity) and visualize spatial data relevant to tourism planning. Sustainable Design Competency: The capacity to apply ecological principles to create sustainable tourism project plans and designs that minimize negative impacts and enhance ecological functions. Collaborative Problem-Solving Competency: The ability to work effectively in interdisciplinary teams to research, analyze, and propose solutions for complex landscape-related tourism challenges.[10]

3.2.2 Integration of Teaching Content

The course content was restructured into four integrated, problem-oriented modules: Module 1: Foundations of Socio-Ecological Systems. This module introduced core theories from both landscape ecology and tourism studies, immediately framing them within a unified system. Case studies of destinations like the Galapagos Islands were used to illustrate the tight coupling of human activity and ecological health. Module 2: Tools for Landscape Analysis. This was a hands-on module focused on skill development. It included workshops on GIS software (QGIS), remote sensing data interpretation, and methods for conducting rapid ecological assessments and stakeholder interviews. Module 3: Ecotourism Planning & Sustainable Design. This module focused on application, challenging students to use the theories and tools from the first two modules to analyze case studies of ecotourism development. It covered topics like carrying capacity, zoning, and designing with nature. Module 4: Community-Based Landscape Management. The final module explored the social dimension, focusing on how local communities can be involved in landscape conservation and tourism management, with case studies from regions like Southeast Asia and Latin America.

3.2.3 Innovation in Teaching Methods

The pedagogical approach was transformed from passive lecturing to active, experiential learning.

Problem-Based Learning (PBL): Each module was launched with a real-world problem. For example, Module 3 began with the prompt: "A local government wants to develop a former quarry site into an ecotourism park. Your team has been hired as consultants to create a preliminary landscape plan. What are the key ecological and social factors you must consider?"

Field-Based Workshops: The single passive field trip was replaced by two intensive field workshops. In these workshops, students, working in teams, were required to conduct specific tasks: mapping land use patterns, assessing habitat quality using simple transects, and interviewing local residents or park managers. This transformed them from tourists into active researchers.

Technology Integration: The use of QGIS, a free and open-source GIS software, was mandatory for the final project. Students were required to create maps visualizing their analysis and design proposals, adding a critical technical skill to their portfolio.

Team Teaching: The course was co-taught by a faculty member from the Ecology department and one from the Tourism Management department. This ensured that both scientific rigor and management relevance were maintained throughout the course, providing students with integrated perspectives in real-time.

3.2.4 Reform of Assessment Methods

The assessment system was redesigned to be process-oriented and competency-based, reflecting the new learning objectives.

Process-Oriented Evaluation: The weight of the final exam was reduced to 30%, while process-based assessments accounted for 70% of the final grade. This included participation in workshops (10%), a

mid-term case study analysis (20%), and the final group project (40%).

Competency-Based Rubrics: A detailed rubric was developed to assess the final group project (see Table 1). The rubric evaluated specific criteria tied to the course competencies, such as depth of research, rigor of ecological analysis, creativity and feasibility of the design, clarity of GIS mapping, and quality of teamwork and presentation. This made the grading process more transparent and objective.

Diverse Deliverables: The final project required a comprehensive submission package, including a written analytical report, a design proposal with conceptual drawings, a set of GIS-generated maps, and a professional oral presentation to a panel of faculty and peers.

Table 1 Sample Assessment Rubric for Final Project

Assessment Criterion (Competency)	Unsatisfactory (0- 49%)	Satisfactory (50- 69%)	Good (70-89%)	Excellent (90-100%)
1. Ecological Analysis (Systems Thinking)	Analysis is superficial with major errors in ecological principles.	Basic ecological patterns are identified, but processes are poorly explained.	Solid analysis of landscape patterns and processes. Good use of course concepts.	Deep, integrated analysis of the socio- ecological system, identifying complex interactions and feedback loops.
2. Spatial Analysis (GIS Skills)	Maps are absent or technically flawed and do not support the analysis.	Basic maps are produced but contain errors or are poorly designed.	Technically sound and clear maps are created that effectively support the analysis.	Advanced, professional-quality maps that reveal insightful spatial relationships and are central to the argument.
3. Design & Planning (Sustainable Design)	Design is unrealistic, ecologically unsound, or ignores key constraints.	Design is feasible but generic and shows limited application of ecological principles.	Creative and feasible design that clearly applies key ecological principles (e.g., connectivity, zoning).	Highly innovative, context-sensitive design that masterfully integrates ecological principles to create a sustainable and resilient plan.
4. Teamwork & Presentation (Collaboration)	Poor collaboration evident. Presentation is disorganized and unprofessional.	Teamwork is adequate. Presentation is clear but lacks polish.	Good collaboration and a well-organized, professional presentation.	Excellent synergy within the team. Presentation is compelling, professional, and effectively communicates complex ideas.

3.3 Evaluation of Practical Teaching Effectiveness

The effectiveness of the reformed teaching model was evaluated through a multi-pronged approach, comparing the experimental group with the control group.

3.3.1 Quantitative Comparison of Student Perceptions

The survey data revealed statistically significant differences between the two groups. As shown in Figure 1, the experimental group reported much higher levels of perceived competency development and satisfaction across all measured dimensions. An independent samples t-test confirmed that the differences in means were significant ($p < 0.01$) for all four items shown.

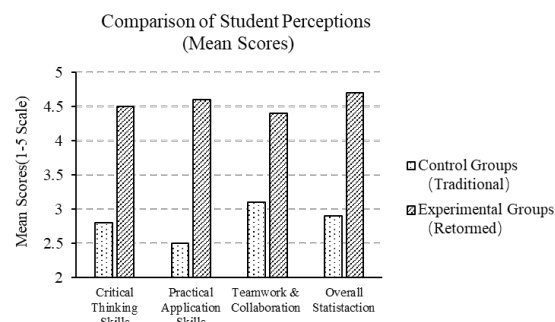


Figure 1 Comparison of Student Perceptions between Control and Experimental Groups

3.3.2 Qualitative Analysis of Student Work

A comparison of the final projects from both groups provided compelling evidence of the reform's impact.

· **Control Group Projects:** The final "projects" from the control group were typically 5-page descriptive essays about a chosen ecosystem. They were text-heavy, relied on secondary sources, and lacked original analysis or any form of spatial representation.

· **Experimental Group Projects:** The projects from the experimental group were comprehensive planning documents. For example, one team developed a "Sustainable Revitalization Plan for the Bahe Wetland Park." Their submission included: (1) A detailed report analyzing the park's ecological fragmentation using GIS data they processed themselves; (2) A stakeholder analysis based on interviews conducted during a field workshop; (3) A zoned management plan with specific proposals for habitat restoration corridors and low-impact recreational trails; (4) A series of high-quality maps illustrating their analysis and design. The depth, rigor, and professionalism of these projects were vastly superior.

3.3.3 Faculty and Student Feedback

Qualitative feedback from open-ended questions and interviews reinforced the quantitative findings. **Student Feedback (Experimental Group):** A recurring theme was the course's practical relevance. One student wrote, "This was the first course where I felt like a real tourism planner, not just a student. Using GIS to solve a real problem was challenging but incredibly rewarding." Another commented, "The teamwork was intense, but we learned how to integrate different ideas. Our ecology-major teammate taught us the science, and we taught them about visitor experience." **Faculty Feedback:** The co-teaching faculty members were highly positive. The tourism professor noted, "The students' engagement level was unlike anything I've seen in a traditional lecture course. They took ownership of their projects." The ecology professor added, "By forcing them to apply the concepts to a tourism problem, they actually learned the ecological theory more deeply than when I just lecture about it. The context made it stick."

In summary, the comprehensive evaluation demonstrates that the interdisciplinary practical teaching model was highly successful. It not only improved student skills and satisfaction but also fundamentally changed the nature of the learning experience, making it more active, integrated, and relevant to the complex challenges of the contemporary tourism industry.

4. Constructing an Interdisciplinary Practical Teaching Model for Tourism Management

Based on the successful implementation and evaluation of the "Landscape Ecology" course reform, this section abstracts the core principles and components to construct a generalizable interdisciplinary practical teaching model for Tourism Management and other applied humanities. This model, named the "Theory- Technology-Project" (TTP) (Figure 2) Integrated Teaching Model, provides a structured yet flexible framework for curriculum innovation.

4.1 The "Theory-Technology-Project" (TTP) Integrated Teaching Model

The TTP model consists of three interconnected and sequential modules that guide students through a process of knowledge acquisition, skill empowerment, and practical application. This structure ensures that students build a solid foundation before tackling a complex, integrative project.

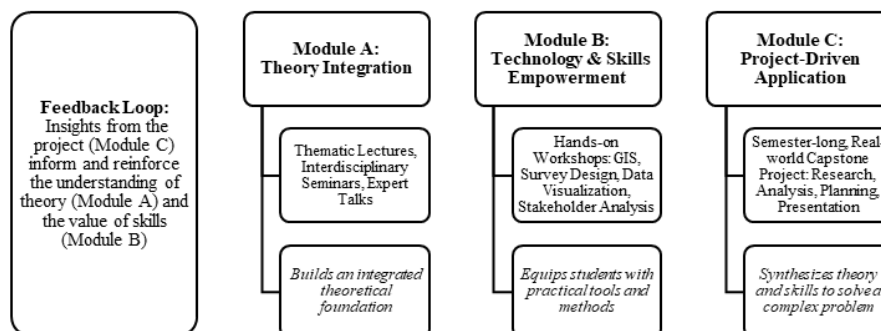


Figure 2 The "Theory-Technology-Project" (TTP) Integrated Teaching Model

4.1.1 Module A: Theory Integration

- **Objective:** To build a solid, integrated theoretical foundation that transcends disciplinary boundaries.

· **Activities:** This module moves away from standard disciplinary lectures. Instead, it employs: **Thematic Lectures:** Lectures are organized around cross-cutting themes (e.g., "Sustainability", "Community Resilience", "Cultural Heritage") rather than disciplines. Each theme is explored from the perspectives of tourism, ecology, sociology, and economics; **Interdisciplinary Reading Seminars:** Students read and discuss seminal papers from different fields that address a common problem, guided by faculty to identify different assumptions, methodologies, and conclusions; **Expert Talks:** Invite practitioners from government agencies, NGOs, and private companies to share their real-world experiences and challenges, directly connecting theory to practice.

4.1.2 Module B: Technology & Skills Empowerment

· **Objective:** To equip students with the essential practical and digital skills needed to analyze problems and develop solutions in the 21st century.

· **Activities:** This module is composed of intensive, hands-on workshops focused on specific tools and methods. The skills taught should be directly applicable to the final project. Examples include: **Digital Skills:** GIS for spatial analysis, survey design software (e.g., Qualtrics), data visualization tools (e.g., Tableau), social media analytics; **Analytical Skills:** Stakeholder analysis techniques, qualitative data coding, financial feasibility analysis, environmental impact assessment methods; **Soft Skills:** Facilitation of community meetings, negotiation, professional report writing, and presentation skills.

4.1.3 Module C: Project-Driven Application

· **Objective:** To provide a capstone experience where students synthesize the theories and skills from Modules A and B to tackle a comprehensive, real-world project.

· **Activities:** This module is structured around a semester-long group project. Ideally, the project brief is co-developed with an external partner (e.g., a local tourism bureau, a national park, a resort developer) to ensure its authenticity and relevance. The project requires student teams to go through the full cycle of a professional consultancy: **Problem Scoping and Research Design:** Defining the problem and developing a research plan; **Data Collection and Analysis:** Conducting fieldwork, surveys, interviews, and spatial analysis; **Solution Development:** Brainstorming, developing, and refining a planning or management proposal; **Final Deliverables:** Producing a professional-grade report, design plans, and presenting their findings and recommendations to a panel including faculty and the external partner.

4.2 Implementation Pathways and Support System

Successfully implementing the TTP model requires more than just redesigning a single course; it necessitates institutional commitment and a supportive ecosystem.

4.2.1 Phased Implementation Strategy

A gradual, phased approach is recommended to ensure smooth adoption and allow for continuous improvement: **Phase 1: Curriculum Redesign and Faculty Training.** A team of faculty from different disciplines collaborates to redesign the course syllabus, learning activities, and assessment rubrics. Crucially, this phase must include training workshops for faculty to familiarize them with new teaching methods (like facilitating PBL) and the core concepts of the other disciplines involved; **Phase 2: Pilot Implementation and Feedback Collection.** The reformed course is piloted with one cohort of students. Intensive data collection (surveys, focus groups, observation) is conducted throughout the semester to identify what works and what needs improvement; **Phase 3: Refinement and Scaled-Up Adoption.** Based on the feedback from the pilot, the course model is refined. Once proven successful, the model can be adapted for other courses, and the lessons learned can be shared across the department and university.

4.2.2 Essential Support Systems

For the TTP model to be sustainable, the following support systems are critical: **Faculty Development:** Institutions must invest in faculty. This includes providing interdisciplinary training workshops, offering grants for collaborative course design, and creating communities of practice where faculty can share experiences and resources; **Institutional Support:** University administration needs to create flexible curriculum policies that allow for team-teaching and innovative course structures. Importantly, interdisciplinary teaching and curriculum development must be formally recognized and rewarded in faculty evaluation and promotion criteria; **Resource Allocation:** Implementing this model requires resources. This includes investment in software licenses (e.g., GIS, statistical packages), lab facilities for workshops, and funding to support student fieldwork, travel, and collaboration with industry partners.

5. Conclusion

This study embarked on an exploration of interdisciplinary practical teaching for Tourism Management majors under the guiding philosophy of China's New Liberal Arts initiative. Through a detailed case study of the "Landscape Ecology" course, the research has yielded several key findings. First, it empirically confirmed that traditional, lecture-based teaching models characterized by disciplinary silos and passive learning are inadequate for cultivating the complex, integrated competencies required by the modern tourism industry. They fail to bridge the theory-practice gap and result in lower levels of student engagement and skill development. Second, the study demonstrated that a systematically designed interdisciplinary practical teaching model is highly effective. The reformed course, which integrated Problem-Based Learning, field-based workshops, and technology-enabled analysis, led to statistically significant improvements in students' critical thinking, practical application skills, collaborative abilities, and overall satisfaction. The quality of student work showed a marked increase in depth, rigor, and innovation. Finally, based on these successful results, the study abstracted and proposed the "Theory-Technology-Project" (TTP) integrated teaching model. This model provides a structured, competency-centered, and adaptable framework that other educators can use to guide their own curriculum reforms. It offers a clear pathway for translating the high-level principles of the New Liberal Arts into concrete and effective pedagogical practice at the course level.

In conclusion, as the tourism industry continues to evolve in complexity and scope, the need for professionals with holistic, interdisciplinary, and innovative capabilities will only grow. The New Liberal Arts provides the vision, and models like the TTP provide the pathway. By embracing such pedagogical innovations, higher education institutions can better prepare students to not only succeed in but also to lead the sustainable development of tourism in the future.

References

- [1] Sun Y. H., Yao C. C., Chen Y. X., Song Y. X., Wang Y. *Ecological Theory and Practice in Tourism Research in the New Era* [J]. *Journal of Resources and Ecology*, 2022, 13(1): 142-160. <https://doi.org/10.5814/j.issn.1674-764x.2022.01.016>
- [2] Liu, R. *Research on the "Three Creation" Education of Tourism Management Major and the Collaborative Education of Professional Ideological and Political Education under the Background of New Liberal Arts* [J]. *Frontiers in Educational Research*, 2023, 6(22): 19-25. doi: 10.25236/FER. 2023. 062204.
- [3] Sun, Y., Yao, C., Chen, Y., Song, Y., Wang, Y. *Ecological Theory and Practice in Tourism Research in the New Era* [J]. *Journal of Resources and Ecology*, 2022, 13(1), 142-160.
- [4] Liu Y.H., Mohamad Sattar Rasul, Fathiyah Mohd Kamaruzaman. *New Liberal Arts Talents' Cultivation in China: A Systematic Review* [J]. *Journal of Posthumanism*, 2025, 5(7): 1992-2009. DOI: <https://doi.org/10.63332/joph.v5i7.2997>
- [5] Zerbe, S. *Teaching applied landscape ecology in interdisciplinary and intercultural student groups. Experiences from a 10-years study abroad program* [J]. *Landscape Online*, 2020, 81: 1-15. DOI:10.3097/LO. 202081
- [6] Zhang Y., Xiong Y. *Interdisciplinary understanding of place in tourism education: An approach of participatory learning in China* [J]. *Journal of Hospitality and Tourism Management*, 2017, 30:47-54. <https://doi.org/10.1016/j.jhtm.2017.01.003>
- [7] Zhang L., Ma Y. *A study of the impact of project-based learning on student learning effects: a meta-analysis study* [J]. *Front. Psychol.* 2023, 14:1202728. doi: 10.3389/fpsyg.2023.1202728
- [8] Du T., Zhu X. Q. *Research on Ideological and Political Teaching of Golden Courses in Tourism Management under the New Liberal Arts Concept - A Case Study of Chinese Tourism Culture Course.* *Journal of Xi 'an University (Social Sciences Edition)*, 2025, 28(2): 11-16.
- [9] Zhou H. *The Current Situation of New Liberal Arts Construction in Universities and Compared with China and the West* [J]. *The Educational Review, USA*, 2023, 7(7), 1025-1030. <http://dx.doi.org/10.26855/er.2023.07.033>
- [10] Han, C. Y., Zhang, W. L. *Reimagining tourism management education: the role of ideology, innovation, and the 'three creations' framework* [J]. *Irish Journal of Educational Practice*, 2025, 8(4): 39-42.