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# Innovation and Practice of “Job- Course-Competition- Certification” Professional Talents’ Cultivation Model in Tourism Major under the Background of Digitalization Era



**Abstract:** - The rapid development of new digital economies such as artificial intelligence, cloud computing, and big data is profoundly changing various industries, especially the tourism industry. The digital upgrade has promoted the transformation and development of the tourism industry, and has given rise to a series of new employment positions closely related to digital technology, providing broader development space and transformation opportunities for the cultivation of tourism professionals. In this digitalization context, The most urgent thing is to explore the best talent cultivation model to adapt to the changes in the tourism industry environment and the demand for tourism talents. On the basis of drawing on the practical experiences from professional talent cultivation reform in existing universities, combined with the problems in the process of tourism majors’ talents cultivation, this paper proposes an innovative plan for the talent cultivation mode of higher vocational tourism majors under the theoretical framework of “job-course-competition-certification” integration. It is hoped that through the vivid practice of three integration scenarios: “job- course integration”, “course-competition integration”, and “course-certification integration”, it will optimize the talent training system for tourism majors in higher vocational colleges, and achieve high-quality and skilled training for tourism majors talents.

**Keywords:** Job-Course-Competition-Certification, Tourism Major, Talent Cultivation, Digitalization.

## I. INTRODUCTION

In the context of digital age, tourism industry development has undergone unprecedented changes. Artificial intelligence, big data, and cloud computing technologies provide the tourism industry with more intelligent and personalized service experience products, such as intelligent itinerary planning and AI digital navigation [1]. The diversified technologies such as online booking, electronic ticketing, Internet of Things, and drones have jointly built a full chain intelligent tourism service system [2]. This service system will effectively achieve real-time monitoring and intelligent management of tourism resources, tourism environment, and tourist flow. Various emerging formats are gradually emerging, such as the sharing economy, live streaming sales, virtual reality, etc [3]. These emerging formats have invisibly expanded the development boundaries of the tourism industry, and as a result, various digital innovative tourism products have emerged, such as cloud tourism, online tourism classrooms, etc. Vocational tourism education, as the most closely related type of education to the development of the tourism industry and the job demands of enterprises, should actively face the transformation of the tourism industry brought about by the digital age, should adjust the goals, directions, and contents of talent cultivation by aligning with the trend of industry development [4]. Only in this way can we cultivate high-quality skilled talents that meet the future market demand. However, the current training of tourism talents is still limited to the traditional knowledge-based talent training model, mainly targeting traditional tourism department positions, resulting in a serious mismatch between the supply and demand structure of tourism talents [5-7].

The comprehensive education concept of “job-course-competition-certification” is a new idea for high-quality training of tourism professionals, which could provide effective integration of vocational education with vocational positions and the cultivation of comprehensive and high-quality tourism talents. “Job” refers to the job positions that students will soon move towards after graduation. These job positions are basically summarized based on the employment situation of students in this major in previous years. At the same time, these job positions are predicted by teachers based on the development of the industry. “Competition” refers to various professional and comprehensive competitions that students can participate in at school or after graduation. These competitions can be at various levels, such as elementary, intermediate, advanced, or national, provincial, etc. “Course” means various course teaching activities that students receive during the college period. The courses do not mean theoretical courses, but also practical courses, including both the course teaching itself, the course system designed

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to cultivate students, and the course structure formed between courses. “Certificate” refers to the certificates related to their major that students need to obtain during their university years or after graduation to move towards a job position. These certificates will be very beneficial for them to find jobs or promote their future job positions. Based on a thorough analysis of existing case experiences, this article constructs a new model of integrated talent cultivation for tourism majors to promote the high-quality development of tourism professional vocational education. The model is termed as “five job styles”, “three combinations” and “three integration”, which is characterized by “course-based job”, “training-based competition”, and “evaluation-based certification”.

## II. DECONSTRUCTING TALENT CULTIVATION MODEL OF “JOB-COURSE-COMPETITION-CERTIFICATION” INTEGRATION

### A. *Integration Mode of Job-course: Changzhou Industrial Vocational and Technical College*

Changzhou Industrial Vocational and Technical College, as a pilot institution for the "1+X" certification system of China, attached great importance to deep cooperation with leading enterprises in the industry, such as Hengli Hydraulic, Xingyu Automotive, Hengtong Optoelectronics, and other well-known domestic and foreign enterprises. It constructed a physical industry education integration alliance with these enterprises and built a cross-school joint industrial college [8-10].

Based on fully analyzing the needs and skills of industry positions, the college broke away from the traditional curriculum system and jointly developed and implemented talent cultivation plans with enterprises. During the teaching process, it collaborated with the enterprise to develop school-based textbooks. It also introduced advanced management concepts, technologies, and methods from the enterprises into classroom teaching, restructuring the course content. Guided by various project modules in the job position, a task-based classroom teaching approach was adopted to reconstruct an action-oriented teaching mode. The approach realized the integration of course settings with the actual job requirements of the enterprise [11].

In the process of talent cultivation, various forms of talent cultivation, such as going to well-known enterprise positions for training, industry experts teaching at schools, building mentorship relationships between enterprise experts and students, and conducting regular mentorship, were added to achieve seamless integration of school-enterprise education and school-employment [12].

### B. *Course-competition Integration Mode: Jinhua Vocational and Technical College*

Jinhua Vocational and Technical College is a national “Double High Plan” construction university and national demonstration higher vocational college. In recent years, the college has actively participated in various national and provincial competitions. In the past two years, the total number of awards and the number of award-winning students in the National Vocational College Skills Competition have consistently ranked first in the country.

Based on this advantage, the college gradually optimized its talent cultivation plan. In the process of constructing the curriculum system, it attached great importance to the systematic connection between teaching and competition. The competition project was transformed into a teaching-oriented one, with individual knowledge and skill points designed as curriculum projects and comprehensive applications designed as semester projects [13].

In the talent cultivation plan, innovative and comprehensive practices with the characteristic of “curriculum + semester” projects were added in the second and third stages of the college Skill competitions and X certificate expansion courses, breaking away from conventional course arrangements [14]. To address the narrow range of students benefiting from the competition, the college has established online learning courses based on the competition project and the X certificate project, as well as several projects that can implement integrated theory and practice teaching. This major was also based on the competition platform and the X certification platform and has compiled school-based teaching materials, curriculum standards, evaluation standards, and other teaching documents that integrate theory and practice around the competition projects and certification tasks [15]. The college has established multiple competition teams such as robot system integration through an internal selection and is equipped with a team of strong mentors to carry out “four-stage rotation training and phased elimination”. This teaching was carried out during winter, summer, holidays, and spare time. Teachers integrated industry standards and norms learned and applied in competitions into daily teaching and training, which could standardize skill teaching. Teachers integrated basic requirements such as professional ethics and professional literacy into the evaluation system, reflecting the comprehensive evaluation requirements for students' quality and knowledge abilities.

The integration of “competition and course” has achieved hierarchical and classified teaching, which not only allows a small number of fast-running students to “eat”, but also allows most ordinary students to learn content that is not disconnected from the forefront of technology. The elimination mechanism of “competition and teaching integration” also gave students who want to enter the “competition and teaching integration” class goals and motivation to move forward.

### C. *Course-certification Integration Mode: Shenzhen Vocational and Technical University*

Shenzhen Vocational and Technical University is one of the first 10 A-level high-level school construction units under the “Double High Plan” of the Ministry of Education and the Ministry of Finance in China. Its teaching model of “curriculum integration” with Huawei Company has outstanding teaching effects.

In 2009, with the rapid development of the information and communication technology industry, Shenzhen Vocational and Technical University signed a cooperation agreement with Huawei Technology Co., Ltd. to carry out career-oriented professional teaching. With continuous development, Huawei has established its engineer certification course system. To achieve seamless integration of students and employment, Shenzhen Vocational and Technical University has carried out training for students according to Huawei engineer certification standards. To achieve the organic integration of the college’s professional courses and Huawei certification, the college adopted two measures: i) it deconstructed and reconstructed the knowledge and skill system of Huawei certification, which transformed its knowledge and skill needs into students’ literacy and ability requirements; ii) it promoted curriculum reform and timely adjusted the course modules and talent output scale in conjunction with changes in Huawei certification. These measures effectively promoted the symbiosis and interactive growth of talent cultivation plans and the Huawei certification system [16].

The college divided professional courses into three stages: public basic courses, professional basic courses, and certification courses. Students study public basic courses and professional basic courses in their first year of college. In their third year, based on industry employment needs and students' interests and hobbies, their training directions are divided into categories such as transmission, data communication, and cloud computing. Students choose voluntarily, and the college teaches according to their aptitude. To meet the learning requirements of different students, the school required all students to obtain Huawei Junior Certification through hierarchical teaching, encouraged interested students to obtain Huawei Intermediate and Advanced Certification, and implemented advanced training and personalized learning. The teaching process is integrated into the enterprise training and certification system, allowing students to acquire true skills through the integration of knowledge and action. The knowledge and skills learned in school are seamlessly integrated with the job requirements of the enterprise.

## III. A REVIEW ON THE CULTIVATION PROBLEMS OF TOURISM MAJORS TALENTS IN HIGHER VOCATIONAL EDUCATION UNDER DIGITAL INTELLIGENCE ERA BACKGROUND

### A. *The Curriculum System of Tourism Majors is Severely Disconnected from Job Requirements*

In the era of digitalization, the tourism industry chain is facing digital transformation, new tourism industrial forms continue to emerge, and the cross-border integration of the tourism industry with other industries is becoming more diverse, resulting in an increasing demand for composite tourism talents, such as tourism anchors, tourism content creators, personalized tourism product designers, etc. However, due to the traditional curriculum system still being used in tourism majors, there is a lack of specialized training for the above-mentioned types of talents, which limits the employment scope of existing students. Even if students are able to enter the above-mentioned career positions, it does not extend their career adaptation time.

### B. *The Practical Teaching System for Tourism Majors is Backward and Outdated*

In recent years, the tourism industry has widely adopted technologies such as AI, big data, cloud computing, and the Internet of Things to promote the transformation and upgrading of the tourism industry, resulting in significant changes in the production, service, and management modes of the tourism industry. However, currently, most vocational colleges still use traditional campus teaching practice platforms for tourism majors. These platforms fall behind the requirements of the development of the tourism industry under new technologies, standards, and norms in terms of scale and practical effects. This will seriously reduce the information operation and tourism service capabilities of tourism professionals.

### C. *Lack of Reliability in the Teaching Evaluation System for Tourism Major*

At present, tourism majors in vocational colleges still mainly adopt the evaluation model of ordinary higher education. This model emphasizes theory over practice and uses traditional "cramming" teaching methods and

result-based assessment and evaluation methods, which, however, neglected the exertion of innovation and entrepreneurship abilities, and lacked comprehensive vocational skills. The lack of a process-based assessment and evaluation of comprehensive vocational skills has resulted in a serious shortage of high-quality technical and skilled tourism talents.

#### IV. INNOVATIVE PATH OF TALENT CULTIVATION MODEL FOR TOURISM MAJOR IN HIGHER VOCATIONAL EDUCATION

Drawing on the successful experience and practices of existing colleges, this article constructs an innovative talent cultivation model that integrates “job-course- competition-certification” in vocational tourism majors. The specific mode is as follows.

##### A. *The “Five Job Styles” Determines Courses Based on Job Positions*

Based on the thinking of “integration of jobs and courses”, the curriculum content is set up following the modern tourism industry job skills standards. Through curriculum integration and content synthesis, following the construction concept of professional groups, a systematic curriculum system is built based on a systematic work process [17]. After the process inspection and improvement of “job identification, job trial, job rotation, job placement, and job replacement”, the problem of disconnection between the curriculum system and the tourism industry will be effectively solved.

The members of the Tourism Professional Committee and the teaching team should fully analyze the current development status of the local tourism industry, extensively investigate the current and potential needs of tourism professional positions in the digital era, construct industry job clusters that adapt to the development of the modern digitalized tourism industry, then optimize and adjust the construction of the college's professional group. Then, the professors should conduct in-depth research in industries and enterprises, analyze the work process and professional standards of the corresponding professional positions of students, and divide different modules according to the knowledge, abilities, and quality structure required for the positions, guided by vocational activities, clarify teaching objectives and training objectives, integrate professional theoretical knowledge, and construct a curriculum system guided by completing different job tasks. Based on the job characteristics of the tourism industry and large enterprises, enterprise standards and professional qualification standards are adopted to incorporate new knowledge, processes, and norms required by the industry, enterprises, and positions into the curriculum [18]. Schools and enterprises collaborate to jointly develop school-based textbooks, formulate teaching plans, syllabuses, lesson plans, etc., and carry out course teaching based on real work tasks [19].

To better adapt to work and university learning conditions, colleges should organize students to go to well-known tourism companies for “job recognition” and familiarize themselves with the corporate culture, industry status, professional characteristics, business content, and business processes of tourism companies. With this, students may have a clear positioning and understanding of the major, courses, and skills required. During the school learning period, schools and enterprises cooperate to carry out both on-campus and off-campus practical training teaching, providing students with the opportunity to “trial their jobs”. Students integrate into the enterprise position and apply the knowledge they have learned to the corresponding job position, giving them a deeper understanding and perception of the position. Subsequently, the students went to the off-campus internship base for “jobs rotation jobs” and “jobs placement”. Finally, based on their strengths and preferences, they conduct “top job” internships. The students begin to independently undertake work tasks, face various potential emergencies, try to solve problems, and improve their comprehensive abilities. During this period, the school and the enterprise jointly constructed an internal and external training and teaching system, identifying school teachers, trial job rotation masters, and fixed-job replacement masters. Students gradually improved their comprehensive skills through the process of “job recognition, job trial, job rotation, job placement, and job replacement”. At the same time, in the process of school-enterprise cooperation and joint participation of teachers and students in “job recognition, job trial, job rotation, job placement, and job replacement”, the process quality of students completing tasks is also a direct basis for feedback optimization and adjustment of the curriculum system, curriculum content, and curriculum teaching (Figure 1).

##### B. *The “Three Combinations” Model of Competition and Training*

Based on the thinking of “integrating courses and competitions”, we should fully leverage the leading role of competition standards for the “Hotel Reception” project of the World Skills Competition, the “Tour Guide Service” and “Restaurant Service” projects of national and provincial competitions, the China International “Internet plus” Undergraduate Innovation and Entrepreneurship Competition, the “Challenge Cup” National Undergraduate

Extracurricular Science and Technology Works. The combination of competition evaluation standards and practical teaching assessment standards focuses on students' learning interests, stimulates their learning motivation, and highlights the cultivation of their practical ability, application ability, innovation ability, and teamwork ability [20].

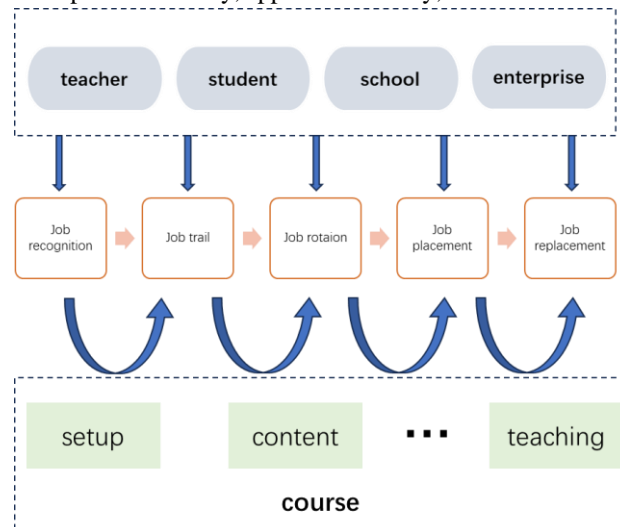


Figure 1: "Five Job Styles" Career - Course Feedback Optimization Flow Chart

### 1) *Combining competition training with practical teaching*

We should deconstruct and restructure the knowledge of the competition projects from three levels of knowledge, skills, and literacy, and integrate it into the construction of a professional curriculum system, development of school-based textbook content, and classroom teaching activities. To enhance students' comprehensive application of competition project knowledge and skill enhancement, semester project-based courses could be set up, and college-level and school-level skill competition activities need to be added. Through the form of semester courses, semester projects, and skill competitions, the practical teaching process is enriched.

### 2) *Combining competition training methods with practical teaching methods*

The college teachers apply the accumulated experience from participating in various tourism competitions to classroom education and teaching, which is able to effectively combine skill competition training with classroom teaching, and improve classroom teaching effectiveness. If the project-based teaching method is adopted, the teacher transforms the competition content into different classroom project tasks, designs case scenarios, and requires students to proactively solve problems and collaborate with teams to solve problems based on designated case tasks. This enhances students' independent thinking and problem-solving abilities and unleashes their subjective initiative.

### 3) *Combining competition evaluation standards with teaching assessment standards*

We should build a comprehensive evaluation model that integrates competition and examination. In professional skills teaching, integrate the assessment requirements of decomposed competition project skills into the teaching assessment evaluation of corresponding course teaching. In the semester project assessment, skill operation evaluation and project achievement evaluation are used to evaluate students' mastery of professional skills. At the same time, the winning results of the competition will be included as bonus points in the comprehensive skill assessment and evaluation of students. Through diversified assessment methods, students can better master their professional and practical abilities, laying a solid foundation for future career development and employment.

### C. *The "Three Integrations" Model of Promoting Evaluation with Certifications*

Based on the thinking of "integration of courses and certification", integrating the level standards of tourism vocational skills into the professional curriculum teaching standards, integrating the tourism vocational skills training module into the professional curriculum structure, integrating the tourism vocational skills training content into the professional curriculum content, optimizing the teaching standards of tourism professional courses, carrying out modular curriculum reform, making daily teaching closer to industrial production practice, will effectively solve the problem of lack of reliability in the teaching evaluation system.

#### 1) *Integrating professional ability level standards into curriculum teaching standards*

The professional ability level standard is a skill level evaluation conducted for typical work tasks in key positions or job groups, which helps to cultivate students' comprehensive knowledge structure and professional

skills. Based on the vocational ability level evaluation system, vocational tourism major should explore the institutional connotation of corresponding vocational ability level certificates, analyze the specific manifestations of vocational skill level standards, combine with the talent needs of national economic and social development, clarify the professional talent training specifications, and build a talent cultivation system that integrates professional knowledge education and vocational skill training [21].

2) *Integrating the vocational ability level training module into the professional course structure*

Based on optimizing the existing talent cultivation plan, colleges need to analyze and demonstrate the content of vocational ability level training for tourism majors. Based on the different ability structures required for vocational skill level certificates, we should reasonably set up professional basic courses, professional core courses, and quality expansion courses. We should construct a modular curriculum system to ensure that the professional basic courses cover the basic competencies required for industry professional positions. The professional core courses cover the main technical skills required for professional positions in the industry. The quality expansion courses are based on the profession to cultivate students' peripheral knowledge and comprehensive skills.

3) *Integrating vocational ability level training content into professional course content*

The vocational ability level certificate reflects the skill requirements of vocational positions. Integrating the content of vocational training into professional curriculum teaching is conducive to the unity of theoretical knowledge and practical knowledge in vocational tourism teaching. Combining the vocational ability level training content highlights the proportion of practical teaching content in the course content design, and focuses on carrying out practical teaching. In the arrangement of practical teaching content, the principle of "from easy to difficult" and "from simple to complex" is adopted, which is coordinated with the planning of professional theoretical knowledge teaching and promoted synchronously. We should highlight the operability of professional course content, arrange it around specific work tasks of professional positions, and present professional course content. We should create problem and work situations through course content construction to promote students' full absorption in the learning process.

## V. CONCLUSIONS

The era of digitalization has brought tremendous transformative forces to the tourism industry, which is facing an important transition from traditional operating models to digitalization and intelligence. In this process, new technologies and concepts have spawned numerous new tourism formats and job positions, such as big data tourism analysts, smart tourism solution designers, online tourism platform operation specialists, virtual tourism product developers, and intelligent tourism equipment technical support. These positions not only require practitioners to have solid tourism professional knowledge, but also to master cross disciplinary skills such as information technology, data analysis, and product innovation. However, many tourism related professional education programs still focus on traditional teaching of basic knowledge such as tourism management, tourism resource development, and tourism marketing, with relatively few applications and practical aspects of emerging technologies. This may lead to a mismatch between knowledge structure and market demand for graduates in the increasingly intelligent and digital tourism workplace, which in turn affects their employment competitiveness and job adaptability.

From the perspective of "job-course-competition-certification" integration, we deeply analyze the current and potential demand for tourism talents in the context of digital transformation, upgrading, and innovative development of the tourism industry. Starting from the demand for tourism professional positions, we need to construct the training direction, standards, plans, and curriculum system for tourism professionals. In order to optimize and enhance the vocational skills of students, highlight the demand for innovation, cooperation, operation, learning, and information operation abilities of tourism talents under the background of digitalization, we adopt the integration of courses and competitions, and the integration of courses and certificates to optimize the content, methods, and evaluation system of talent cultivation, truly promoting the effective connection between the supply and demand sides of tourism professionals. We have developed a new talent cultivation model that integrates "career competition certification", which will effectively extend and optimize the professional curriculum system. The curriculum structure and content are conducive to achieving the comprehensive improvement of student course knowledge, professional skills, and professional literacy, as well as the established goal of cultivating high-quality and skilled tourism talents in the tourism industry.

## ACKNOWLEDGMENT

The top priority topic of Jiangsu Province's higher education reform research is "Innovation and Practice Research on the Talent Training Mode of Higher Vocational Tourism Majors from the Perspective of Integration of "Job-Course-Competition-Certification" (2021JSJG033); The sub-project of Jiangsu University Philosophy and Social Science Key Research Base "Quality Evaluation of Applied Tourism Talent Training in the New Era" (2020SKJD03).

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