# Global Cases & Practices of Vocational Education

## 全球職業教育案例與實踐

ISSN: 3080-2245

Volume: 01
Issue: 01
June 15, 2025

Hong Kong SAR
China

EDUTECHPRESS
教育與科技出版社集團

Global
Cases & Practices of
Vocational Education
全球職業教育案例與實踐

ISSN PRINT:
3080-2245



**Publishing House:** EduTech Press Group Co., Limited

**ISSN:** 3080-2245

**Language:** English

**Review mechanism:** Double-blind

**Place of Issue:** Hong Kong S.A.R, China

**Distribution Scope:** Worldwide

**Website:** www.gcpve.com

**E-Mail:** info@gcpve.com

**Submission:** submission@gcpve.com

**Price:** HKD 480.00

ISSN 3080-2245

9 773080 224000 >

Global
Cases & Practices of
Vocational Education
全球職業教育案例與實踐

# Copyright Statement

## Copyright



## Academic Citation and Fair Use

We encourage academic integrity and knowledge sharing. For content published in this journal, prior permission from the publisher is generally not required for use in academic research, education, or non-commercial purposes, provided that recognized academic citation practices are followed. However, cited content must be accurate, and such use shall not exceed the scope of "fair use" or "fair dealing.“

## Prohibition of Unauthorized Use

Any use beyond the scope of "fair use" or "fair dealing," including but not limited to the reproduction of substantial portions of text, figures, or data, or for commercial purposes, must be authorized in advance by EduTech Press Group Co., Limited in writing. Unauthorized use may constitute infringement and may result in legal consequences.

## Legitimacy of Official Website Downloads

Users are permitted to download content through the official website of this journal, which is deemed as legal authorization by the copyright owner. However, users must comply with the following provisions:

- Downloaded content is for personal study, research, or non-commercial use only;
- Downloaded content shall not be used for commercial purposes or redistributed without permission;
- When citing downloaded content, users must adhere to principles of academic integrity and accurately attribute sources.

## Reservation of Rights

EduTech Press Group Co., Limited reserves all copyrights and related rights to all content published in this journal. The company reserves the right to pursue legal action against any infringement of the rights stated in this notice.

EduTech Press Group Co., Limited
May 15, 2025
Hong Kong SAR
China

Global
Cases & Practices of
Vocational Education
全球職業教育案例與實踐

**Articles** **Volume: 01, Issue: 01, June 15, 2025**

1 School-Enterprise Collaboration to Co-build the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform: An Innovative Practice of Vocational Education Empowering Special Groups
Weijia Yu, Jinfeng Tan, Xiaohua Chen, Xiaoqiang, Wang — Page 1-21

2 An Applied Research on the Situational Teaching Method Assisted by Multimedia in the Course of "Oral Hotel English" in Secondary Vocational Schools
Liyan Hong, Bing Li — Page 22-48

3 The "Concurrent Cultivation and Training · Quadrilateral Synergy" Development Model of Vocational Education in Boosting Locally Characteristic Industries: A Case Study of Model Application within the Liuzhou River Snail Rice Noodles Industry
Qing Qin, Huiyu Wu, Chenghao Li, Han Huang — Page 49-69

4 From Policy Texts to Teaching Practices: Decoding the Growth Code and Practical Landscape of Dual-Qualified Teachers
Jiayi Huang, Lingxin Chen, Xiaoying Zhang, Xiaorong Chen — Page 70-92

5 The "Trio-drive Model" of vocational textbook compilation under the framework of CBE theory, the case of "Sommelier Service and Management" Compiling Process
Yujun Fan, Jiajia Pan — Page 93-108

EDUTECHPRESS
教育與科技出版社集團

Global
Cases & Practices of
Vocational Education
全球職業教育案例與實踐

## Articles

6 The Effectiveness of the Profession-Oriented "Enterprise-Classroom" Model in the Development of Skill-Based Student Society in Vocational Schools, a Case Study of the Shunde Secondary Vocational School Sommelier Society
Yan Zhong, Xiaoyong Guo, Shuijie Huang
Page 109-124

7 Situational Teaching Design and Application Effects in the Cultivation of Aesthetic Literacy for Vocational Students: A Case Study of the "Tea Art" Course
Nuan Zhao, Hua Guo, Jiajia Pan
Page 125-151

EDUTECHPRESS
教育與科技出版社集團

Global
Cases & Practices of
Vocational Education

ARTICLE

# School-Enterprise Collaboration to Co-build the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform: An Innovative Practice of Vocational Education Empowering Special Groups

## Authors
Weijia Yu, Jinfeng Tan, Xiaohua Chen, Xiaoqiang, Wang

## Correspondence
Jinfeng Tan, Email: 573807372@qq.com

Received: May 08, 2025
Revised: May 15, 2025
Accepted: June 8, 2025
Published: June 15, 2025

## Citation
Yu, W.J., Tan, J.F., Chen, X.H., & Wang, X.Q. (2025). School-Enterprise Collaboration to Co-build the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform: An Innovative Practice of Vocational Education Empowering Special Groups. *Global Cases & Practices of Vocational Education,* 1(1), 1-21.

# School-Enterprise Collaboration to Co-build the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform: An Innovative Practice of Vocational Education Empowering Special Groups

**Weijia Yu[a], Jinfeng Tan[b], Xiaohua Chen[b], Xiaoqiang Wang[b]**
[a] School of Information Science and Engineering, Liuzhou Institute of Technology
[b] Guangdong Nanhua Vocational College of Industry And Commerce

## Abstract

This paper provides a detailed introduction to the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform project co-developed through school-enterprise collaboration. The project, jointly undertaken by WLL Technology Company and GDNH Vocational College, aims to address communication barriers faced by hearing-impaired people. Through technological innovation, the project has introduced a range of hardware and software products, including sign language interpreting glove, thereby establishing a globally leading solution for sign language accessibility. The project has not only achieved technological breakthroughs but also explored innovations in the talent cultivation system of vocational education under the industry-education integration model, nurturing a cohort of professionals in the field of accessibility technology. Furthermore, the project has deeply penetrated public service scenarios, establishing a comprehensive accessibility service system that covers all areas, thereby effectively promoting socially inclusive development. Facing multiple challenges in technology, culture, and beyond, the project has also proposed a multi-dimensional and collaborative approach to sustainable development, committed to fostering an accessible society in the intelligent era.

***Keywords:*** *Vocational Education; Special Education; Industry-Education Integration; Talent Cultivation; Sign Language Accessibility*

## Introduction: The Contemporary Imperative of Integrating Vocational Education with Special Groups

In the context of globalization and information technology advancement, vocational education, serving as a crucial avenue for nurturing application-oriented talents, is encountering unprecedented opportunities and challenges. The author has personally experienced the entire lifecycle of the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform project, a collaborative initiative undertaken by WLL Technology Company and GDNH Vocational College. This innovative project, which takes addressing communication barriers for the hearing-impaired community as its starting point and adopts industry-education integration as its approach, has not

only achieved dual breakthroughs in technological innovation and talent cultivation but also established a novel paradigm for vocational education to serve special groups and foster social inclusivity. From the dual perspectives of a project practitioner, this paper will conduct an in-depth analysis of the synergistic mechanisms of technological innovation, talent cultivation, and social service within the school-enterprise collaboration process, providing a Chinese solution for global vocational education innovation.

## Technology for Good: An Overview of Sign Language Accessibility Technology-Assisted Disability Products

### *Current Status of Sign Language Accessibility Technology and Products*

Sign language, as the mother tongue of the hearing-impaired people, serves as their primary means of daily communication (Liu, Gu et al., 2013). However, due to the fact that most hearing individuals are not proficient in sign language, this linguistic divide has erected an invisible barrier between the deaf and the hearing, severely impeding communication efficiency between the two groups.

Sign language accessibility technology-assisted disability products are essentially information communication aids, falling under the category of assistive devices for the rehabilitation of the people of determination. These devices are designed to assist hearing-impaired people in conveying information through sign language while simultaneously accessing auditory information (Nasabeh & Meliá, 2024). Functionally, they can be categorized into two types: sign language recognition (translating sign language into written or spoken text) and sign language presentation (converting written or spoken text into sign language imagery). Among these, sign language recognition technology is more complex and challenging (Wang, Lee et al., 2023). Sign language recognition technology can be further divided into two categories: sensor-based (such as sign language interpreting glove) and vision-based (utilizing cameras) (Fang, Tao et al., 2023). The advantage of sign language interpreting glove lies in their high precision and rapid computational speed (Abula, Kuerban et al., 2021). Due to limitations in user application scenarios, camera-based sign language recognition solutions have not yet been commercialized. Consequently, the only mature products currently available in the market within this domain are sign language interpreting glove.

The earliest research on sign language interpreting glove abroad was conducted by the Ukrainian student team EnableTalk in 2012. In the same year, researchers from Humboldt University of Berlin developed an intelligent glove called Mobile Lorm Glove, which assisted hearing-impaired people in Germany in translating the local Lorm sign language into textual information on computers or mobile devices. In 2016, two sophomores from the University of Washington, Thomas Pryor and Navid Azodi, developed a glove named "SignAloud" for the hearing-impaired community. In 2017, a research team from the University of California, San Diego, created a glove capable of tracking the gestures of the wearer. In 2020, the research outcome from the University of California, Los Angeles (UCLA), titled "Sign Language Translation Using Machine Learning-Assisted Stretchable Sensor Arrays," was published in Nature Electronics (Zhou, Chen et al., 2020). Domestically, the earliest sign language interpreting glove was developed by the Yousheng team from Guangdong Polytechnic Normal University in 2015. Subsequently, in 2016, Fuzhou Yuanzhi Intelligent Technology Co., Ltd., affiliated with Fuzhou University, invented the "E-chat" social glove, aiming to facilitate communication between the hearing-impaired and individuals with

normal hearing. In the same year, Zhejiang Yingmi Technology Co., Ltd. also developed a sign language interpreting glove.

In addition to hardware products such as sign language interpreting glove, there are also software products like "sign language animation" designed to assist hearing-impaired people in receiving information (Tang, Xiu et al., 2023). In 2017, Changsha Qianbo Information Technology Co., Ltd. developed an animated sign language system. In 2021, Sogou introduced an AI-synthesized digital sign language interpreter. In 2022, the "Winter Olympics Sign Language Broadcasting Digital Human" developed by Tsinghua University's Zhipu AI team made an appearance in Beijing TV's news broadcasts of the Winter Olympics. Moreover, there are several lightweight technology-assisted disability projects aimed at enhancing sign language accessibility. For instance, Guangzhou Yinshu Technology and Shenzhen Shenghuo Technology have launched mobile applications that incorporate features such as speech recognition and sign language animated emojis.

### *"Yi Shou Yu" Sign Language Accessibility Intelligent Platform*

Since 2018, WLL Technology Company and GDNH Vocational College have been collaborating on the research and development of sign language accessibility technology-assisted disability products. By December 2020, they had completed the mass production and market launch of the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform, a comprehensive sign language accessibility solution. The platform's product lineup encompasses a range of hardware and software products, including sign language interpreting glove, the "Yi Shou Yu" simultaneous interpretation APP, portable sign language guide devices, a universal sign language broadcasting system, interactive screens for sign language simultaneous interpretation, and all-in-one sign language guide machines. This solution serves multiple functions, such as popularizing sign language standards, enhancing the occupational communication skills of hearing-impaired people, promoting the employment of the people of determination, and contributing to the construction of an accessibility environment in civilized cities.

Among its flagship products, the "Sign Language Interpreting Glove" and "Yi Shou Yu APP" represent the world's first mass-produced sign language interpreting glove, boasting 100% independent intellectual property rights and a localization rate exceeding 90%, with dozens of intellectual property protections in place. The solution encompasses over 8,500 sign language gestures from both the "National Common Sign Language Vocabulary" and "Chinese Sign Language," thereby facilitating the popularization of the national common sign language. Additionally, it includes and supports Arabic Sign Language, Cambodian Sign Language, as well as sign languages from multiple countries such as Russia, France, the United Kingdom, Germany, the United States, and Japan, integrating the world's largest big data corpus of sign languages.

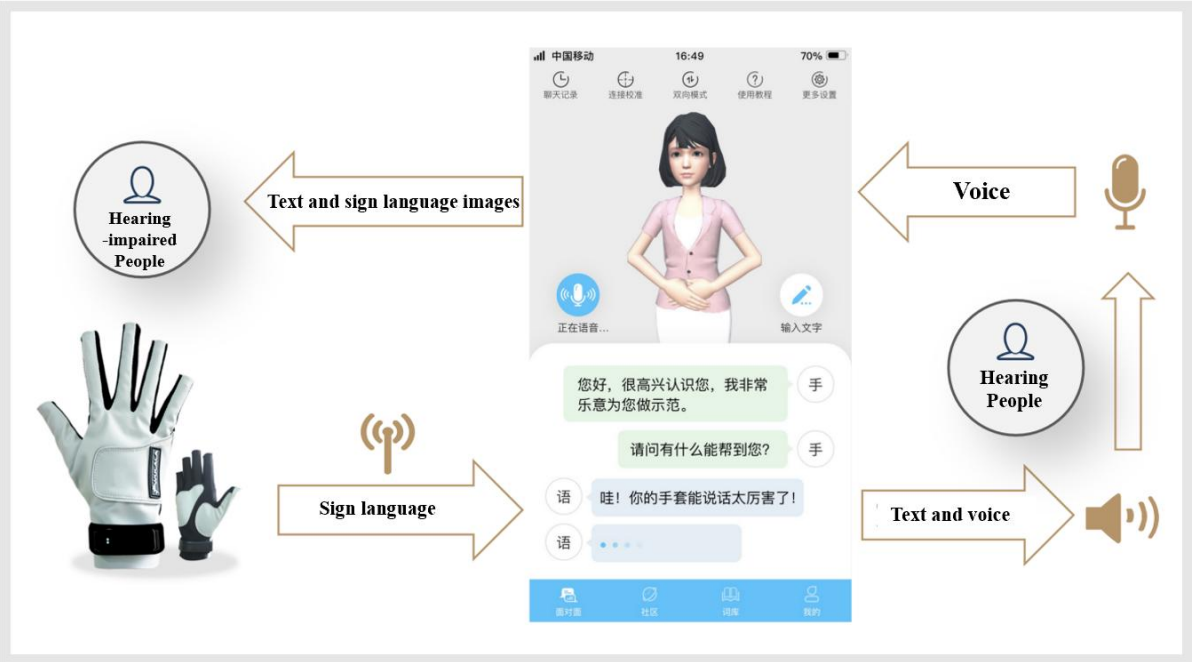
Constrained by intellectual property and technological barriers, other companies in this field currently offer only single products rather than holistic solutions. In contrast, benefiting from long-term accumulations in advanced sensor technology and artificial intelligence algorithms, the "Yi Shou Yu" Sign Language Accessibility Intelligent Platform boasts comprehensive functionality, providing a globally leading solution in this domain. It enables bidirectional communication between the deaf and the hearing across various scenarios, fully empowering hearing-impaired people and effectively expanding their capabilities, thereby allowing them to integrate seamlessly into society. The details of the "Yi Shou Yu" product line are illustrated in Table 1, and a schematic diagram depicting the process of bidirectional communication between the deaf and the hearing

using the sign language interpreting glove is shown in Figure 1.

**Table 1**
*"YSY" Product Line*

| No. | Product Name | Product Form | Product Description | Product Purpose | Application Scenarios | Type |
|---|---|---|---|---|---|---|
| ① | Sign Language interpreting Glove | Smart Wearable Hardware | Bluetooth-connected mobile phone, wearing glove to type, the glove collects sign language movements and translate them into text and voice | Hearing-impaired people wear single glove to communicate face-to-face bidirectionally with the hearing using sign language | Personal use by hearing-impaired people, suitable for social affairs such as education, employment, and travel | Personal Equipment for Hearing-impaired People |
| ② | "YSY" simultaneous interpretation APP | Mobile Application Software | Voice recognition, voice synthesis, AI-driven digital human sign language simultaneous interpretation, and glove-assisted sign language translation with voice output | Bidirectional communication between hearing-impaired people and the hearing, multimodal fusion interaction | Personal use by hearing-impaired individuals, can be used without glove | |
| ③ | Sign Language Guide Portable Device | Handheld Smart Device | Voice recognition, voice synthesis, AI-driven digital human sign language simultaneous interpretation | Mobile accessible office work, AI-powered sign language animation guidance and inquiry | Carried and used by hearing staff at any public service window | Equipment for Public Service Venues |
| ④ | Universal Sign Language Broadcasting System | AI sign language broadcast-ing PC software | Real-time translation of written manuscripts into sign language, animation, and real-time voice-to-sign language translation, compatible with Windows | Pre-recorded sign language animation broadcasting, real-time sign language simultaneous interpretation, sign language accessibility notification, etc. | For special education classrooms, TV stations, Party and government communities, conferences, and new media live broadcasts | |
| ⑤ | Sign Language Interpretation Interactive Screen | Desktop dual-screen intelligent device | When conducting window-based transactions, customers with hearing impairments can benefit from real-time sign language animations and textual interpretations of the clerk's speech, and text input by the customers can be converted into voice output | Sign language accessibility for face - to - face business transactions | Fixed deployment for any public service counters, including guidance desks, information desks, service counters, government affairs windows, business hall windows, police stations, and rescue stations. | |
| ⑥ | Sign Language Guide All-in-One Machine | Fixed intelligent cabinet machine | Sign language guide query touch-smart terminal, pre-installed customized sign language intelligent guide software | Large-screen display of sign language animation guides and queries, self-service touch interaction for hearing-impaired people | Fixed deployment in public service places such as tourist attractions, exhibition halls, lobbies of service centers | |

**Figure 1:**
*Schematic Diagram of the Bidirectional Communication Process between the Deaf and the Hearing*




## Project Incubation: A Demand-Oriented Innovation Mechanism for University-Enterprise Collaboration

### *Technological Breakthroughs Driven by Social Pain Points: Digital Infrastructure for Accessible Communication*

At the crossroads where digital civilization intertwines with humanistic care, the plight of the hearing-impaired community is emerging as a litmus test for the level of social civilization (Smith, Marcia, et al., 2018). According to the *World Report on Disability* published by the World Health Organization (WHO) of the United Nations in 2011, the global population with disabling hearing loss has surpassed 430 million. The findings of China's Second National Sample Survey on Disability indicate that there are 27.8 million hearing-impaired people in China. However, the coverage rate of sign language interpretation in public service scenarios is less than 10%, and only 4.6% of hospitals nationwide are equipped with professional sign language interpreters. Traditional hearing aids fail to address the fundamental communication barriers, while the prohibitive cost and surgical constraints of cochlear implants exclude the vast majority of the hearing-impaired population. This communication gap not only leads to a precipitous decline in the quality of life for individuals but also, on a deeper level, hinders the realization of social equity. This significant chasm between technological supply and people's livelihood needs has given rise to the "Yi Shou Yu" project. Through in-depth research, the project team discovered that the hearing-impaired

community faces three major dilemmas: the lag in information acquisition, marginalization in social participation, and inaccessibility to emergency assistance. These dilemmas, akin to three invisible walls, isolate them from modern civilization.

The technological breakthrough campaign thus commenced, with the research and development team constructing a three-dimensional solution framework of "hardware perception - software analysis - service closed-loop": At the hardware level, the self-developed high-precision flexible sensors, coupled with a 9 to 11 degrees-of-freedom adaptive motion capture algorithm on the slave machine, enable millimeter-level recognition accuracy for sign language gestures (Chen, Zhang, et al., 2021). The waveforms of motion capture data for sign language gestures are illustrated in Figures 2 and 3. The software system is equipped with a multimodal deep learning framework, AI digital human generation technology, and embodied intelligent interaction technology. Through training on a million-scale sign language corpus, it has overcome technical bottlenecks such as personalized sign language customization, dialectal sign language recognition, and dynamic contextual understanding. On the server side, an innovative "AI+" generative translation platform has been created, establishing a professional terminology database that covers various scenarios including occupation, education, healthcare, and government affairs. This comprehensive approach directly addresses the three major pain points: breaking down information silos through simultaneous interpretation of speech-text-sign language, and eliminating communication barriers in specialized fields with the aid of scenario-based service modules.

**Figure 2:**

*Data on the Flexion Degrees of the Five Fingers in the Sign Language Gesture for "Nice to Meet You" (Five Degrees of Freedom)*

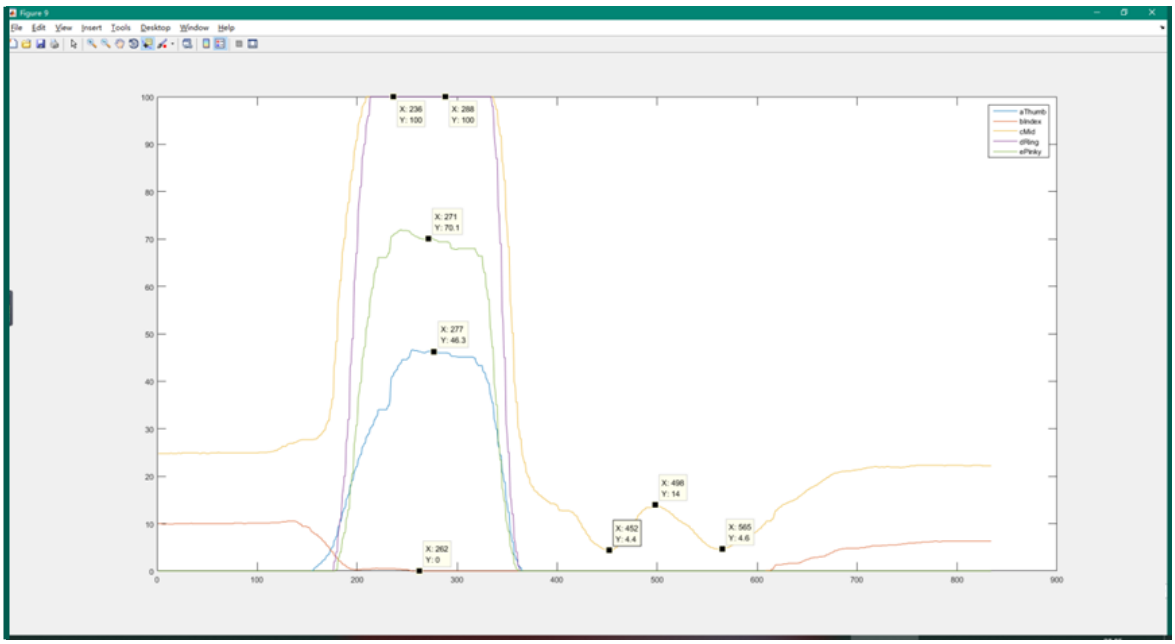
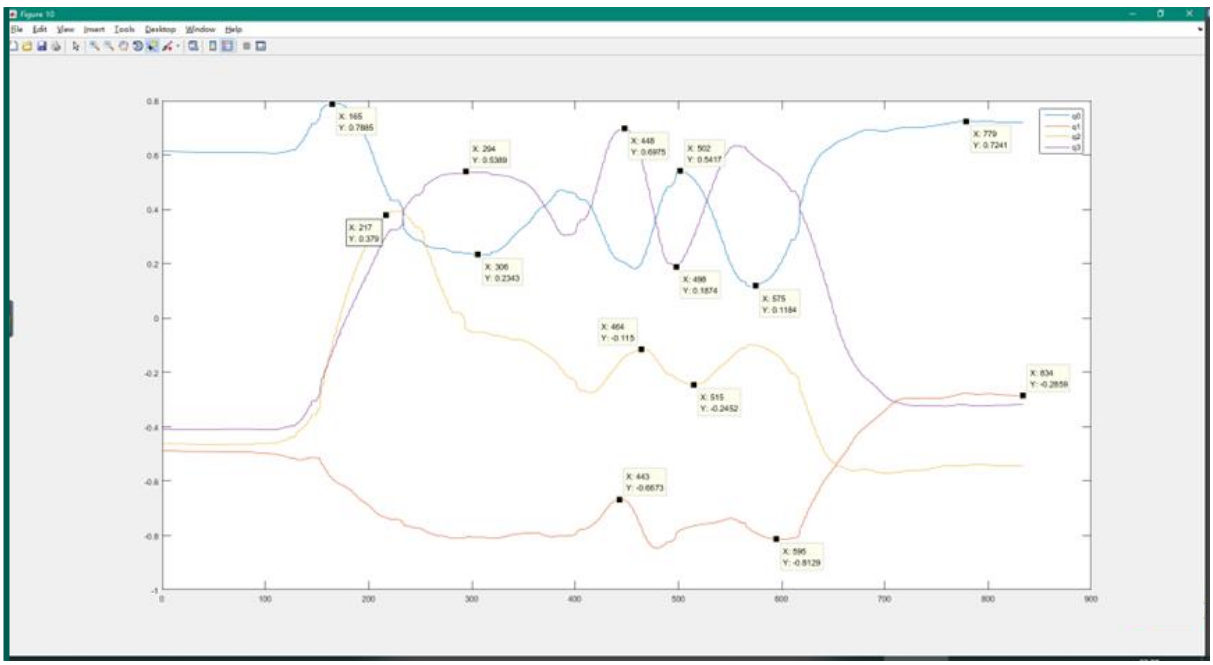


**Figure 3:**
*Posture Data of the Sign Language Gesture for "Nice to Meet You" (Four Degrees of Freedom)*




During the process of technological evolution, the team innovatively introduced an optimized Elman neural network algorithm based on a progressive learning strategy, enabling continuous model optimization while safeguarding user privacy (Liang, Jettanasen, et al., 2024). This technological breakthrough demonstrates a more empathetic social value across the dual dimensions of professional empowerment and inclusive education. In response to the practical challenge that the employment rate of the hearing-impaired community is lower than the societal average, the project team developed an interactive system tailored to workplace scenarios. In the recruitment process, the intelligent sign language translation platform can simultaneously transcribe interview conversations, with its multimodal algorithm model achieving over 85% accurate interpretation of industry-specific terminology. In the realm of vocational skills training, the motion capture-assisted teaching system, through 3D visualization technology, has significantly enhanced the teaching effectiveness of practical training courses such as electromechanical operations and coffee making. In particular, regarding breakthroughs in educational scenarios, the digital sign language learning platform developed by the team has integrated coverage of all foundational disciplines within STEM. The dynamic knowledge graph integrated into the platform can automatically translate cutting-edge concepts such as "quantum entanglement" and "carbon neutrality" into visual sign language explanations. The technical team's innovative "gesture-text-3D image" trimodal alignment algorithm has successfully overcome the challenge of cross-modal transformation of professional terminology. When the AI digital human transforms the concept of "embodied intelligence" into a three-dimensional gesture demonstration, the technological connotation of educational equity is

fundamentally expanded. This innovative approach, aimed at restructuring career advancement pathways and making educational resources universally accessible, demonstrates that technological empowerment can precisely break through societal structural barriers, enabling every individual to enjoy equal development opportunities. It also underscores the pivotal role of technological innovation in promoting inclusive social development (Hu, 2023).

The essence of this technological breakthrough lies in constructing a "Tower of Babel" in the digital age. As AI algorithms begin to comprehend the "dance" of fingers and cloud computing makes professional translation services readily accessible, the hearing-impaired community is transitioning from passive recipients of communication barriers to equal participants in digital civilization (Wen, Zhang, et al., 2021). The "Yi Shou Yu" project not only achieves technological advancements but also redefines the connotation of accessible communication at the value level. It demonstrates that the ultimate goal of technological innovation should be to illuminate the dignity of life in every corner with the light of technology. This research and development paradigm, which takes social pain points as the origin of innovation, provides replicable solutions for technology to serve the greater good, heralding a new era of technology-driven construction of an accessible society (Savage, Albala, et al., 2021).

### *Construction of an Innovative Ecosystem through University-Enterprise Collaboration: Creating a Demonstrative Model of Industry-Education Integration*

In the field of accessibility technology, university-enterprise collaboration is breaking through the conventional mindset of the traditional industry-university-research model, forming an innovative ecosystem of revolutionary significance. The "double helix" university-enterprise collaborative operational mechanism pioneered by the "Yi Shou Yu" project establishes a bidirectional empowerment system for technological breakthroughs and talent cultivation through the deep integration of enterprises and vocational colleges. This innovative cooperation model not only reshapes the research and development pathway of accessibility technology but also pioneers a new paradigm of industry-education integration in the field of vocational education.

The profound integration of the technology chain and the education chain has constructed an industry-demand-oriented talent cultivation matrix. WLL Technology Corporation has established a technical mentorship team comprising 20 senior engineers, forming a dual-mentorship R&D unit in collaboration with faculty members from educational institutions. Both parties have jointly developed the curriculum system for "Development of Intelligent Sign Language Interaction Systems," deconstructing cutting-edge technologies such as flexible sensors and multimodal AI algorithms into 80 teaching modules. During the project implementation, the company directly applied its newly developed millimeter-level precision gesture recognition modules to the practical training platform, enabling students to be exposed to an industrial-grade R&D environment during their academic tenure. This model of "research and development serve as teaching, and production serves as practical training" has spurred the generation of 11 patents or software copyrights. Among them, six achievements, including the "Current-Based Bidirectional Bending Sensor Actuation Device and Automatic Zeroing Initialization Method," have achieved reverse technology transfer and have been incorporated into the technological roadmap of the company's mass-produced products.

The organic integration of the innovation chain and the service chain forms a demand-driven closed-loop for technological evolution. The project team has innovatively established a "three-tier

demand response mechanism": The first-tier response targets the fundamental communication needs of hearing-impaired users, collecting over 200 scenario-specific demands monthly through service points at vocational colleges. The second-tier response focuses on specialized fields such as special education and public services, conducting quarterly demand validation in collaboration with institutions like the Disabled Persons' Federation and hospitals. The third-tier response targets the technological frontier, with annual technology pre-research conducted by university-enterprise joint laboratories. In a pilot project at a government service center in Guangzhou, the team developed the "Sign Language Service Guide" module within two weeks based on feedback from window staff, enhancing the efficiency of business inquiries by 65%. This agile development model, which "originates from demand and is applied to scenarios," has reduced the product iteration cycle to 54 days, with a cumulative completion of nine versions of functional optimization.

Through the establishment of a "trinity" talent cultivation system, both universities and enterprises have achieved the construction of a specialized talent echelon in technological fields such as AI, smart wearables, and embodied intelligence. At the level of standard co-creation, universities and enterprises have jointly formulated two enterprise standards, namely the "Current-Based Bidirectional Bending Sensor Standard" and the "MINI Technical Standard for Sign Language Translation Smart Glove," transforming these industrial specifications into teaching standards that are integrated into the curriculum system and practical training assessments. In the practical training phase, an innovative project-based teaching model has been implemented, transforming genuine enterprise R&D needs into teaching topics. Students participate in 12 types of industrial-grade projects, such as flexible sensor packaging, smart wearable device development, and gesture recognition algorithm optimization, in the capacity of quasi-engineers. Their design proposals account for 27% of the enterprise's technological improvement schemes. Regarding the dual-mentorship mechanism, enterprises have assigned 15 senior engineers to serve as industrial mentors, forming guidance teams with faculty members from educational institutions. Together, they have developed practical teaching materials, including "Research and Development and Application of Smart Wearable Devices" and "Handbook of Accessible Interaction Design," establishing a comprehensive training system that covers the entire process of sensor R&D, hardware testing, algorithm tuning, and industrial design.

This innovative ecosystem of university-enterprise collaboration essentially represents a mutual pursuit of technological inclusivity and educational equity. When corporate engineers and vocational school teachers collaboratively tackle the technological challenges of flexible sensors, when hearing-impaired students personally debug the UI interaction interfaces they have helped design, and when graduates emerge as a driving force in the field of accessibility technology, we witness not only the institutional innovation of industry-education integration but also the permeation of the value proposition of technology for good throughout the entire chain of talent cultivation. This model validates that, in the realm of vocational education, university-enterprise collaboration can transcend the simple framework of customized training programs and evolve into a strategic force propelling industry transformation. As the "Yi Shou Yu" project forges alliances with eight vocational colleges or applied universities, this innovative ecosystem is nurturing a "Whampoa Military Academy" in the field of accessibility technology, continuously injecting innovative momentum into the industry.

# Talent Cultivation: An Industry-Education Integrated Talent Cultivation System

## *Dual-Mentorship Practical Training Model: Building an Educational Community with Deep Industry-Education Integration*

In the field of accessibility technology, the dual-mentorship practical training model transcends the superficial connection of traditional university-enterprise collaboration, establishing an educational community characterized by deep industry-education integration. The innovative educational mechanism developed by the project aims to create a three-dimensional cultivation system of "technological empowerment - academic nourishment - value guidance" through the complementary roles and combined capabilities of corporate mentors and institutional mentors, thereby pioneering a new paradigm for talent cultivation.

In terms of the quality assurance system, the project has established a three-dimensional evaluation mechanism. From the technical perspective, it adopts the enterprise's KPI assessment standards, focusing on evaluating quantitative indicators such as sensor debugging accuracy and algorithm optimization efficiency. From the academic perspective, evaluation dimensions such as the quality of literature reviews and the standardization of research methodologies introduced by educational institutions are incorporated. From the value perspective, it assesses through indicators such as user satisfaction and ethical compliance. This evaluation mechanism enables graduates to possess both the practical capabilities of industrial engineers and the innovative thinking of academic researchers.

The practical implementation of this dual-mentorship practical training model has validated the profound logic of industry-education integration: when the industrial expertise of corporate mentors and the academic acumen of institutional mentors interact synergistically in the educational context, the outcome is not merely the cultivation of technical talents tailored to industry needs, but also the nurturing of an innovative force propelling the advancement of accessibility technology. As this model is promoted and applied across five vocational colleges, an accessibility technology ecosystem encompassing technology R&D, talent cultivation, and standard formulation is taking shape, offering a replicable solution for industry-education integration in vocational education.

## *Progressive Competency Development Pathway: A Growth Ladder for Accessibility Technology Talents*

The project has established a "three-tier progressive" competency advancement system, forming a comprehensive growth pathway from skill initiation to professional mastery. This pathway design aligns profoundly with the three-dimensional requirements of "technical precision, application depth, and humanistic empathy" in the field of accessibility technology. Through tiered curriculum modules and incremental practical challenges, it systematically cultivates interdisciplinary talents equipped with solid skills and a sense of responsibility. The first tier is the foundational skills layer, which aims to consolidate the technical cognitive foundation. This phase focuses on the Knowledge of Sign Language Culture," and "Human-Computer Interaction Technology." Corporate dual construction of "foundational skills + industry awareness," offering three core courses: "Fundamentals of Sensor Technology," "General mentors guide students through hands-on

disassembly teaching, enabling them to conduct parameter testing on basic components such as sensor arrays and inertial measurement units, and master the engineering fundamentals ranging from hardware selection to signal debugging. Meanwhile, institutional instructors, through the "General Knowledge of Sign Language Culture" course, analyze the semantic variations in gesture expressions across different scenarios, cultivating students' ability to perceive user needs. Complementary to the curriculum is the "Accessibility Technology Experience Week," during which students are organized to participate in community services alongside sign language interpreters. This real-world engagement helps them understand the pain points of technological applications in authentic settings, establishing a practical reference for their subsequent learning.

Subsequently, the professional application layer focuses on honing students' engineering practical capabilities, with the curriculum system shifting towards an in-depth practical training model characterized by "project-based learning + scenario-based application." In the "Wearable Device Technology" course, students are required to complete the entire process from data acquisition to model deployment and then to multimodal human-computer interaction. They utilize open-source corpora to train deep neural network algorithms, optimize recognition accuracy by adjusting learning rates, and ultimately achieve real-time conversion of basic gestures on development boards. More specifically tailored is the "Accessibility Design" module, where students, organized into groups, undertake transformation tasks in typical application scenarios such as occupational and service settings. Ranging from the production of sign language notification videos to the design of dual-channel (voice-to-text) call systems, each proposal must undergo practical testing and receive feedback from hearing-impaired users. A particular group developed a "Sign Language Inquiry and Guidance Screen" for a community health station. By optimizing the occupational corpus and enhancing the digital avatar's sign language presentation, they achieved a 60% improvement in information acquisition efficiency. This design has since been incorporated into the regional model for accessibility renovations.

Finally, the innovation expansion layer aims to stimulate original innovative capabilities, with top-level design emphasizing the cultivation of "technological insight + cross-disciplinary thinking." This is achieved through integrated courses such as "Multimodal Interaction Technology," "Introduction to Artificial Intelligence Ethics," and "Special Education Psychology." In case discussions on technological ethics, students are required to engage in critical thinking on practical issues such as "whether voice-to-sign-language synthesis undermines cultural diversity." The outcomes of these discussions are compiled into a "Memorandum on Technological Applicability Assessment," which is integrated into the enterprise's product development process. Of greater practical value is the innovation incubation mechanism, which encourages outstanding students to form interdisciplinary teams and apply for "Micro-Innovation Grants" to conduct application optimization under the guidance of mentors. One team developed a "Sign Language Teaching Assistance System" that achieves gesture accuracy scoring through optimized motion capture technology. After trials in special schools, it was found to enhance students' learning efficiency by 35%. Commercial feasibility studies for this innovation have already commenced. This tiered cultivation system essentially represents an organic integration of technological logic and educational principles. Through a closed-loop design at each level, encompassing "knowledge input - skill training - innovation output," learners gradually transition from being "technical operators" to "system developers" and eventually "solution designers" as they complete 16 progressive tasks. Data indicates that for learners who have completed all levels, the adoption rate of optimization

schemes they lead has tripled, and their participation in cross-departmental collaborative projects has reached 92%. More notably, 78% of graduates demonstrate a sustained capacity for improvement in technical roles (including those in accessibility technology R&D). Their optimized solutions, such as the "Sign Language Navigation System for Public Places" and the "Multimedia Information Accessibility Conversion Platform," are effectively enhancing the living experiences of individuals with special needs. This cultivation pathway validates that when vocational education transcends the mere replication of skills and constructs a complete closed loop of "cognition - practice - innovation," it can nurture a new generation of forces with genuine transformative potential in the field of accessibility technology.

## Social Services: Ecological Reconstruction of Accessible Environments

### *Deep Penetration in Public Service Scenarios: A Comprehensive Accessible Service System*

The project focuses on the core pain points in public service scenarios and, through the dual drive of "technological empowerment + service innovation," has developed replicable solutions in fields such as sports events, medical and health services, and special education, gradually constructing an ecological network of accessible services. This penetration is not merely a technological demonstration of isolated breakthroughs but rather a systematic service reconstruction based on user needs.

In the service practice of the National Games for Persons with Disabilities, the project team established a dual-layer assurance system: Prior to the events, they developed a specialized sign language vocabulary bank tailored for the competitions, encompassing rule-related terminology and referee instructions for 28 competitive events, including athletics and swimming. During the events, they deployed intelligent translation terminals, enabling real-time translation of commentaries through 5G networks. This setup achieved a 98% synchronization rate of statements at the award ceremonies of various events, thereby establishing a new paradigm for accessible sports competitions.

To address the specialized needs of medical scenarios, the project team collaborated with a Grade-A Tertiary Hospital in Guangxi to develop a department-specific sign language corpus, establishing a terminology system that encompasses 12 departments, including Internal Medicine, Surgery, and Pediatrics. The specially designed professional vocabulary bank for medical sign language can accurately translate complex expressions such as "precautions for magnetic resonance imaging (MRI)" and "instructions for drug contraindications," resulting in a 65% improvement in hearing-impaired patients' understanding of treatment plans.

In the realm of educational services, the project supports the development of special education through a three-dimensional framework comprising "technological tools + resource platforms + teacher training." The accessible teaching platform integrates basic educational curriculum resources, utilizing its dynamic mapping functionality to transform abstract knowledge into step-by-step sign language demonstrations, thereby enhancing teachers' efficiency in explaining knowledge points by approximately 25%. The AI digital avatar sign language instructor, "Xiao Yi," employs a built-in proprietary knowledge base to assist hearing-impaired students in self-directed course learning, leading to a 7% improvement in students' final exam scores. In terms of teacher training, the project has developed an "Accessibility Teaching Capacity Enhancement Program," establishing

a training system that encompasses modules such as sign language application, assistive device operation, and differentiated instructional design. To date, a total of 39 teachers have completed the training and have implemented inclusive education practices in 33 schools. The coverage rate of accessible teaching elements in their classrooms has increased from 29% before the training to 66%.

### *Digital Innovation in Special Education Resources: A Practice of Educational Equity Empowered by Technology*

The project is grounded in the core demands of the digital transformation of special education, constructing a comprehensive digital solution that covers the entire teaching process through systematic innovations in "resource reconstruction - mode innovation - evaluation optimization." This innovation does not involve a mere superficial aggregation of technological tools; rather, it represents a profound restructuring grounded in the principles of education. Its objective is to address long-standing challenges in the field of special education, such as uneven resource distribution, monotonous teaching methodologies, and delayed assessment practices, through the application of digital means.

The first initiative involves the digitization of teaching content to establish an open and shared resource ecosystem. The project team collaborates with organizations such as the Deaf Association and Sign Language Association to systematically develop a digital sign language curriculum resource repository. The construction of these resources adheres to a hierarchical and categorical principle, encompassing over 3,000 structured knowledge points in fundamental disciplines such as Chinese and mathematics, as well as extended content in vocational education and life skills. Each resource is presented in three formats: sign language explanations, graphic annotations, and real-life demonstrations. For instance, in the "Communication and Interaction" course, sign language interpretation videos, real-life modeling displays, and communication case demonstrations are provided simultaneously. To ensure the authority of the content, the resource repository implements a dual-track mechanism of "expert review-user verification". A review panel composed of special education teachers and representatives of the hearing-impaired community conducts cross-validation of the accuracy of the resources.

The second aspect is the hybridization of teaching methods to create a teaching scenario that integrates virtual and real environments. Given the highly practical nature of special education, the project employs smart wearable and embodied intelligence technologies to construct a "hybrid" teaching model that combines immersion and interactivity. For instance, in history courses, augmented reality (AR) is utilized to recreate significant historical scenes, allowing students to participate in the events as virtual characters, while the system generates learning trajectory maps based on gesture interactions. More importantly, this technological combination effectively alleviates the shortage of practical training resources in special education schools. A special education school in Guangzhou, through the adoption of this hybrid teaching model, has increased the implementation rate of physics experiment courses from 50% to 85%.

Finally, there is the digitization of teaching assessment to establish a precise and scientific support system. The project transcends the subjective limitations of traditional assessment methods by developing a learning outcome analysis system based on multimodal data. The system automatically collects process data, including classroom interactions, homework completion, and test scores, and constructs student ability profiles through machine learning models. In a pilot study conducted at a special education school in Zhuhai, the system revealed that hearing-impaired

students took, on average, 20% longer than hearing students to complete the geometric shape recognition module. Based on this finding, a "dynamic visual guidance" feature was developed, which improved learning efficiency in this module by 30% through phased prompts and progress visualization. Assessment data not only serve individual diagnostic purposes but also drive teaching improvements. The "classroom engagement heatmap" generated by the system assists teachers in optimizing their lesson design. After one teacher adjusted the teaching pace based on data feedback, students' classroom concentration increased by 18%. This closed-loop mechanism of "assessment-feedback-improvement" is propelling the transformation of special education from experience-driven to data-driven practices.

The profound value of this digital innovation lies in the construction of a sustainable development ecosystem for special education. The open sharing of teaching content breaks down resource barriers, the innovative application of teaching methods narrows educational disparities, and the scientific establishment of the assessment system enhances teaching quality. The project also continuously promotes the digital transformation of special education by regularly organizing resource co-construction conferences and technology seminars. When special education schools in remote areas are able to offer vocational education courses that were previously beyond their reach through the resource repository, and when rural teachers gain access to teaching conditions comparable to those in urban schools through the hybrid teaching model, this innovation truly demonstrates the empowering force of technology—not creating a digital divide that exacerbates educational inequalities, but rather serving as a growth ladder that bridges opportunity gaps.

### *The Catalytic Effect of Social Integration: Technologically-Enabled Inclusive Social Development*

In the process of promoting the construction of an accessible environment, the project has gradually demonstrated profound social integration effects. This integration is not a unilateral technological diffusion but rather a synergistic effect achieved through employment support and cultural dissemination, thereby building a bridge for mutual engagement between the hearing-impaired community and the mainstream social environment. Its impact has transcended the technological realm and has become a significant force driving the advancement of social civilization.

In terms of employment promotion, the project systematically addresses the employment challenges faced by the hearing-impaired community through a dual-drive approach of "technological empowerment + job creation". At the technological empowerment level, customized training courses have been developed, covering practical skills such as computer operation, data annotation, and sign language customer service. Application data from the Liuzhou Employment Service Center for Persons with Disabilities indicate that trainees' proficiency in office software has improved by 75%, and their job suitability scores have risen from 3.2 before training to 4.5. Regarding job creation, the project has collaborated with e-commerce enterprises to establish "Silent Studio", creating exclusive positions such as video content reviewers and accessibility testers. These roles fully leverage the advantages of hearing-impaired people, such as their strong concentration and high visual sensitivity, achieving precise person-job matching. In the accessibility testing team set up by HHJM Company, hearing-impaired employees account for 63%, and the number of interface interaction issues they identify is 1.3 times that of the hearing employee group.
In the realm of cultural dissemination, the project takes sign language as the entry point to establish

a digital infrastructure for cross-cultural communication. The developed multilingual sign language dictionary encompasses 13,000 vocabulary entries across 12 scenarios, with each entry accompanied by standard gesture demonstrations, contextual usage explanations, and cultural annotations. To ensure professionalism, the dictionary compilation team consists of linguistic experts, seasoned sign language interpreters, and hearing-impaired users. A three-round verification mechanism is employed: first, experts review the accuracy of terminology; then, the dictionary undergoes trial use in special schools for feedback; finally, native signers evaluate its fluency. This dictionary not only serves the domestic hearing-impaired population but also offers an international sign language counterpart version. During International Day of Deaf People events, the system enables real-time mutual translation among sign language, Chinese, and English sign language, allowing hearing-impaired scholars to independently deliver speeches at conferences for the first time.

The profound value of this catalytic effect lies in the establishment of a long-term mechanism for social integration. The employment support programs have enabled hearing-impaired people to transition from being "recipients of assistance" to "value creators," while the cultural dissemination initiatives have elevated sign language from a mere "communication tool" to a "cultural symbol." The "Accessibility Innovation Laboratory" established by the project team has attracted participation from sociologists, designers, representatives of the hearing-impaired population, and other stakeholders. Through regular cross-disciplinary salons and joint research and development efforts, the boundaries of social integration are continually expanded. When software developed by hearing-impaired programmers is adopted by enterprises, when sign language speeches are delivered in public settings, and when accessible facilities become standard urban amenities, this innovation truly showcases the transformative power of technology for good—not as a magnifying glass that exacerbates differences, but as an adhesive that bridges gaps, propelling society towards deeper levels of inclusivity and harmony.

## Challenges and Countermeasures: Innovative Pathways for Sustainable Development

### *Multidimensional Examination of Practical Dilemmas: Complex Challenges in the Development of Accessibility Technologies*

During the project's progression, deep-seated challenges in both technological and cultural dimensions have gradually surfaced. These bottlenecks intertwine to form systemic obstacles, reflecting the intricate trajectory of accessibility technologies transitioning from laboratory settings to real-world social applications.

At the technological level, there are dual constraints imposed by dialectal variations and the need for scenario adaptation. Sign language dialect recognition technology faces the dual challenges of a data gap and algorithmic limitations. There are significant regional disparities in sign language dialects across China, with the overlap in gesture vocabulary among the North China, East China, and South China regions being less than 60%. This discrepancy is particularly pronounced in specialized settings such as healthcare. More critically, technological advancement is trapped in a vicious cycle of "data scarcity - poor performance - limited application": the collection of dialectal data requires authorization from users, yet low recognition rates undermine their willingness to use

the technology. For instance, the annotation completion rate of a particular dialectal dataset only increased by 12% over two years. At the algorithmic level, current models excessively rely on visual feature extraction and lack robust capabilities in parsing deep semantics such as contextual understanding and emotional expression. In scenarios requiring logical reasoning (e.g., legal consultations), the system often experiences semantic discontinuities.

At the cultural level, there is profound resistance encountered in promoting standards and facilitating cognitive transformation. The popularization of National Common Sign Language (NCSL) is caught in the crossfire of "institutional inertia" and "cultural barriers." In the educational sphere, despite the Ministry of Education's issuance of the NCSL dictionary, there exists a 2-3-year lag in updating teaching materials at local special education schools. More notably, there are societal cognitive biases, as the public generally perceives sign language as a language exclusive to special groups rather than an integral part of the national common language. This perception has resulted in the slow penetration of NCSL in the public service sector. Currently, the coverage rate of sign language services at public service windows is less than 30%, and 78% of practitioners only possess basic gesture proficiency. In familial settings, the phenomenon of intergenerational transmission disruption is prominent. Young hearing-impaired people tend to prefer using natural sign language for communication, while older generations, due to the high learning costs, become "silent participants" in the promotion of NCSL.

The essence of these dilemmas lies in the inevitable outcome of the asynchrony between technological innovation and social transformation. The technological bottlenecks reflect the limitations of artificial intelligence in addressing the complexity of human language, while the cultural bottlenecks expose the cognitive lag in the development of social inclusivity. To resolve these challenges, it necessitates not only continuous investment in technological breakthroughs but also a call for the reshaping of social consensus and the modernization upgrade of governance capabilities.

### *Strategic Choices for Innovative Breakthroughs: A Multidimensional and Collaborative Pathway for Sustainable Development*

The project team, based on a systemic approach to addressing the bottlenecks in the development of accessibility technologies, has established an innovative framework of "technological breakthroughs + cultural cultivation." Through collaborative development, it aims to overcome existing challenges and explore sustainable innovative pathways.

In terms of technological breakthroughs, addressing the challenges of dialectal variations and semantic comprehension in sign language recognition technology, the project team has established a dedicated R&D fund, focusing on advancing multimodal fusion perception technology. This technology transcends the limitations of traditional smart wearables by integrating multidimensional data such as gesture trajectories and contextual correlations, enabling dynamic semantic parsing through temporal modeling. In medical scenario testing, the system's accuracy in recognizing local medical terminology has improved from 55% to 78%, with an 82% accuracy in understanding contextual expressions. To overcome the issue of data scarcity, the R&D team has collaborated with Deaf Associations to establish a "Dialectal Sign Language Data Hub," utilizing reinforcement learning techniques to achieve cross-regional data collaboration while safeguarding privacy, thereby optimizing the annotation of 12 dialectal datasets. More prospectively, the project has jointly established an artificial intelligence laboratory with Liuzhou Institute of Technology to develop a

pre-trained model for bidirectional gesture-to-speech translation. This model has been downloaded over 10,000 times in the open-source community, facilitating the extension of the technology from specialized scenarios to general applications.

In the realm of cultural cultivation, to address the challenges in promoting the National Common Sign Language (NCSL), the project team has devised a "trinity" cultural cultivation plan. At the level of educational popularization, a tiered training curriculum system has been developed. Modular continuing education packages tailored for teachers in special education schools have been designed, encompassing sign language instruction across 30 professional scenarios. Additionally, accessible service training programs have been launched for public service personnel, with qualification certificates awarded upon passing scenario-based simulation assessments. In the sphere of media dissemination, collaborations with video platforms are planned to establish sign language columns and initiate a public welfare challenge titled "Everybody Learn Sign Language." Regarding cultural activation initiatives, the project intends to support hearing-impaired artists in creating digital collections of sign language artworks.

The profound value of this strategic choice of "education-dissemination-activation" lies in fostering endogenous momentum for the development of accessibility technologies. Technological breakthroughs dismantle application bottlenecks, while cultural cultivation reinforces the social foundation, forming a mutually reinforcing positive feedback system. The "Accessibility Innovation Index" established by the project team has incorporated 18 indicators, including technological maturity, social acceptance, and policy completeness, providing a basis for strategic adjustments through dynamic monitoring. As sign language recognition technology begins to empower cross-linguistic communication, as universal sign language becomes a standard feature in public services, and as accessibility innovation alliances generate more solutions, this multidimensional and synergistic innovation pathway is demonstrating the profound synergy between technology for good and social progress.

## Future Prospects: A Vision of an Accessible Society in the Intelligent Era

At the historical juncture of technological innovation and social progress, the “Yi Shou Yu” project is delineating a vision of an accessible society in the intelligent era, leveraging technological empowerment, service expansion, and collaborative social construction as its fulcrum. This vision is not an unattainable utopian fantasy but rather a future state that can be reached through continuous technological advancements and innovations in social governance.

In the dimension of technological intelligence, the project aims to construct a multimodal sign language large model that breaks through the technological barriers in language comprehension. This model will integrate natural language processing, computer vision, and knowledge graph technologies to enable real-time mutual translation between sign language and 12 other languages, including Chinese and English. Moreover, it will innovatively incorporate a dialect recognition module and a customizable sign language module, addressing the regional variations in sign language between the north and south through a dynamic adaptation mechanism.

The process of service inclusivity will focus on a dual-driven approach encompassing institutional safeguards and technological accessibility. At the policy integration level, the project team is collaborating with local disability federations across multiple regions to establish a dynamic adjustment mechanism for the subsidy catalog of accessibility devices. In accordance with

technological advancements and changes in user needs, new devices such as intelligent sign language translators and accessibility readers will be included in the subsidy scope. Furthermore, a tiered subsidy standard will be established, providing 100% full subsidies to households receiving minimum living guarantees.

The realization of a socially inclusive vision necessitates the simultaneous transformation of both the physical space and the digital world. In the construction of demonstration zones for accessible cities, the project team has proposed the concept of full-scenario coverage, aiming to establish a continuous chain of accessible services that spans from subway navigation systems for the disabled to the age-friendly adaptation of government service platforms, from multimodal consultation terminals in hospitals to community emergency call networks. A more profound impact lies in the reshaping of societal perceptions. The "Accessibility Experience Officer" system, supported and established by the project, has already trained 500 hearing-impaired people to participate in urban planning reviews. As accessibility evolves from being a "special consideration" to becoming an integral part of the "urban DNA," an all-age-friendly society where technological warmth resonates with social civilization is taking shape.

## Conclusion: The Reconstruction of the Mission of Vocational Education

The practice of the Yi Shou Yu project has demonstrated that vocational education can serve as a pivotal force in addressing the integration challenges faced by special groups. By deepening school-enterprise cooperation, strengthening technological innovation, and optimizing talent cultivation, vocational colleges can not only nurture technically skilled professionals urgently needed by society but also shoulder the historical mission of driving social progress. This innovative practice of profound integration between industry and education not only reshapes the value orientation of vocational education but also contributes Chinese wisdom to the construction of a community with a shared future for mankind. Looking ahead, we anticipate that more vocational colleges will join this heartwarming technological revolution, allowing the sunlight of technological innovation to illuminate every corner.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Chen, L., Zhang, Y. L., et al. (2021). Research progress on flexible sensors for intelligent wearable products. *Knitting Industries*, (011), 000. Fang, J. B., Tao, Y. H., et al. (2023). Design of complex human activity recognition methods based on intelligent wearable devices. *Sensors and Microsystems*, 42(7), 87–89.

Hu, Q. Y. (2023). Wearable technology and artificial intelligence in the context of accessible communication. *Shanghai Informatization*, (12), 15–18.

Liang, Y., Jettanasen, C., et al. (2024). Sign Language Recognition Using Wearable Glove Devices Based on Progression Learning Convolution Neural Model. *Computation*, 12(4), 72.

Liu, Y. H., Gu, D. Q., et al. (2013). Investigation and research on the usage status of sign language in China. *Applied Linguistics*, (2), 7.

Minawer, A., Alifu, K., et al. (2021). A review of sign language recognition methods and technologies. *Computer Engineering and Applications*, 57(18), 12.

Nasabeh, S. S., & Meliá, S. (2024). Enhancing quality of life for the hearing-impaired: A holistic approach through the MoSIoT framework. *Universal Access in the Information Society*.

Savage, M., Albala, S., et al. (2021). Applying market shaping approaches to increase access to assistive technology in low- and middle-income countries. *Assistive Technology: The Official Journal of RESNA*, 33(sup1), 124–135.

Smith, R. O., & Marcia, S. (2018). Assistive technology products: a position paper from the first global research, innovation, and education on assistive technology (GREAT) summit. *Disability and Rehabilitation: Assistive Technology*, 1-13. Tang, S. G., Xiu, X. Y., et al. (2023). Current status and trends in the development of sign language digital humans based on intelligent generation technology. *Artificial Intelligence*, (4), 20–31.

Wen, F., Zhang, Z., et al. (2021). AI-enabled sign language recognition and VR space bidirectional communication using triboelectric smart glove. *Nature Communications*, 12.

Wang, X., Lee, C., et al. (2023). Discussion on Sustainable Development Strategy of China's Rehabilitation Assistive Device Industry Based on Diamond Model. *Sustainability*, 15(3), 2468.

Zhou, Z., Chen, K., et al. (2020). Sign-to-speech translation using machine-learning-assisted stretchable sensor arrays. *Nature Electronics*, 1–8.

## Authors' Bibliography

**Weijia Yu**, who holds a Master's degree from Sun Yat-sen University, is currently a full-time faculty member, Associate Professor, and Senior Engineer specializing in Information Engineering at the School of Information Science and Engineering, Liuzhou Institute of Technology. His research domains include new type sensors, wearable technologies, embodied intelligence and artificial intelligence.

**Jinfeng Tan,** who holds a master's degree from Jinan University, currently serves as the Associate Dean of the Culture and Tourism Department at Guangdong Nanhua Vocational College of Industry and Commerce. She is a Senior Economist with a professorial rank and an Associate Professor. Her research areas encompass tourism economics, hotel operations management, and the development of the homestay industry.

**Xiaohua Chen** holds a master's degree from Guangzhou Academy of Fine Arts and has served as a visiting scholar at South China Normal University. He is a member of the Guangdong Youth Artists Association, an expert on the Expert (Advisory) Committee of the Homestay Branch of the Guangdong Tourism Association, and a "Distinguished Research Fellow" of the Guangdong Homestay Development Research Institute. Currently, he is a full-time faculty member at Guangdong Nanhua Vocational College of Industry and Commerce, engaging in research in the

fields of art and design teaching, exhibition planning, and the integration of culture and tourism.

**Xiaoqiang Wang** is a professional teacher and the discipline leader at Guangdong Nanhua Vocational College of Industry and Commerce. He serves as a member of the Teaching Guidance Committee for Renowned Chefs of Cantonese Cuisine in Guangdong Province and holds the qualification of a First-Level Technician in Western Pastries. In 2010, he was conferred the title of "Renowned Cantonese Cuisine Chef in Guangdong". He has publicly published textbooks such as "Illustrated Bread Making Techniques", "Illustrated Cake and Pastry Making Techniques", "Cooking Ingredient Processing Techniques", "Banquet Design and Side Dish Preparation", "Techniques of Guangdong Dim Sum Making", and "Bread Making Tutorial".

Global
Cases & Practices of
Vocational Education

ARTICLE

# An Applied Research on the Situational Teaching Method Assisted by Multimedia in the Course of "Oral Hotel English" in Secondary Vocational Schools

## Authors
Liyan Hong, Bing Li

## Correspondence
Bing Li, Email: libing@gupt.edu.cn

Received: May 14, 2025
Revised: May 18, 2025
Accepted: June 10, 2025
Published: June 15, 2025

## Citation
Hong, L.Y., & Li, B. (2025). An Applied Research on the Situational Teaching Method Assisted by Multimedia in the Course of "Oral Hotel English" in Secondary Vocational Schools. *Global Cases & Practices of Vocational Education,* 1(1), 22-48.

Global
Cases & Practices of
Vocational Education

ARTICLE

# An Applied Research on the Situational Teaching Method Assisted by Multimedia in the Course of "Oral Hotel English" in Secondary Vocational Schools

**Liyan Hong[a], Bing Li[a]**
[a]Guangdong Vocational College of Post and Telecom

## Abstract

Based on Krashen's Input/Output Hypothesis, Situated Cognition Theory, and Constructivism Theory, this study designed a teaching plan for oral hotel English in secondary vocational schools. The study targeted Class 5 (the control group, receiving traditional teaching methods) and Class 6 (the experimental group, receiving multimedia-assisted situational teaching methods) of the Tourism major at School A. Through questionnaires, classroom observations, educational experiments, and interviews, the study explored the impact of this teaching approach on students' learning interest, academic performance, and classroom enthusiasm.

The experiment employed SPSS for descriptive statistics, correlation, and T-test analyses. The results indicated that multimedia-assisted situational teaching significantly enhanced students' learning interest (as evidenced by increased scores across all dimensions of the interest scale), oral English performance (with the experimental class demonstrating a greater average score improvement compared to the control class), and classroom participation (as reflected by an increased frequency of voluntary speaking and role-playing activities). This study confirms the promotional value of the multimedia-assisted situational teaching method in vocational English education and provides a direction for future research endeavors.

***Keywords:*** *multimedia-assisted instruction; situational teaching method; oral hotel English; second language acquisition theory*

## Introduction

*The Professional Teaching Standards for Secondary Vocational Schools (Tourism and Foreign Languages Major)* stipulates the requirements for the application of hotel English as follows: proficiency in daily English communication; flexible application of situational English in hotel work settings; and the ability of management personnel to handle complex hotel affairs proficiently in English. However, due to the lack of reasonable planning by schools in cultivating hotel professionals, the employment and further education rates of most tourism and hotel management students within the industry remain relatively low. This has resulted in a severe shortage of practical and skilled English-speaking talents in China's hotel industry (Liu, 2020).

According to research findings from a sampling survey on the employment status of graduates

majoring in hotel management, only 10%-20% of students choose to remain in the hotel industry after graduation (Li, Xu et al., 2025). For the majority of secondary vocational school students, due to an inadequate foundation in professional knowledge acquired during their school years and a lack of good study habits (An, 2012), those who enter the hotel industry after graduation often find themselves struggling. A significant number of students majoring in hotel management and tourism ultimately abandon the hotel industry in their career choices, primarily because of industry biases. They perceive hotel work as arduous and are dissatisfied with the compensation, leading to a high attrition rate in the hotel management major and a severe imbalance between the supply and demand of talents in the hotel industry.

## Research Background

### *The Development of the International Hotel Industry Necessitates High-Quality Hotel English Talents*

Since Holiday Inn, the first international hotel brand, entered China in 1984, international hotel groups have been operating in the country for over four decades. In recent years, with the improvement of China's economic level, an increasing number of tourists and business travelers from around the globe have been attracted to visit (Zhang, 2024). This presents a significant opportunity for the rapid development of China's tourism and hotel industries, which in turn has led to a widespread demand for English-proficient talents in the Chinese hotel sector. Hotel English education serves as the most direct department for cultivating skilled and applied talents who are proficient in both English and hotel management for foreign-related hotel enterprises (Wen, 2013). It is the primary training base for supplying high-quality hotel talents to these enterprises. Therefore, reserving high-quality English talents for the future hotel industry is an urgent requirement driven by the rapid development of the hotel sector, which calls for both high-quality English-speaking service personnel and management talents.

### *The teaching effectiveness of oral hotel English in secondary vocational schools is unsatisfactory*

The issue with English teaching in vocational schools lies in the fact that the learning content fails to meet students' occupational requirements. The English that students learn in school does not align with the demands of their future professional roles, prompting hotel enterprises to invest substantial human and material resources in retraining new employees. Due to the mismatch between the cultivation of hotel English talents and the talent demands of the hotel market, as well as the inherent problems in hotel English teaching itself, the cultivation of hotel English talents cannot adequately meet the needs of hotel enterprises. This has resulted in a persistent vacancy in the demand for professionally skilled talents in the hotel industry, particularly a severe shortage of applied English-speaking talents. The most significant problem in English teaching at secondary vocational schools, as noted by Zhang (2022), is that the majority of students remain unable to communicate in English with others after years of learning.

Firstly, from the perspective of teachers, many still employ traditional teaching methods in oral English classes, placing emphasis on linguistic knowledge and primarily explaining the fundamental tenets of the grammar-translation method. Secondly, from the students' vantage point, in traditional English language instruction, students often assume the role of passive listeners,

predominantly engaged in rote listening and note-taking, with limited opportunities to participate in language practice.

## Literature Review

### *Research on the Application of Multimedia in Secondary Vocational English Curriculum in China*

The use of multimedia has exerted a significant influence on English language teaching in China, particularly in the context of secondary vocational hotel English education. Yu (2014) advocates the full utilization of multimedia in secondary vocational English teaching. He argues that multimedia-based instruction can facilitate group collaboration among students and provide convenience for students to conduct teaching demonstrations using multimedia tools. Lu (2013) posits that multimedia information technology offers significant advantages in enhancing secondary vocational students' English vocabulary, grammar, and writing skills. This is primarily attributed to the intuitive, vivid, and highly engaging nature of multimedia-based instruction, which can effectively cultivate students' sociocultural competence. Wen (2011) noted that the application of multimedia information technology in secondary vocational English education can utilize text, graphics, animations, and sounds to create a realistic linguistic environment, immersing students in an authentic communicative context and thereby facilitating the enhancement of their oral expression skills. Jiao (2013) argued that multimedia technology can create authentic scenarios simulating hotel work environments for students in secondary vocational hotel English classes. When instructors teach cases involving emergency handling in hotels, they can utilize multimedia to play the essence parts of English video dialogues. This approach enables students to familiarize themselves with relevant topics in advance, thereby reducing the difficulty of learning new knowledge and enhancing teaching effectiveness. Li (2016) mentioned that, given that the majority of secondary vocational students come from rural families and generally have a relatively weak foundation in English, information-based teaching methods can mitigate the challenges students face in understanding English by employing vivid imagery, colorful visuals, and various auditory stimuli. These methods help to deepen students' impressions of the knowledge being imparted.

### *Research on the Effectiveness of Multimedia Teaching in English Curriculum*

The utilization of multimedia has exerted a significant influence on English classroom teaching, once transforming the traditional teaching model in English education. Regarding the positive effects of multimedia teaching, Wang, Wang, and Wang (2003) pointed out that multimedia technology is characterized by its convenience and real-time capabilities, enabling the synchronization of sound and images in English teaching. Furthermore, the interactive nature of multimedia technology facilitates one-on-one information exchange between teaching objects and teachers in the English classroom, thereby enhancing classroom efficiency. In the field of English pedagogy, the application of multimedia technology is primarily realized through demonstration teaching and distance education (Wang, 2010). It is crucial to employ multimedia technology judiciously in teaching, striking an appropriate balance in its utilization to achieve optimal teaching outcomes. Regarding the negative effects of multimedia teaching, Zhao (2007) argued that while the multimedia-assisted teaching model can yield certain benefits in the short term, particularly in enhancing vocabulary teaching effectiveness, its long-term impact is significantly diminished.

Therefore, it is essential to maintain a balanced perspective on the role of multimedia in education. Wang (2010) further pointed out that in English classrooms, the multimedia-assisted teaching approach tends to obscure the dominant role of teachers, emphasizing instead the need for autonomous learning capabilities. However, the cultivation of autonomous learning skills presupposes that students possess a relatively high level of self-control. Overemphasizing students' dominant position may compromise the overall effectiveness of classroom instruction.

### *Approaches to Creating Situational Teaching Methods in English Instruction*

Based on the steps involved in establishing situational teaching methods, researchers have synthesized a suitable situational teaching model for English instruction through their practical teaching experiences. Yang (2020) advocates for the utilization of multimedia to introduce scenarios in situational teaching, thereby constructing everyday life situations to cultivate students' responsiveness to such contexts. Role-playing is proposed as a means to recreate and instantiate these scenarios, ultimately enhancing students' comprehensive abilities through the construction of practical, context-rich learning environments. (Zhang, 2019) highlighted that when designing situational teaching, it is imperative to adhere to the theoretical foundations of constructivism while also following the principles of education and pedagogy, ensuring that the design of teaching scenarios is clearly targeted at specific subjects. (Chen, 2019) emphasized the importance of leveraging students' emotional cognition to create various scenarios for them, primarily through performances, experiences, pictorial representations, depictions of real-life situations, musical presentations, and verbal descriptions to showcase these scenarios. (Xue & Cui, 2016) pointed out that the implementation of situational teaching methods in hotel English speaking instruction primarily involves four steps: first, the perceptual experience during the scenario introduction phase; second, cognitive understanding in the scenario analysis phase; third, simulated practice in the scenario reproduction phase; and fourth, practical training feedback in the scenario transfer phase.

### *Current Implementation Status of Situational Teaching Method in Secondary Vocational Oral Hotel English Education*

Since its inception, the situational teaching method has been introduced into hotel English courses and has gained widespread popularity among teachers of hotel spoken English. Zhang (2022) emphasizes that English teaching should be closely aligned with real-life contexts and should inherently connect with students' practical lives. The principles of practicality and real-life application, which are central to situational teaching, should serve as guiding ideologies for the design of English situational teaching materials. Hotel English encompasses both specialized services in the hotel industry and English communication skills, making it a highly practical course that also imposes significant professional demands on teachers. Huang (2019) pointed out that hotel English is characterized by strong applicability and professionalism. In the specific application of situational teaching in hotel English, it is essential to make thorough preparations before class, as well as conduct effective situational introduction and knowledge explanation, followed by simulated practice, after-class exercises, social practice, and comprehensive assessment. (Wang, 2019) discussed that in situational teaching, students can engage in dialogues based on real-life situations, presenting scenarios they may encounter in their future careers. This learning approach can lay a solid foundation for their future oral hotel English skills. When utilizing multimedia in teaching, teachers can show students short videos, such as those depicting guest service scenarios,

enabling them to gain an intuitive understanding of the knowledge they are learning and helping them construct a comprehensive English knowledge system.

## Experimental Research

### *Selection of Experimental Subjects*

In the preliminary stage of the experiment, in order to select experimental and control classes that met the criteria for educational experiments, the author conducted surveys with the head of the Tourism Service and Management program and English teachers from the tourism department. It was learned that, over the past year of teaching, both Class 5 and Class 6 of the Tourism Service and Management program were taught by the same instructor, who had employed traditional English teaching methods in their oral hotel English instruction. To gain an in-depth understanding of the baseline conditions of the two classes before the experiment, a descriptive statistical analysis of the frequency of demographic variables was conducted to describe the student composition of both classes. Additionally, an independent samples t-test was performed on the overall levels of learning interest in the two classes.

**Frequency Descriptive Statistical Analysis of Demographic Variables.** As indicated in Table 1, there are no significant differences between the two classes in terms of gender, age, the time when they started learning English, student source, and ethnic distribution. This ensures the smooth progress of the experimental teaching study.

**Comparison of the Overall Learning Interest between the Control Class and the Experimental Class before the Experiment.** The data in Table 2 reveal that the overall level of learning interest in the control class is 80.24 points, while that in the experimental class is 82.62 points. In the t-test, all p-values are greater than 0.05. Therefore, it can be concluded that there is no significant difference in the overall level of learning interest between the two classes before the implementation of the teaching experiment.

Ultimately, the subjects of this study were selected from 77 students in Class 5 and Class 6 of the Tourism Service and Management program. Specifically, Class 5 served as the control class, while Class 6 was designated as the experimental class.

### *Design of the Experimental Scheme*

Firstly, before the experiment, an investigation into students' interest in learning oral hotel English and the collection of oral English scores were conducted in both classes. Subsequently, two different teaching methods were employed in the experimental and control classes respectively. Specifically, the experimental class adopted multimedia-assisted situational teaching method, while the control class utilized traditional teaching methods. After the experiment, a post-test was administered to students in both classes, including a survey on interest in learning oral hotel English and an assessment of oral English scores in the final exam. Based on the design pattern of the experiment, it can be seen that this experiment adopted an unequal control group experimental design, with the experimental model as follows:

In Table 3, O1 and O2 represent the measurement results of the pre-test and post-test in the experimental group, respectively, while O3 and O4 denote the measurement results of the pre-test in the control group and the post-test in the experimental group, respectively. X represents the experimental interference factor applied during the experiment, where X1 indicates the

multimedia-assisted situational teaching method, and X0 denotes the traditional teaching method. After the conclusion of this educational experiment, an analysis of the obtained measurement results was conducted to ultimately derive the experimental findings. The specific experimental process is illustrated in the figure 1:

**Table 1**

*Frequency Analysis of Demographic Variables*

| Class | Experimental Class | | | Control Class | | |
|---|---|---|---|---|---|---|
| Number of students | 39 | | | 38 | | |
| Variable | Option | Frequency | Percentage | Option | Frequency | Percentage |
| 1. Gender | Male | 12 | 30.8% | Male | 12 | 32% |
| | Female | 27 | 69.2% | Female | 26 | 68% |
| | Total | 39 | 100.0% | Total | 38 | 100.0% |
| 2. Birth Year | 2003 | 4 | 10.3% | 2003 | 6 | 16% |
| | 2004 | 20 | 51.3% | 2004 | 20 | 53% |
| | 2005 | 15 | 38.5% | 2005 | 12 | 32% |
| | Total | 39 | 100.0% | Total | 38 | 100.0% |
| 3. Start Time of Schooling | Grade 1~2 | 4 | 10.3% | Grade 1~2 | 2 | 5% |
| | Grade 3~4 | 14 | 35.9% | Grade 3~4 | 24 | 63% |
| | Grade 5~6 | 7 | 17.9% | Grade 5~6 | 4 | 11% |
| | Junior High School | 14 | 35.9% | Junior High School | 8 | 21% |
| | Total | 39 | 100.0% | Total | 38 | 100.0% |
| 4. Hometown | City | 3 | 7.7% | City | 3 | 8% |
| | Rural Area | 36 | 92.3% | Rural Area | 35 | 92% |
| | Total | 39 | 100.0% | Total | 38 | 100.0% |
| 5. Ethnicity | Han | 10 | 25.6% | Han | 13 | 34% |
| | Ethnic Minorities | 29 | 74.4% | Ethnic Minorities | 25 | 66% |
| | Total | 39 | 100.0% | Total | 38 | 100.0% |

**Table 2**

*Independent Sample T-Test of the Overall Learning Interest Level between the Control Class and the Experimental Class before the Experiment*

| Class | N | Mean | Standard Deviation | t | P |
|---|---|---|---|---|---|
| Control Class | 38 | 80.24 | 15.407 | -.755 | .453 |
| Experimental Class | 39 | 82.62 | 12.078 | | |

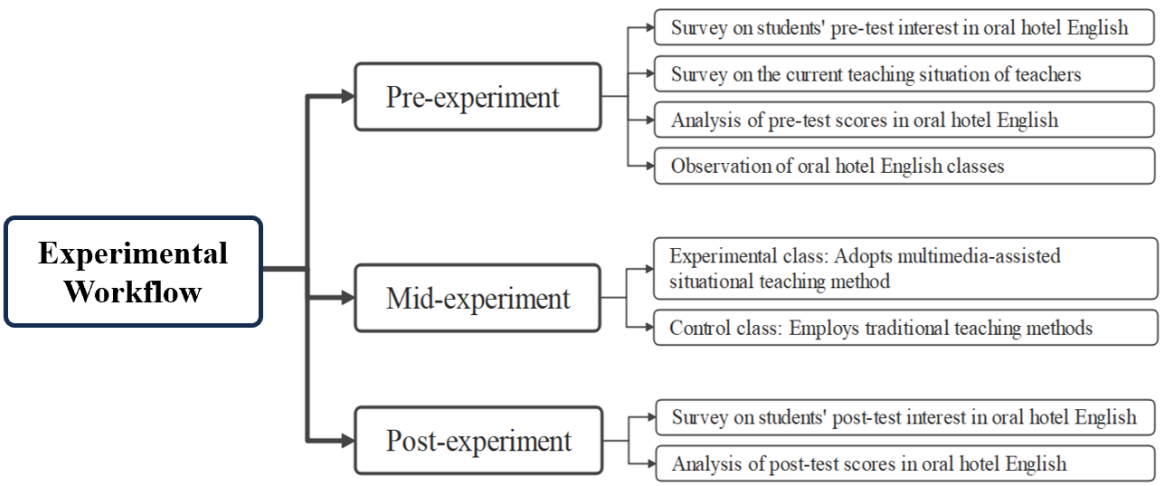
**Table 3**

*Experimental Model*

| Unequal Control Group Experimental Design | |
|---|---|
| Experimental Group | O1……X1……O2 |
| Control Group | O3……X0……O4 |

**Figure 1:**

*Experimental Flowchart*



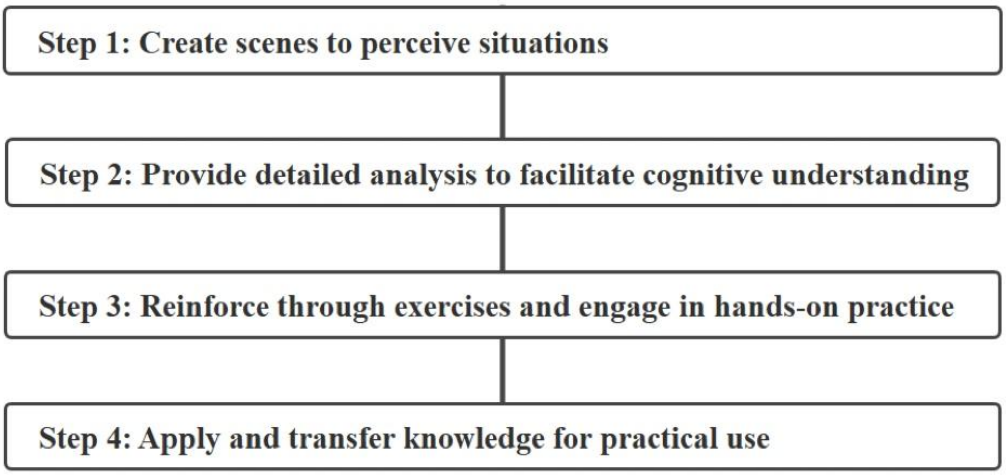

### *Implementation of the Experiment*

The author selected the textbook *Comprehensive Practical English Dialogues for Hotel Services*, currently designated by School A, as the teaching material for conducting an exploratory study on the Situational Teaching Method in Class 6 of the Tourism Service and Management major at

School A, a secondary vocational school. In accordance with the typical phases of situational teaching—namely, "perception – comprehension – deepening"—and integrating the Situated Cognition Theory, Constructivist Learning Theory, Krashen's Input Hypothesis, and Swain's Output Hypothesis within the context of English situational teaching, this situational teaching design for spoken hotel English was divided into four sequential steps: (1) creating vivid scenarios to facilitate perception of the context; (2) conducting detailed analysis to foster cognitive understanding; (3) engaging in consolidation exercises and participatory drills; and (4) facilitating application and transfer for practical use. After a thorough examination of the textbook content, the author chose Section 2 of Chapter 1 from *Comprehensive Practical English Dialogues for Hotel Services,* titled "Farewelling Guests upon Check-out," as the practical application case for the Situational Teaching Method.

**Figure 2**

*Schematic Diagram of Specific Teaching Steps*




**Step 1: Create scenes to perceive situations.**

***Phase 1: Introduce scenarios before class.*** Firstly, during the pre-class introduction phase, a PowerPoint presentation is used to display several sets of prepared images depicting hotel staff handling check-out procedures for guests. While the images are being shown, students are required to answer questions about the information they glean from the pictures. This exercise aims to provide students with a preliminary impression of the hotel check-out scenario, as illustrated in the following figure:

Subsequently, video clips of guests checking out of the hotel are played. Given that the English proficiency of secondary vocational school students is generally moderate, video clips with both Chinese and English subtitles are selected to facilitate students' understanding of the content and to immerse them in an authentic hotel scenario. Some excerpts from the video are as follows:

***Phase 2: Students attempt to recall the video clips.*** After playing the video clips twice, students are invited to attempt to recount the dialogue between the service staff and the guests in the video. They are encouraged to raise their hands to participate in answering.

***Phase 3: Presentation of the video dialogue content.*** The content of the video dialogue is displayed on the projection screen to guide students in observing and contemplating the service process during hotel check-out, as well as common English conversational phrases used in hotel settings. The content of the video dialogue is as follows:

Staff: Good morning, madam. May I help you?

Guest: I want to check out. Here is my room key.

Staff: Certainly. How is your stay with us, Ms. Wang?

Guest: It's fine. Just the drain in the shower room didn't work well.

Staff: Ms. Wang, we apologize for that, and thank you so much for telling us this situation. I will inform Housekeeping and Engineering to check the room immediately. May I you're your email address? As we want to contact you to extend apology and provide you with our feedback.

Guest: That's good. This is my email address. Thank you!

Staff: You are more than welcome, Ms. Wang. And thank you for sharing your stay experience with us. We look forward to welcoming you back to Grand Hyatt Beijing in the near future. Have a safe trip.

Guest: Thank you!

Staff: You are welcome. Goodbye.

Design Intent: According to Constructivist theory, students' learning is built upon the accumulation of prior knowledge. Furthermore, Second Language Acquisition (SLA) theory emphasizes the importance of maintaining a balance between input and output during the language learning process. Only with a sufficient amount of input can students have a foundation for output in language learning. Through the display of photographs and the playback of videos in the classroom, students can initially understand the basic service procedures for handling guest check-outs at a hotel front desk based on the content presented in the videos. During the process of watching the videos, students can clearly comprehend the common conversational phrases used in daily dialogue.

Teaching Reflection: On one hand, the combined visual and auditory stimulation provided by multimedia videos creates an immersive experience for students, instantly transporting them into real-life check-out scenarios. This approach captures students' attention, piques their interest, and evokes their memories of past experiences with hotel check-out procedures. On the other hand, despite students gaining a basic understanding of the service process for handling check-outs, the presence of numerous specialized vocabulary items in the video poses a challenge. Due to their relatively weak English foundation, many students struggle to fluently recall and articulate the dialogues and sentence structures presented in the video. Moreover, many students are not yet accustomed to engaging in dialogues in English during class.

**Step 2: Provide detailed analysis to facilitate cognitive understanding.**

***Phase 1: The teacher attempts to prompt students to recall the content of the video through questioning.*** Building upon this, students are organized into groups to collaboratively summarize the check-out procedures and present their findings in class through group representatives.

***Phase 2: The teacher leads the students in reading aloud the dialogue content from Section 1 of Chapter 2 in the textbook, which pertains to guest check-out. The dialogue content is as follows:***

Staff: Good morning, Mr. Smith. How are you today?

Guest: Good morning, Jane. I'm fine, thanks, and you?

Staff: I'm fine too. Are you checking out today?
Guest: Yes, I think so.
Staff: Did you enjoy your stay here?
Guest: Yes, I did.
Staff: I hope our service is to your satisfaction.
Guest: Sure, I'm very pleased with everything here.
Staff: Thank you. I wish you a nice trip home, and look forward to seeing you again.
Guest: Thank you. I'll definitely come to your hotel next time when I am in Tianjin.

***Phase 3: The teacher summarizes and generalizes the front desk check-out procedures, including greeting, room confirmation, deposit refund, invoice issuance, farewell, room status reporting, etc.*** The teacher also summarizes common conversational expressions used when handling guest check-out procedures.

***Phase 4: Students are asked to read the dialogue content from Section 1 of Chapter 2 in the textbook in character roles, during which the teacher corrects any incorrect pronunciations.***

***Phase 5: Students are instructed to compare the dialogue content in the textbook with the service procedures summarized from the video clips, in order to identify the idiomatic expressions associated with each service procedure.***

Design Intent: By encouraging students to contemplate and summarize the basic service procedures for handling guest check-outs, this activity aims to reinforce their memory of the check-out service process for guests. Through reading, analyzing, and comparing the guest check-out dialogues in both the video and Section 2 of Chapter 1 in the textbook, students are guided to connect the real-life scenarios of check-outs with the corresponding service procedures. This approach enables them to transfer their learning to practical situations based on the dialogues they have studied, fostering their ability to apply innovative thinking.

Teaching Reflection: Students have generally grasped the basic procedures for handling check-out procedures. Through a comparative analysis of the check-out process depicted in the video and the content presented in the textbook, students have further consolidated their understanding of the foundational knowledge covered in the course. However, they still struggle to fully comprehend certain challenging concepts and sentence structures, and many students experience difficulties in reading sentences fluently.

**Step 3: Reinforce through exercises and engage in hands-on practice.**

***Phase 1: Students are requested to engage in role-playing dialogues based on their understanding of the guest check-out conversation and the basic service procedures outlined in Section 2 of Chapter 1 of the textbook.***

***Phase 2: After guiding students to form groups freely, allocate a 10-minute preparation period. Encourage students to create hotel check-out scenarios that align with the situational design, drawing upon their personal experiences. During the presentation, urge students to immerse themselves authentically, thereby fostering an environment where students become the central focus of the classroom.***

***Phase 3: The teacher encourages students to actively raise their hands and come to the platform to simulate the check-out scenario. Students are required to immerse themselves fully in the role-play. Meanwhile, other students are instructed to observe closely the details of the performers' dialogues, including pronunciation, intonation, and the use of facial expressions during the performance, to assess whether the service is delivered professionally. They are also***

***asked to take notes on the shortcomings and errors made by each student during the performance and provide suggestions for improvement.***

Design Intent: According to the definition of situated cognition theory, it is essential to create a meaningful learning environment that enables learners to transfer the knowledge they have acquired into real-life contexts. Under the gradual guidance of the teacher, students can progressively engage in authentically created hotel check-out scenarios. Through scenario demonstrations and group collaborations, students gradually become the central focus of the classroom, taking ownership of their learning experience.

Teaching Reflection: The classroom atmosphere was highly vibrant, with students actively participating in the scenario-based dialogues and demonstrating a strong sense of group collaboration. However, as students were still not fully acquainted with the content of the textbook, many of them struggled with pronunciation, which was not entirely accurate. It is imperative for the teacher to promptly correct any inaccurate pronunciations and provide encouragement to students from each group as they take the stage to present.

**Step 4: Apply and transfer knowledge for practical use.**

***Phase 1: The teacher guides students through a review of the key service skills involved in handling guest check-out procedures. Simultaneously, the teacher reminds students that, as hotel staff, they should provide service with a smile when assisting customers with their check-outs and present items to guests using both hands.***

***Phase 2: Create a check-out scenario for the students. One party will simulate the role of the hotel front desk staff, with the individual standing at the front desk representing the hotel personnel, while the opposite party will act as the guest. After grouping the students, instruct them to organize the process and contextual language based on the knowledge they have acquired above.***

***Phrase 3: Instruct students to conduct group rehearsals based on the scenarios created by the teacher. Whenever feasible, provide students with attire and props appropriate for hotel service personnel. After each group completes its rehearsal, the teacher should promptly score and provide feedback to the students who performed in that group, with a particular emphasis on evaluating the professionalism of their service delivery.***

Design Intent: Through the preceding consolidation exercises, students have gained a deeper understanding of the basic procedures for handling guest check-out. Meanwhile, the teacher promptly creates scenario-based dialogues similar to the content covered in this lesson, enabling students to develop a clear comprehension of the key and challenging knowledge points. During the role-play in these scenarios, students can effectively consolidate their knowledge and transfer what they have learned to practical guest service work.

Teaching Reflection: With the assistance of videos and scenario-based role-plays, students' level of engagement has significantly increased, resulting in a highly interactive classroom atmosphere that deviates from the traditional teacher-centered approach. Students learn through entertainment and experience joy in the process. Through this scenario-based teaching method, students are able to accurately grasp the service details involved in handling guest check-out procedures. They transition from their role as students and immerse themselves in the practical context of hotel front desk reception. This experience lays a solid theoretical foundation for students' future careers and equips them with practical experience in guest service.

## Analysis of Experimental Results

After a 16-week experimental teaching period of the Hotel English Oral Communication course, the author conducted a unified post-experiment questionnaire survey and final examination for students in both the experimental class (Class 6) and the control class (Class 5). Additionally, post-experiment interviews were conducted with students from the experimental class at the end of the semester. The purpose of the questionnaire survey on learning interest in both the experimental and control classes was to investigate whether the multimedia-assisted situational teaching method could enhance students' interest in the Hotel English Oral Communication course. The comparison with final examination scores aimed to determine whether this teaching method could improve students' overall proficiency in hotel English oral communication. The results of the post-experiment interviews were analyzed to understand students' experiences with the multimedia-assisted situational teaching method after the teaching practice, with the aim of making improvements to future Hotel English Oral Communication course instruction.

### *Analysis of the Impact on Secondary Vocational Students' Interest in Hotel English Oral Communication Courses.*

After the experiment, the same questionnaire administered before the experiment was distributed again to students in both the experimental class and the control class. A total of 77 valid questionnaires were collected, achieving a 100% response rate. Following the collection of the questionnaires, the data were analyzed, and the specific results are as follows:

**Comparison of Learning Interest Levels Between the Control Class and the Experimental Class After the Experiment.** In order to objectively assess whether the multimedia-assisted situational teaching method has an influence on secondary vocational students' interest in learning Hotel English Oral Communication, a comparative analysis was conducted on the overall learning interest levels of the control class and the experimental class following the experimental teaching outcomes. The results of the analysis, performed using SPSS data, are as follows:

**Table 4**

*Comparison of Overall Learning Interest Between the Control Class and the Experimental Class After the Experiment*

| Class | N | Mean | Standard Deviation | t | p |
|---|---|---|---|---|---|
| Control Class | 38 | 78.39 | 13.054 | -13.122 | .000 |
| Experimental Class | 39 | 108.46 | 5.789 | | |

As can be seen from the data in Table 4, in the t-test, the p-values are all greater than 0.05. Therefore, it is easy to conclude that a significant difference in the overall level of learning interest occurred between these two classes before the implementation of the teaching experiment, where the mean score of the total scores of the control class was at 78.39 while the mean score of the total scores of the experimental class was at 108.46, and the experimental class was significantly higher

than the overall level of the control class.

**Comparison of Learning Interest Across Various Dimensions Between the Control Class and the Experimental Class After the Experiment.** To objectively assess whether the multimedia-assisted situational teaching method influences secondary vocational students' interest in learning Hotel English Oral Communication, a comparative analysis was conducted on the learning interest across various dimensions between the control class and the experimental class following the experimental teaching outcomes. The results of the analysis, performed using SPSS data, are as follows:

**Table 5**

*Independent Sample T-test Results of Learning Interest Across Various Dimensions Between the Control Class and the Experimental Class After the Experiment*

| Dimension | Class | Mean | Standard Deviation | t | P |
|---|---|---|---|---|---|
| Functional Recognition Dimension | Control Class | 3.93 | 0.73 | -4.988 | .000 |
| | Experimental Class | 4.63 | 0.48 | | |
| Pleasure Dimension | Control Class | 3.31 | 0.87 | -9.774 | .000 |
| | Experimental Class | 4.78 | 0.33 | | |
| Engagement Dimension | Control Class | 3.12 | 0.67 | -11.224 | .000 |
| | Experimental Class | 4.56 | 0.43 | | |
| Exploration of New Knowledge Dimension | Control Class | 3.05 | 0.53 | -7.904 | .000 |
| | Experimental Class | 4.05 | 0.58 | | |
| Application Dimension | Control Class | 3.05 | 0.59 | -10.737 | .000 |
| | Experimental Class | 4.41 | 0.52 | | |

As can be seen from the table, the experimental class adopted the multimedia-assisted situational teaching method during the teaching process, while the control class was taught using traditional teaching methods. After the experiment, students in both classes were once again administered the same questionnaire as in the pre-test. Following the collection and organization of the data, an analysis was conducted using SPSS. In the mean t-test, the p-values were all less than 0.05. Therefore, it is easy to conclude that there were significant changes in the learning interest of the two classes after the implementation of the teaching experiment. From the perspective of the mean scores across various dimensions, the mean values of each dimension in the experimental class have improved significantly.

**Comparison of Overall Learning Interest Levels in the Control Class Before and After the**

**Experiment.** To objectively assess whether the multimedia-assisted situational teaching method influences secondary vocational students' interest in learning Hotel English Oral Communication, a paired-sample T-test was conducted on the data collected from the control class before and after the experimental teaching. The results of the analysis, performed using SPSS data, are as follows:

**Table 6**

*Paired-Sample T-test Results of Learning Interest in the Control Class Before and After the Experiment*

| Dimension | Mean | Standard Deviation | t | P |
|---|---|---|---|---|
| Functional Recognition Dimension Pre-test | 3.95 | 0.84 | 0.18 | 0.86 |
| Functional Recognition Dimension Post-test | 3.93 | 0.73 | | |
| Pleasure Dimension Pre-test | 3.43 | 0.99 | 0.57 | 0.57 |
| Pleasure Dimension Post-test | 3.31 | 0.87 | | |
| Engagement Dimension Pre-test | 3.36 | 0.64 | 1.55 | 0.13 |
| Engagement Dimension Post-test | 3.12 | 0.67 | | |
| Exploration Of New Knowledge Dimension Pre-test | 2.89 | 0.64 | -1.08 | 0.29 |
| Exploration Of New Knowledge Dimension Post-test | 3.05 | 0.53 | | |
| Application Dimension Pre-test | 3.03 | 0.74 | -0.16 | 0.87 |
| Application Dimension Post-test | 3.05 | 0.59 | | |

As can be seen from Table 6, the P-values for the five dimensions of interest levels in the control class before and after the experiment are all greater than 0.05, indicating that there is no significant difference in the interest levels of the control class before and after the experiment. Interviews reveal that it remains difficult to enhance students' interest in Hotel English Oral Communication. Most students express that they do not enjoy learning Hotel English Oral Communication, believing that their oral English foundation is weak and they easily get distracted during English classes, lacking interest in learning English. Only a small number of students indicate that Hotel English Oral Communication is interesting and they believe they can learn it well.

**Comparison of Overall Learning Interest Levels in the Experimental Class Before and After the Experiment.** After the experimental teaching outcomes were obtained, a paired-sample T-test was conducted on the data collected from the experimental class before and after the experiment. The results of the analysis, performed using SPSS, are as follows:

**Table 7**

*Paired-Sample T-test Results of Learning Interest in the Experimental Class Before and After the Experiment*

| | Mean | Standard Deviation | t | P |
|---|---|---|---|---|
| Functional Recognition Dimension Post-test | 4.63 | 0.48 | 6.53 | 0.00 |
| | 4.09 | 0.60 | | |
| Pleasure Dimension Post-test | 4.78 | 0.33 | 8.70 | 0.00 |
| | 3.52 | 0.84 | | |
| Engagement Dimension Post-test | 4.56 | 0.43 | 7.66 | 0.00 |
| | 3.53 | 0.66 | | |
| Exploration Of New Knowledge Dimension Post-test | 4.05 | 0.58 | 7.02 | 0.00 |
| | 3.04 | 0.64 | | |
| Application Dimension Post-test | 4.41 | 0.52 | 12.02 | 0.00 |
| | 2.99 | 0.54 | | |

As can be observed from Table 7, there were significant differences in the experimental class students' interest in learning oral hotel English before and after the experiment. Following a 16-week teaching experiment, the P-values for all five dimensions of interest levels in the experimental class were found to be less than 0.05 both before and after the experiment. Through interviews with students, it was revealed that the teachers' utilization of multimedia-assisted instruction in the classroom enabled students to make full use of fragmented time to practice oral English. As short videos have increasingly become a major form of entertainment for students during their leisure time, they were able to dedicate more of their free time to honing their oral English skills. Students often followed various video platforms to learn English in their daily lives, fostering a strong learning atmosphere for oral hotel English among the students during the experimental period. Meanwhile, in the design of teaching activities based on the Situational Teaching Method, the teacher created a highly relaxed learning environment for the students, allowing them more time to practice English and correct incorrect pronunciations. In the classroom, students' collaborative learning abilities were enhanced, and their interest in learning oral hotel English surged rapidly. They gradually came to appreciate the enjoyment of learning oral hotel English, finding it much

easier to comprehend previously obscure and challenging situational dialogues in hotel English.

**Comparison of Correlations Among Various Dimensions of Learning Interest Between the Two Classes After the Experiment.** After the experiment, a correlation analysis was conducted on the interest levels and various dimensions of the students in the experimental class. The results in the table indicate that there is a significant correlation between the learning interest of secondary vocational students and each dimension. Among them, the dimensions of engagement and enjoyment in learning oral hotel English among secondary vocational students exhibit a relatively high correlation with the level of learning interest, with correlation coefficients of 0.871 and 0.840, respectively. The correlation coefficients for the other dimensions are also relatively high. Through interviews with students, it was revealed that compared to previous classes, students are now more focused during lessons, daring to actively raise their hands to answer questions when posed by the teacher, and participating enthusiastically in activities organized by the teacher. They also engage in active thinking when faced with questions from the teacher. Simultaneously, students have gradually developed a fondness for oral hotel English classes. Whereas they previously regarded oral English as a weakness in their studies, they now view attending oral hotel English classes as an enjoyable experience. Observations of the classroom also revealed that students are lively and cheerful during lessons, creating a vibrant classroom atmosphere.

**Table 8**

*The analysis of the correlation between the mean scores of learning interest and each dimension in the two classes after the experiment*

| Dimension | Correlation | Mean Score | Function | Pleasure | Engagement | Exploration of New Knowledge | Application |
|---|---|---|---|---|---|---|---|
| Mean Score | Pearson | 1 | | | | | |
| Function Recognition | Pearson | .709** | 1 | | | | |
| Pleasure | Pearson | .840** | .486** | 1 | | | |
| Engagement | Pearson | .871** | .616** | .584** | 1 | | |
| Exploration of New Knowledge | Pearson | .776** | .365** | .577** | .599** | 1 | |
| Application | Pearson | .777** | .368** | .591** | .586** | .682** | 1 |

**.Correlation is significant at the 0.01 level (bilateral).

Based on the analysis of the aforementioned research findings, the following conclusions can be drawn:

In terms of the functional understanding dimension of students' interest in learning oral English

for the hotel industry, it is evident that students possess a clear sense of purpose regarding their learning objectives in oral English for hotel contexts. The scenario-based teaching method supported by multimedia leverages the internet information platform to its fullest extent. Teachers can provide students with a more diverse range of learning resources for oral English, thereby enabling students to access knowledge related to oral English for the hotel industry through multiple channels. During the teaching implementation process, at the pre-class introduction stage, teachers utilize PowerPoint presentations to showcase authentic scenarios related to hotel English work that have been prepared in advance. This approach enables students to fully experience the basic workflow of future employment during the classroom learning process, thereby fostering an appreciation for the necessity of learning hotel English oral communication skills. During the teaching process, teachers fully leverage internet media to expand the teaching content both horizontally and vertically, facilitating students' understanding of the knowledge. Meanwhile, through information platforms such as WeChat and QQ, teachers and students establish real-time communication and interaction within class learning groups, overcoming spatial barriers to communication. This enables seamless exchanges between students and teachers, allowing students to promptly seek solutions to the difficulties they encounter during the learning process and receive efficient teaching feedback. Such an approach not only benefits students' learning but also helps teachers grasp students' learning progress, thereby enabling them to provide targeted instruction in the teaching of oral English for the hotel industry.

In the dimension of pleasure derived from the interest in learning oral English for the hotel industry, it refers to the enjoyable experiences students have while taking oral English courses tailored for the hotel sector. After implementing the scenario-based teaching method supported by multimedia, classroom teaching activities have become more diversified, and teaching formats have enriched significantly. Examples include quiz contests, group competitions, role-playing, and so on. In this context, students have started to take the lead in the classroom. In traditional teaching approaches, teachers often dominate the classroom, leaving students with few opportunities for self-expression. However, secondary vocational school students are generally more active and inclined to showcase themselves, with relatively lively personalities. A relaxed and lively classroom atmosphere enables students to break free from the rigid environment of exam-oriented English education they were previously accustomed to. This shift encourages them to change their learning attitudes and experience the joy of learning oral English.

In the dimension of engagement concerning interest in learning oral English for the hotel industry, under the guidance of the scenario-based teaching method supported by multimedia, students' enthusiasm in the classroom has significantly increased. Students have reported that they used to find it easy to get distracted during English classes. However, now, under the teacher's guidance, they always actively raise their hands to answer questions. They feel that the class time passes quickly and are very willing to participate in the classroom activities organized by the teacher. Moreover, they look forward with great anticipation to each hotel oral English scenario practice session organized by the instructor. Furthermore, in order to seize opportunities for self-expression in subsequent classes, students actively participate in group scenario practices outside of class. After English lessons, they take the initiative to review the content covered that day and seek assistance from classmates and teachers for sentences or words they struggle to pronounce.

In the dimension of exploring new knowledge related to interest in learning oral English for the hotel industry, it refers to students' personal willingness and proactive ability to learn

extracurricular knowledge in oral English. After implementing the scenario-based teaching method supported by multimedia, students have expressed that, in order to enhance their oral English proficiency, they actively watch videos on oral English learning during their spare time. In the selection process for the restaurant service skills competition organized by the school, compared to the past when they reluctantly applied for a few spots only after being encouraged by their head teachers and subject teachers, students now willingly sign up to challenge themselves. They hope to accumulate the necessary vocational knowledge through daily efforts, thereby improving their competitiveness in the future job market.

In the dimension of application concerning interest in learning oral English for the hotel industry, it pertains to students' proactive use of the knowledge acquired in oral English courses for hotel contexts in their daily lives, primarily manifesting in their listening and speaking abilities. In past learning experiences, students often found it challenging to speak English in public settings during classes. For many, speaking English was a daunting task. After implementing the scenario-based teaching method, the teacher has created an open platform for students to practice their oral English. In the past, students were often reluctant to speak English primarily due to the lack of an English-speaking environment. However, in the scenario-based teaching classroom, which now requires the active participation of every student, students are encouraged to open their mouths and speak. Through group collaboration, students gradually overcome their psychological barriers. Additionally, students have reported that they take the initiative to listen to English oral broadcasts and programs outside of class to improve their oral English proficiency.

### *An Analysis of the Impact on the Academic Performance of Secondary Vocational School Students in Hotel Oral English Courses*

**Analysis of Mid-term Exam Results in Hotel Oral English Courses for Students in Two Classes Before the Experiment.** The mid-term exam results of students from Tourism Class 5 and Class 6 were used as pre-test data and analyzed using SPSS. The results showed that P=0.83>0.05. In the mid-term exam, the experimental class (Class 6) had a mean score of 80.92, while the control class had a mean score of 81.29. Therefore, it can be concluded that there was no significant difference in the mid-term exam performance between the experimental class (Class 6) and the control class. Consequently, it can be stated that these two classes are parallel classes and suitable for use as research subjects.

**Table 9**

*Descriptive Analysis of Pre-experiment Academic Performance in the Experimental Class and the Control Class for Hotel Oral English Courses*

| Class | N | Mean | Standard Deviation | t | P |
|---|---|---|---|---|---|
| Experimental Class | 39.00 | 80.92 | 6.91 | -0.22 | 0.83 |
| Control Class | 38.00 | 81.29 | 7.57 | | |

**Comparison of Academic Performance between the Experimental Class and the Control Class After the Experiment.** After the experiment, an independent sample T-test was conducted

using SPSS to analyze the post-experiment academic performance of the experimental class and the control class. The results indicated that P=0.00<0.05. The experimental class had a mean score of 87.40, while the control class had a mean score of 81.05. Therefore, it can be concluded that there was a significant difference in the post-experiment academic performance between the experimental class (Class 6) and the control class (Class 5). The performance of the experimental class (Class 6) was significantly higher than that of the control class (Class 5).

**Table 10**

*Independent Sample T-test Results of Academic Performance between the Experimental Class and the Control Class After the Experiment*

| Class | N | Mean | Standard Deviation | t | P |
|---|---|---|---|---|---|
| Control Class 5 | 39.00 | 81.05 | 6.91 | (4.65) | 0.00 |
| Experimental Class 6 | 38.00 | 87.40 | 4.92 | | |

After the experiment, an independent sample T-test was conducted using SPSS to analyze the post-experiment academic performance of the experimental class and the control class. The results indicated that P=0.00<0.05. The experimental class had a mean score of 87.40, while the control class had a mean score of 81.05. Therefore, it can be concluded that there was a significant difference in the post-experiment academic performance between the experimental class (Class 6) and the control class (Class 5). The performance of the experimental class (Class 6) was significantly higher than that of the control class (Class 5).

**Comparison of Academic Performance in the Experimental Class Before and After the Experiment.** An analysis of the table above reveals that the average scores of the experimental class before and after the experiment were 81.29 and 87.40, respectively. This indicates a significant difference in the average scores of the experimental class before and after the experiment. The paired sample T-test results in the table demonstrate that, after the T-test, the comparison of the experimental class's scores before and after the experiment yielded P=0.000<0.05, indicating a highly statistically significant difference. This suggests that there was a significant difference in the experimental class's scores before and after the experiment. Furthermore, after the experiment, there was a notable improvement in their scores.

**Table 11**

*Paired Sample T-test Results of Academic Performance in the Experimental Class Before and After the Experiment*

| Variable | Mean | Standard Deviation | t | P |
|---|---|---|---|---|
| Pre-test | 81.29 | 7.57 | (4.01) | 0.00 |
| Post-test | 87.40 | 4.92 | | |

**Comparison of Academic Performance in the Control Group Before and After the Experiment.** The data in the table above demonstrates that the academic performance of the control group before and after the experiment was 80.92 and 81.05, respectively. Although there was a slight increase in the average score of the control group after the experiment, the magnitude of improvement was not significant.

**Table 12**

*Paired Sample T-Test of Academic Performance in the Control Group Before and After the Experiment*

| Variable | Mean | Standard Deviation | t | P |
|---|---|---|---|---|
| Pre-test | 80.92 | 6.91 | (0.28) | 0.79 |
| Post-test | 81.05 | 6.91 | | |

The paired sample T-test results in the table above demonstrate that, following the T-test, the comparison of academic performance in the control group before and after the experiment yielded a P-value of 0.79, which is greater than 0.05, indicating no statistically significant difference. This suggests that the difference in academic performance of the control group before and after the experiment is not significant.

In conclusion, the Situational Language Teaching approach was applied to the experimental class in the teaching of hotel English speaking, while the traditional teaching method was applied to the control group. After a half-semester teaching experiment, it was found that the hotel English speaking scores of the experimental class were significantly higher than those of the control group, indicating a notable disparity in performance between the two classes. It can be inferred that in the context of secondary vocational hotel English speaking instruction, the application of multimedia-assisted situational teaching method holds significant importance for the improvement of students' hotel English speaking proficiency.

### *Analysis of the Impact on the Enthusiasm of Secondary Vocational Students in Hotel English Speaking Classes*

**Student Interview Process.** As a supplementary method to questionnaires, interviews serve as an excellent research approach for gathering information. In order to gain a deeper understanding of students' perceptions regarding the effectiveness of the multimedia-assisted situational teaching method, interviews were conducted with students from the experimental class after the conclusion of the experiment.

Prior to the interviews, to ensure the authenticity of the information gathered, the researcher informed the interviewees in advance about the purpose of the interviews and provided a brief overview of the topics to be discussed. Additionally, the researcher clarified to the interviewees that the content of the interviews would remain confidential and was solely intended as a method for data collection for the thesis. The students were encouraged to respond based on their genuine experiences and perspectives, thereby safeguarding the authenticity of the interview results.

Upon completion of the experiment, the researcher conducted one-on-one interviews, both online

and offline, with nine students from Class 6 of the experimental group to investigate their attitudes towards the situational teaching method. To ensure the representativeness of the interview results, the nine students were categorized into three groups based on their proficiency in hotel English speaking. The first group consisted of three students who demonstrated the highest level of proficiency in hotel English speaking within the experimental group. The second group included three students whose English proficiency scores fell within the middle range. The third group comprised three students whose final exam scores were below the average level.

**Summary of Interview Results.** Following the interviews, the researcher collated the interview records and analyzed the students' responses. The specific findings from the interviews are presented below:

In the dimension of functional awareness, students' internal and external learning motivations for hotel English speaking have been strengthened. "In previous classes, the teacher usually taught us to read words, but I often struggled to understand their meanings. Despite reading some sentences multiple times, I still couldn't memorize them. However, I find the current English classes quite rewarding, as I can learn a great deal in them." "Personally, I have always been very fond of English. During my junior high school years, I aspired to learn English well through my own efforts. Although my current speaking proficiency is still average, I now hope to improve my English to secure a better job in a high-end hotel." It is evident that after the implementation of the multimedia-assisted situational teaching method, students have recognized the importance of learning hotel English, their motivation for learning hotel English has been enhanced, and they have also clarified their goals for learning hotel English speaking.

In the dimension of pleasure, students experienced joy in the process of learning hotel English speaking. "In previous classes, the teacher was always very strict, and I was afraid to speak up. Now, the teacher uses multimedia courseware to present videos and audios related to hotel English, allowing me to visually understand what I'm learning. English learning has become much more interesting." "I think the teacher could arrange for the top-performing students in the class to sit separately, which could better motivate their peers. This way, they can seek help from the high-achieving students." In summary, students have gradually overcome their fear of English speaking and are beginning to appreciate the pleasures of learning it.

In the dimension of engagement, students' enthusiasm for learning hotel English speaking has increased. "To be honest, I wasn't particularly fond of English, mainly because I found it somewhat challenging to learn. In the past, I would occasionally listen in English classes but often got distracted. However, the teacher's current classes are very engaging, and with the support of group members, it's no longer like before." "I really enjoy the current classes. Now, the teacher uses role-playing to facilitate our oral practice, so I think the learning atmosphere is excellent. Many students now form their own study groups in class, and they learn from each other when encountering difficulties." Based on the students' feedback, it is evident that there has been a significant improvement in students' participation in hotel English speaking classes. They are now more willing to engage in classroom activities, and the classroom atmosphere has become much more harmonious.

In the dimension of expanding new knowledge, students have begun to explore multiple avenues for enhancing their English learning. "Personally, I find this teaching method truly remarkable. It enables many students to acquire a wealth of knowledge. The teacher is highly effective, and we all enjoy attending his classes. Moreover, the teacher is extremely gentle and patient." "I feel that the

teacher speaks too much Chinese in class nowadays. I hope the teacher could communicate entirely in practical English so that we can better improve our English proficiency." "I wish that towards the end of the class, the teacher could engage us in discussions about other English topics or organize some interactive games. This would help us relax even more." Based on the interview results, it is evident that in the past, students dedicated a significant portion of their spare time to entertainment and leisure, with little to no time spent on learning English outside of class. However, students are now proactively seeking methods to improve their English-speaking skills, with the aim of enhancing their English communicative abilities.

In the dimension of application, students have gained the courage to speak English aloud, overcoming their fear and anxiety about doing so. "In the current hotel English classes, the teacher organizes many engaging activities. I particularly look forward to the situational dialogues with my group members. Although my English is not very good, the teacher always encourages me to speak up." "In previous teaching sessions, I found the teacher's classes rather monotonous, with limited interaction between the teacher and us. Usually, we would just form groups to read texts. However, in the current English classes, we learn through play and play while learning, making the experience much more enjoyable and less tedious. Whenever the teacher asks a question in class, I'm always the first to raise my hand." "I used to be too afraid to raise my hand to answer questions and would worry that the teacher might call on me, as I often couldn't answer the questions. I was very scared. But now, when the teacher asks a question, I don't feel that way anymore. I actually hope the teacher will call on me to answer." Based on the students' responses, it can be inferred that students now have the confidence to speak English aloud in hotel English speaking classes. They have a high level of acceptance towards the multimedia-assisted situational teaching method, and their oral English proficiency has further improved.

Based on the aforementioned interview results, it can be discerned that the primary reasons for the improvements observed in students across the dimensions of functional recognition, pleasure, engagement, exploration of new knowledge, and application within multimedia-assisted situational teaching classrooms lie in the teacher's design of various scenarios to guide students in addressing common practical issues in English. This approach enables students to perceive English not as an abstract theoretical system, but rather as a practical communication skill.

One contributing factor is that students, aspiring to communicate more conveniently with others and secure more and better opportunities for future development, recognize the necessity of mastering English. Consequently, their external motivation to learn English is significantly enhanced. Students will only be inclined to engage wholeheartedly in learning activities when they believe in their ability to acquire knowledge and achieve their learning goals. To bolster students' self-efficacy, the researcher dedicated considerable time after class to communicating with students, aiming to understand their English proficiency levels as well as their physical and psychological development. In the classroom, the researcher created a conducive environment, encouraging students to engage in dialogues, perform short skits, and participate in games. For each theatrical performance or game, the researcher set moderately challenging goals for students, ensuring they were attainable, and provided appropriate evaluations through comparative analysis.

Another reason is that students feel at ease and experience a sense of pleasure during the process of learning hotel English speaking courses, approaching the learning with a very comfortable attitude. When students finish their performances, the teacher offers them more praise to bolster their confidence, making them realize that English is not as difficult as they had imagined. This

encourages students to perceive that with increased effort in learning hotel English speaking, they too can excel in English. In class, an increasing number of students are raising their hands enthusiastically to answer questions, no longer fearing that they might give incorrect answers. Inspired by their learning motivation and interest, students will be more proactive in refining their learning methods, enabling them to continue making progress in their learning endeavors. During the implementation of situational teaching, the majority of students have indicated that in the current hotel English speaking classes, they are able to preview the key points before class, take notes during class, and review the key points after class. Even though this process requires them to spend more time memorizing linguistic essentials, considering that they will need this knowledge in their future careers, they perceive this process as meaningful and strive to engage in English conversations after class.

In summary, the interview results align closely with the findings from the survey on students' learning interests. The interview outcomes further demonstrate that the multimedia-assisted situational teaching method has a positive impact on the oral English courses for hotel management in secondary vocational schools. This approach has garnered approval from the majority of students and can significantly enhance their oral English learning proficiency.

## Research Conclusions and Prospects

### *Research Conclusions*

This study employed both theoretical and empirical research methodologies to apply the multimedia-assisted situational teaching method in the oral English courses for hotel management among secondary vocational school students. The final findings demonstrate that the utilization of the multimedia-assisted situational teaching method can effectively enhance students' interest in and comprehensive proficiency of oral English for hotel management, specifically manifesting in the following three aspects:

Firstly, the multimedia-assisted situational teaching method contributes to enhancing secondary vocational students' interest in learning oral English for hotel management. By employing this method, students are able to apply the everyday language of hotel English to real-life situations, and their level of engagement in learning oral English for hotel management is heightened through role-playing activities (Li, 2024). This, in turn, fosters a sense of accomplishment and enjoyment, thereby stimulating their learning interest. Consequently, it can be inferred that implementing the multimedia-assisted situational teaching method among secondary vocational students can effectively elevate their interest in learning oral English for hotel management.

Secondly, the multimedia-assisted situational teaching method has improved the overall academic performance of secondary vocational students in their oral English courses for hotel management. By implementing this method, students' learning interest has been stimulated (Ai, 2020). Consequently, in addition to enhancing their learning interest, this approach has also led to a significant improvement in their final academic achievements.

Thirdly, the multimedia-assisted situational teaching method is conducive to enhancing the enthusiasm of secondary vocational students in oral English classes for hotel management. Given the generally low level of learning interest among secondary vocational students, this study implemented the multimedia-assisted situational teaching method in their instruction. It was found that this approach transformed the previous situation where students passively received oral English

knowledge taught by teachers. In traditional classrooms of the past, students merely transcribed the content written on the blackboard by teachers without differentiating or engaging in subsequent memorization and application, resulting in their oral English proficiency remaining at the level of "mute English." However, the implementation of the multimedia-assisted situational teaching method has provided students with opportunities to simulate real-life scenarios of using oral English in hotel settings during class. Through collaboration and competition within groups, this approach has increased the chances for students to learn from one another (Liu, 2015), fostering mutual learning and facilitating collective progress.

In conclusion, the multimedia-assisted situational teaching method has improved the overall effectiveness of classroom instruction in oral English for hotel management among secondary vocational school students.

### *Research Prospects*

In future research, it is hoped that the multimedia-assisted situational teaching method will continue to be promoted and refined in oral English courses for hotel management in secondary vocational schools. To achieve better teaching outcomes, the following points should be adhered to as much as possible during the teaching process:

Firstly, endeavor to select a larger experimental cohort and extend the duration of the experiment. In future research, whenever feasible, it is advisable to augment the sample size and the number of classes involved in educational experiments. Students from different grade levels should be chosen to participate in experimental studies concurrently. Upon completion of the experiment, the outcomes can be evaluated by comparing results across different classes. Additionally, given that a 16-week teaching period, spanning approximately three months, is relatively brief, it would be beneficial, when time permits, to conduct teaching experiments over a complete semester with a consistent class cohort. This approach would help mitigate the contingency of experimental results.

Secondly, it is essential to diversify the evaluation methods for assessing the learning outcomes of experimental subjects. In the current teaching evaluation process, a sole summative evaluation approach was adopted, neglecting the formative evaluation of students during the teaching process. This led to an overly simplistic evaluation outcome, failing to reflect students' scores based on their daily performance. During the teaching evaluation phase, a multi-faceted evaluation approach can be employed, incorporating student self-assessment, peer evaluation among groups, teacher evaluation, and assessment of student academic performance. Consequently, both teachers and students should be encouraged to pay greater attention to the situational teaching process and the benefits derived from it. Teachers should comprehensively gather feedback on students' learning progress, enabling them to promptly adjust the teaching pace, identify and address gaps, and enhance the pertinence and efficiency of instruction.

Thirdly, a double-blind experimental design should be adopted during the experiment. A double-blind experiment ensures that both students and teachers remain unaware of the experimental conditions throughout the process, thereby eliminating any additional interfering factors in teaching and ensuring the normal progression of the experiment.

Fourthly, continue to promote the situational teaching method in oral English instruction for hotel management in secondary vocational schools. The situational teaching method has demonstrated its unique advantages and has been validated through the test of time. Although it still faces certain challenges in practical application, it is believed that in future developments, this

method will be more widely adopted across various disciplines. The effective implementation of situational teaching in oral English courses for hotel management should not merely focus on superficial forms. Meanwhile, it is hoped that teachers can integrate their classroom teaching methods according to the individualized needs of students, thereby providing higher-quality courses that facilitate students' effective learning of oral English in the context of hotel management. This endeavor aims to offer a better learning platform for the advancement of vocational education.

Finally, we earnestly hope that an increasing number of frontline teachers will contribute more theoretical foundations and practical methodologies to the teaching of oral English for hotel management in secondary vocational schools. This endeavor will enable more students and teachers to benefit from the teaching process, fostering mutual growth and development among both educators and learners.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Ai, L. (2020). A study on the effectiveness of multimedia network-assisted situational teaching in junior high school English (Master's thesis, Southwest University).

Chen, X. Y. (2019). The use of situational teaching method in English classroom teaching in secondary vocational schools. *Anhui Education Research*, (09), 89-90+103.

Huang, X. (2019). The application of situational teaching method in hotel English teaching. *Modern Economic Information*, (24), 360-361.

Jiao, Y. (2013). A brief discussion on the reform of English teaching in hotel majors in secondary vocational schools. *Education Teaching Forum*, (39), 73-74.

Li, W. W. (2024). A study on the application of multimedia-assisted situational teaching method in high school English grammar teaching (Master's thesis, Shenyang Normal University).

Li, Y. Q., Xu, W. T., & Peng, F. (2025). Perceived occupational stigma, occupational identity, and willingness to choose corresponding employment among hotel management students. *Tourism Tribune*, 40(05), 90-102.

Li, Y. Z. (2016). A preliminary exploration of information-based English teaching in secondary vocational schools. *Overseas English*, (07), 39-40.

Liu, H. L. (2015). The impact of multimedia-assisted situational teaching method on English listening and speaking abilities of secondary vocational school students (Master's thesis, Hebei Normal University).

Liu, J. (2020). On the development direction and implementation approaches of tourism and hotel management majors. *Tourism Overview (Second Half of the Month)*, (04), 226-227.

Lu, Y. (2013). English teaching in secondary vocational schools combined with information technology. *Journal of Kaifeng Institute of Education*, 33(07), 179-180.

Wang, H. W., Wang, Q. K., & Wang, H. Z. (2003). Some thoughts on multimedia teaching. *Journal of Hebei Institute of Architectural Science and Technology (Social Science Edition)*, (01), 43-44.

Wang, X. X. (2010). Reflections on multimedia English teaching. *Journal of Language and Literature Studies (Foreign Language Education and Teaching)*, (02), 158-159.

Wang, Z. M. (2019). The application of situational teaching method in English teaching for hotel management in secondary vocational schools. *Course Education Research*, (19), 108-109.

Wen, C. X. (2013). On the implementation of English education in hotel management majors. *Journal of Qiqihar Junior Teachers' College*, (02), 35-36.

Wen, J. (2011). Application and reflection of multimedia information technology in English teaching in secondary vocational schools. *New West (Late Issue, Theoretical Edition)*, (05), 241+245.

Xue, X. F., & Cui, K. N. (2016). The application of situational teaching method in hotel English teaching in secondary vocational schools. *Tourism Overview (Second Half of the Month)*, (16), 225-226.

Yang, J. (2020). The application of situational teaching method in English teaching in secondary vocational schools. In *Proceedings of the 2020 Academic Seminar on Scientific and Educational Innovation (Volume II)* (pp. 318-321).

Yu, W. G. (2014). An attempt at effective English teaching in secondary vocational schools: Analysis of multi-situational teaching. *China Science & Education Innovation Herald*, (07), 170-171.

Zhang, Q. Q. (2019). The application of situational teaching method in English teaching in secondary vocational schools. *Education Modernization*, 6(55), 176-177.

Zhang, S. H. (2022). The design and application of situational teaching in middle school English. In *Proceedings of the 2022 Summit Forum on Smart Campus Culture Construction and Educational Development* (pp. 2188-2190).

Zhang, S. N. (2024, February 26). International hotel giants accelerate expansion in China, competing in the lower-tier markets in 2024. *21st Century Business Herald*, 011.

Zhang, Y. (2022). An investigation into the current situation of cultural teaching in English courses in secondary vocational schools (Master's thesis, Liaocheng University).

Zhao, P. (2007). A comparison of vocabulary presentation methods in traditional and multimedia teaching modes. *Foreign Languages in China*, (06), 53-58.

## Authors' Bibliography

**Liyan Hong** is currently employed at Guangdong Post and Telecommunication Polytechnic as an Assistant Lecturer. She holds a Master of Education degree awarded by South China Normal University and is primarily engaged in student management and Party-building work.

**Bing Li** is currently employed at Guangdong Post and Telecommunication Polytechnic as an Associate Professor. He graduated with a Master's degree in Communication and Information Systems from Chongqing University of Posts and Telecommunications. His main research areas focus on specialty construction and teacher development in vocational education, with a particular emphasis on the directions of the Internet of Intelligent Things and big data mining.

Global
Cases & Practices of
Vocational Education

ARTICLE

# The “Concurrent Cultivation and Training, Quadrilateral Synergy" Development Model of Vocational Education in Boosting Locally Characteristic Industries: A Case Study of Model Application within the Liuzhou River Snail Rice Noodles Industry

## Authors
Qing Qin, Huiyu Wu, Chenghao Li, Han Huang

## Correspondence
Huiyu Wu, Email: 303311159@qq.com

Received: May 8, 2025
Revised: May 26, 2025
Accepted: June 18, 2025
Published: June 15, 2025

## Citation
Qin, Q., Wu, H.Y., Li, C.H., & Huang H. (2025). The "Concurrent Cultivation and Training · Quadrilateral Synergy" Development Model of Vocational Education in Boosting Locally Characteristic Industries: A Case Study of model application within the Liuzhou River Snail Rice Noodles Industry. *Global Cases & Practices of Vocational Education,* 1(1), 49-69.

# The "Concurrent Cultivation and Training, Quadrilateral Synergy" Development Model of Vocational Education in Boosting Locally Characteristic Industries: A Case Study of Model Application within the Liuzhou River Snail Rice Noodles Industry

**Qing Qin[a], Huiyu Wu[a], Chenghao Li[a], Han Huang[a]**
[a] Liuzhou No.1 Vocational and Technical School

## Abstract

This paper looks at Liuzhou River Snail Rice Noodle – an industry with local character – to explore how practical education can support its progress in standardization, production on a large scale and branding through the "Concurrent Cultivation and Training · Quadrilateral Synergy" model. The study finds that vocational education effectively promotes the transformation and upgrading of the River Snail Rice Noodle industry by constructing a curriculum system that aligns with industrial needs, enhancing the innovative and entrepreneurial capabilities of practitioners, formulating industrial standards, and establishing a collaborative industrial chain ecosystem involving government, schools, and enterprises. This provides valuable experience for vocational education in serving the local economy.

***Keywords:*** *Dual-Qualified Teachers, Vocational Education Policies, Teacher Capability Development*

## Introduction

In April 2021, during a visit to Guangxi, General Secretary Xi Jinping made an important observation. He said, "Developing industries that are unique to a region is a practical way for local governments to bolster, fortify, and enhance the real economy. We need to make the most of our local conditions and strengths to drive high-quality growth. It's crucial that we stick to high standards of quality and safety, pushing for better standardization and branding. We should also help private businesses tackle the real challenges they face, supporting and guiding them as they grow and expand." This key message didn't just lay out a path for the growth of the Liuzhou River Snail Rice Noodle industry; it also gave us a basic blueprint for how vocational education can support these local, distinctive industries.

In recent years, as local industries with unique characteristics start to flourish, a big question in vocational education reform is how to train top-notch talent through vocational programs that align

with what these industries need to grow. Pairing vocational education with the development of local industries is a key strategy for achieving high-quality economic growth in a region. Wang (2025) has argued that for vocational education to achieve high-quality development, integrating it with industry is a must. By working closely with industries, vocational education can better serve the local economy. Gong (2022) took a look at why Liuzhou River Snail Rice Noodle became such a hit in the new media era, pointing out that branding and going digital were key to its success. Wei and Zhou (2024) examined the current state and challenges of the Liuzhou River Snail Rice Noodle industry in the digital economy, stressing that integrating the supply chain and standardizing operations are essential for the industry's long-term success. Fang Xiaohui (2024) looked into how vocational education can play a role in rural revitalization, emphasizing vocational education's key part in training talent and empowering industries. These studies give us a solid theoretical grounding for exploring how vocational education can fuel the growth of local industries through a model we're calling "Concurrent Cultivation and Training · Quadrilateral Synergy.“

## Practical Dilemmas in the Development of the River Snail Rice Noodle Industry

Liuzhou is a large industrial and commercial town in the southwest of China, having it one of the deeper culinary traditions with River Snail Rice Noodle being one of the star dishes. Its own flavor profile (fresh, aromatic, sour and spicy) has not only won the hearts of locals but made it across the distance to provincial, national and even international industry, backed by new marketing tools and logistics. In recent years, the River Snail Rice Noodle industry has witnessed explosive growth, driving the coordinated development of the upstream and downstream industrial chains and becoming a new engine for Liuzhou's economic growth. However, concurrently, the industry has encountered numerous obstacles on its path towards high-quality development. An in-depth analysis of these practical dilemmas is of paramount importance for the long-term development of the industry.

### *Low Degree of Industrial Standardization: The Teething Pains of Transitioning from Traditional Workshops to Modern Industries*

**Inertia from Historically Inherited Production Models.** From 1980s to 1990s, River Snail Rice Noodle is developed when it is sold openly under the skies and beside the streets and alleys in Liuzhou, and ran family-workshop business. This production model, while offering flexibility advantages within the economic context of the time, lacked long-term planning. Over an extended period, the industry developed production habits reliant on the personal experience of chefs, with significant disparities observed among different workshops in terms of ingredient selection, cooking processes, and seasoning ratios. For instance, in the pickling process of sour bamboo shoots, some workshops adopted traditional large-vat pickling methods, relying on natural fermentation without precise control over key parameters such as temperature, humidity, and time. This resulted in considerable fluctuations in the acidity and taste of the sour bamboo shoots. Similarly, in the preparation of river snail soup, chefs added spices based on personal intuition, leading to noticeable differences in the flavor of soup batches. This production model not only poses potential food safety risks but also makes it challenging to rapidly promote the concept of

standardized production due to the inertia of the existing production mode.

**Multiple Barriers to the Implementation of Standardization.** Some of small production bodies are individual industrial and commercial households with poor investment subject, so that there is no conditions for the introduction of advanced production equipment and testing technology. Even if some enterprises recognize the significance of standardization, they are unable to undertake technological upgrades due to financial constraints. Analyzing from the level of industry standards, although the government and industry associations have formulated a series of standards in recent years, the mechanisms for implementing and supervising these standards remain inadequate. Some enterprises, in an effort to reduce costs, engage in shoddy workmanship and non-compliant production practices, resulting in inconsistent product quality of River Snail Rice Noodles in the market. Furthermore, consumers' traditional perceptions of River Snail Rice Noodles also impede the advancement of standardization. Some consumers believe that only handmade, uniquely flavored River Snail Rice Noodles are authentic, harboring resistance towards industrially produced, standardized items.

**Profound Impacts on Industrial Development.** The low standardized level affects the River Snail Rice Noodle industry market to some extent. With the fluctuation of product quality, it is hard for consumers to have their loyalty to the brand and word-of- of River Snail Rice Noodles in national or global markets. Simultaneously, it is challenging to meet the demands of large-scale production, leading enterprises to be unable to guarantee timely supply when receiving substantial orders, thus missing out on market opportunities. Additionally, low standardization is not conducive to the standardized management of the industry, increasing the difficulty of food safety supervision. Once quality issues arise, they can easily trigger a crisis of consumer trust in the entire industry.

### *Fragmented Industry and Low Synergy: "Breakpoints" and "Pain Points" in the Industrial Chain*

**Independent Operations and Conflicts of Interest Across the Industrial Chain.** The River Snail Rice Noodle industrial chain encompasses multiple links, including raw material supply, processing and production, and market sales. However, currently, there is a lack of effective cooperation mechanisms among enterprises at each link, resulting in a state of fragmented and self-governed operations. In the raw material supply link, suppliers of key ingredients such as river snails and sour bamboo shoots are predominantly scattered farmers and small cooperatives. These suppliers are more concerned with their own interests and lack long-term cooperation plans with downstream enterprises. For instance, during the peak supply season of river snails, some suppliers, in pursuit of short-term profits, sell high-quality river snails at premium prices to other buyers, leading to raw material shortages and quality deterioration for River Snail Rice Noodle production enterprises. In the midstream, there are significant disparities in technological levels and production capacities among seasoning and pre-packaging manufacturers. Some small manufacturer cut down the costs through using the prime cost, confuse the quality of River Snail Rice Noodles. The downstream resources of physical stores, supermarkets and e-commerce sales channels form a competitive relationship, lack the market promotion and price coordination mechanism in unity, result in market chaos.

**Poor Information Circulation and Difficulties in Resource Integration.** There is serious lag and distortion in information diffusion between all types of links in the industrial supply chain.

Upstream suppliers struggle to promptly grasp the production plans and changes in market demand of downstream enterprises, resulting in a mismatch between raw material supply and production needs. Midstream production enterprises lack accurate understanding of market dynamics, leading to untargeted product development and potential inventory backlogs or supply shortages. Downstream sales channels lack an information-sharing platform, making it impossible to achieve real-time feedback and analysis of sales data, which complicates the formulation of precise marketing strategies. Additionally, due to the absence of effective resource integration mechanisms, the resources of enterprises at each link cannot be fully utilized, leading to redundant construction and resource waste.

**Chain Reactions of Insufficient Industrial Synergy**. The fragmentation of the industry and low synergy result in low production efficiency and increased operational costs for enterprises. In the raw material procurement link, due to the dispersed nature of suppliers, enterprises need to invest substantial human and material resources in procurement negotiations and quality control, thereby increasing procurement costs. In the production link, the lack of collaboration among enterprises prevents the sharing of production equipment and the optimization of production processes, leading to low production efficiency. In the sales link, competition among various sales channels drives up marketing costs and yields ineffective brand promotion. This inefficient and high-cost industrial structure is difficult to sustain the scaled development of the industry and also undermines the competitiveness of the River Snail Rice Noodle industry in the market.

### *Talent Shortage and Insufficient Innovation Ability: The "Power Weakness" in Industrial Upgrading*

**Disconnection Between Talent Cultivation System and Industrial Demands.** A number of weaknesses have been found in the traditional applied education of Liuzhou specially serving the talents training to the River Snail Rice Noodle industry. The curriculum design of vocational colleges predominantly emphasizes traditional culinary skills training, with limited coverage of knowledge and skills in modern enterprise management, marketing, and e-commerce operations. For instance, in the River Snail Rice Noodle production major, most courses revolve around traditional production techniques, lacking instruction in relevant fields such as food quality and safety, production management, and brand planning. Meanwhile, the collaboration between vocational education and enterprises is not sufficiently close, resulting in a scarcity of practical opportunities for students during their school years. This makes it challenging for them to integrate theoretical knowledge with actual production, leading to a prolonged adaptation period for graduates to fit into their work roles after entering enterprises.

**Challenges in Talent Recruitment and Retention.** Liuzhou, located in the southwest region, lags behind first-tier cities in terms of economic development, living environment, and scientific research resources, resulting in insufficient attractiveness to high-end talents. Although the River Snail Rice Noodle industry has rapidly developed, it has a low level of output and product added value and the employees' salary and career development chances are not high, so it is hard to include talented individuals with abundant experience and ability to innovate. Moreover, enterprises lack effective incentive mechanisms in talent management and do not place sufficient emphasis on or invest in talent cultivation, leading to a severe brain drain. For instance, some enterprises underinvest in technological research and development (R&D) and brand marketing, leaving employees devoid of innovation impetus and a sense of accomplishment, prompting them

to seek opportunities in other industries or regions.

**Constraints of Insufficient Innovation Capacity on Industrial Development.** The lack of talent has resulted in a lack of technological innovation, product innovation and marketing innovation. In terms of technological innovation, enterprises lack professional R&D teams and financial support, hindering their ability to conduct research on and application of new technologies and processes. For example, progress in preservation techniques and flavor enhancement of River Snail Rice Noodles has been sluggish, affecting product quality and market competitiveness. In terms of product innovation, most new products launched by enterprises are simple imitations or modifications of traditional offerings, lacking innovation and differentiation, and thus failing to meet the increasingly diverse needs of consumers. In terms of marketing innovation, enterprises rely heavily on a single marketing approach, primarily depending on physical stores and traditional advertising, while underutilizing emerging marketing channels such as e-commerce and social media. This has resulted in slow growth in brand awareness and market share.

## Teaching Challenges in the River Snail Rice Noodle Industry from the Perspective of Vocational Education

In recent years, Liuzhou River Snail Rice Noodle industry has developed rapidly due to its distinctive taste and huge market prospects, its industrial scale is expanding and the demand for talents is becoming more specialized. Vocational education is the support mainstay of talents, it is most desirable to be consistent with the industrial demand and offer strong talent support for the River Snail Rice Noodle industry. However, in reality, vocational education has encountered numerous teaching dilemmas when serving the River Snail Rice Noodle industry. These issues not only constrain the development of vocational education itself but also impede the upgrading and innovation of the River Snail Rice Noodle industry. Therefore, it is of great practical significance to conduct an in-depth analysis of the teaching challenges in the River Snail Rice Noodle industry from the perspective of vocational education.

### *Disconnection Between Teaching Content and Industrial Demands: The Misalignment Between Industrial Characteristics and Educational Offerings.*

After years of development, River Snail Rice Noodle has transformed from a traditional local snack to a modern industry covering upstream raw material cultivation and breeding, midstream production and processing, downstream circulation, brand promotion and e-commerce business, and the effect of scale is gradually emerging. However, the traditional vocational education curriculum system is mostly constructed based on general culinary majors, failing to promptly capture the uniqueness and innovation of the River Snail Rice Noodle industry. On the one hand, vocational education lacks in-depth research on the River Snail Rice Noodle industry during the curriculum development process, resulting in insufficient understanding of the actual needs of various industrial links. On the other hand, influenced by traditional educational concepts, it places excessive emphasis on the cultivation of basic culinary skills while neglecting the special requirements of the River Snail Rice Noodle industry in areas such as operation and management, brand building, and food safety.

In terms of curriculum setup, general culinary skill courses occupy a significant proportion, such

knife skills, heat control, and traditional cuisine preparation. In contrast, specialized courses targeting the production techniques of River Snail Rice Noodles, such as the optimization of river snail soup base preparation, the improvement of sour bamboo shoot fermentation technology, and the flavor blending of chili oil, are relatively scarce. In the realm of operation and management, there is a lack of courses on production management, cost control, and supply chain management for River Snail Rice Noodle enterprises, making it difficult for students to be competent in corporate management roles after graduation. In the field of brand marketing, there is minimal coverage of content related to brand positioning, market promotion, and new media marketing for River Snail Rice Noodles. As a result, students are unable to grasp how to utilize modern marketing strategies to enhance the brand awareness and market share of River Snail Rice Noodles.

The disconnection between teaching content and industrial demands leads to a severe mismatch between the knowledge students acquire and the actual work scenarios, making it difficult to meet the needs of enterprises for high-quality technical and skilled talents. Enterprises are compelled to invest substantial time and costs in providing secondary training for newly hired employees, thereby increasing labor costs and operational risks. At the same time, such mismatch also leads to the non-competitiveness of talent trained by vocational education in the labor market, which has certain negative impact on the employment quality and social status of vocational education. As a result, it hinders the deeper integration of vocation education and the River Snail Rice Noodle industry.

***Weakness in Practical Teaching: The "Last Mile" Dilemma Between Theory and Practice.***

The industry of River Snail Rice Noodle is of extremely high requirement of the practical operational proficiency and production management ability of the technicians. However, vocational education exhibits notable shortcomings in its practical teaching segments. On the one hand, constrained by factors such as funding and space, the equipment within on-campus training bases is updated slowly, and the technological standards lag behind the actual production environments of enterprises. Some schools still utilize outdated River Snail Rice Noodle production equipment, preventing students from accessing cutting-edge technologies and processes within the industry. On the other hand, the construction of off-campus internship bases lacks a long-term cooperation mechanism, and enterprises exhibit low enthusiasm for participating in vocational education, resulting in limited internship opportunities for students and difficulties in ensuring the content and quality of their internships.

The equipment within on-campus training bases is outdated and has limited functionality. Thus fails to simulate the full-scale production scenarios of River Snail Rice Noodle enterprises, from raw material procurement and processing to finished product packaging. For instance, in the practical training of pre-packaged River Snail Rice Noodle production, there is a lack of automated packaging equipment and quality inspection devices, making it difficult for students to master modern production processes and quality control points. Regarding the construction of off-campus internship bases, enterprises often treat interns as cheap labor, assigning them to simple and repetitive tasks such as raw material cleaning and packaging box folding, lacking practical guidance in production management and technological R&D for students. Additionally, the scheduling of internships is unreasonable. Some schools concentrate internships at the end of the semester, with a short duration, preventing students from gaining an in-depth understanding of enterprises' production and operation modes and industry trends.

The drawbacks of practical training links in production processes contribute to a heavy shortage of students' practical working ability and production-management ability. After graduation, the students who want to work in enterprises need a long time to adapt to the production rhythm and management demands of enterprises, which brings higher training cost and management difficulty to enterprises. At the same time, the similar lack of systematic practice teaching also affects the students' understanding and mastering of professional knowledge, and decreases their enthusiasm for learning and professional identity, which is not conducive to the realization of the vocational education objective of talent training.

### *Lag in Innovation and Entrepreneurship Education, Source of "Power Impotence" in Industrial Innovation and Development.*

Against the backdrop of mass entrepreneurship and innovation, the River Snail Rice Noodle industry urgently requires talents with an entrepreneurial spirit and capabilities. However, vocational education, when cultivating talents for the River Snail Rice Noodle industry, generally neglects the cultivation of innovation and entrepreneurship abilities. On the one hand, constrained by traditional educational concepts, schools place excessive emphasis on imparting students with professional knowledge and skills, while overlooking the cultivation of students' innovative thinking, entrepreneurial awareness, and entrepreneurial capabilities. On the other hand, there is a lack of faculty with experience and capabilities in innovation and entrepreneurship education. Teachers themselves lack entrepreneurial practical experience and industry resources, making it difficult for them to effectively carry out innovation and entrepreneurship education.

The curriculum system lacks specialized modules for innovation and entrepreneurship education, with no courses offered on the basics of entrepreneurship, marketing planning, project financing, etc. Consequently, students have limited knowledge of the fundamental theories and methods of innovation and entrepreneurship. Teaching methods are monotonous, predominantly relying on traditional classroom lectures, and lacking interactive teaching approaches such as case analysis, group discussions, and project practices. This makes it challenging to stimulate students' innovative thinking and entrepreneurial enthusiasm. Schools provide inadequate support in terms of innovation and entrepreneurship guidance, project incubation, and resource integration. There is a lack of practical platforms and mentor teams for innovation and entrepreneurship, making it difficult for students with good entrepreneurial ideas to receive effective guidance and support.

The lag in innovation and entrepreneurship education results in talents within the River Snail Rice Noodle industry lacking self-employment awareness and capabilities. After graduation, most of them enter enterprises through traditional employment modes, struggling to become drivers of industrial innovation. This not only constrains the innovative development of the River Snail Rice Noodle industry but also impedes the optimization and upgrading of its industrial structure. Meanwhile, the absence of an innovation and entrepreneurship atmosphere also renders talents cultivated by vocational education less competitive in the job market, making it difficult for them to adapt to the demands of diversified industrial development.

### *Mismatch Between Industrial Standards and Teaching Standards: The "Linkage Gap" in Talent Cultivation and Industrial Norms.*

With the rapid development of the River Snail Rice Noodle industry, the government and

industry associations have formulated a series of stringent standards concerning product quality, production processes, and food safety to ensure the industry's healthy and sustainable development. However, the update of teaching standards in vocational education lags behind, failing to achieve effective alignment with industrial standards in a timely manner. On the one hand, the formulation cycle of teaching standards in vocational education is relatively long, lacking a dynamic tracking and timely adjustment mechanism for changes in industrial standards. On the other hand, there is a lack of effective communication and cooperation between schools and enterprises, resulting in insufficient understanding of the implementation of industrial standards and the actual needs of enterprises, thereby creating a gap between teaching standards and industrial standards.

In terms of curriculum setup, the new standards and norms of the River Snail Rice Noodle industry, such as the national food safety standards for River Snail Rice Noodles and the general principles for pre-packaged food labeling, have not been incorporated into the teaching content. The teaching content is outdated, still adhering to past production processes and technological standards, which are out of sync with the actual production requirements of enterprises. The assessment and evaluation methods are monotonous, primarily relying on theoretical examinations, and lacking assessments of students' practical operational abilities and their mastery of industrial standards. This leads students to focus solely on theoretical knowledge learning while neglecting the cultivation of practical skills and adherence to industrial norms.

The mismatch between industrial standards and teaching standards makes it difficult for students to adapt to enterprises' production norms and quality requirements after graduation, increasing enterprises' training costs and management difficulties. During the recruitment process, enterprises often need to provide additional training for new employees to familiarize them with the enterprise's production processes and quality standards. This not only affects enterprises' production efficiency but also reduces the employment quality and social recognition of vocational education. Meanwhile, this mismatch also impedes the connotative development of vocational education, making it difficult to cultivate high-quality technical and skilled talents that meet the needs of the industry's high-quality development.

Vocational education faces numerous teaching challenges in serving the River Snail Rice Noodle industry, including a disconnection between teaching content and industrial demands, weaknesses in practical teaching segments, a lag in innovation and entrepreneurship education, and a mismatch between industrial standards and teaching standards. These challenges are intertwined and mutually influential, severely constraining the coordinated development of vocational education and the River Snail Rice Noodle industry. To address these challenges, vocational education should strengthen its deep integration with the River Snail Rice Noodle industry, deepen curriculum system reforms, enhance practical teaching segments, strengthen innovation and entrepreneurship education, promote the alignment of teaching standards with industrial standards, and cultivate high-quality technical and skilled talents that meet industrial needs, thereby providing strong talent support for the sustained and healthy development of the River Snail Rice Noodle industry. Meanwhile, the government, enterprises, and schools should strengthen cooperation to jointly create a favorable environment for the coordinated development of industry and education, promoting mutual benefits and win-win outcomes between the River Snail Rice Noodle industry and vocational education.

## Key Practices

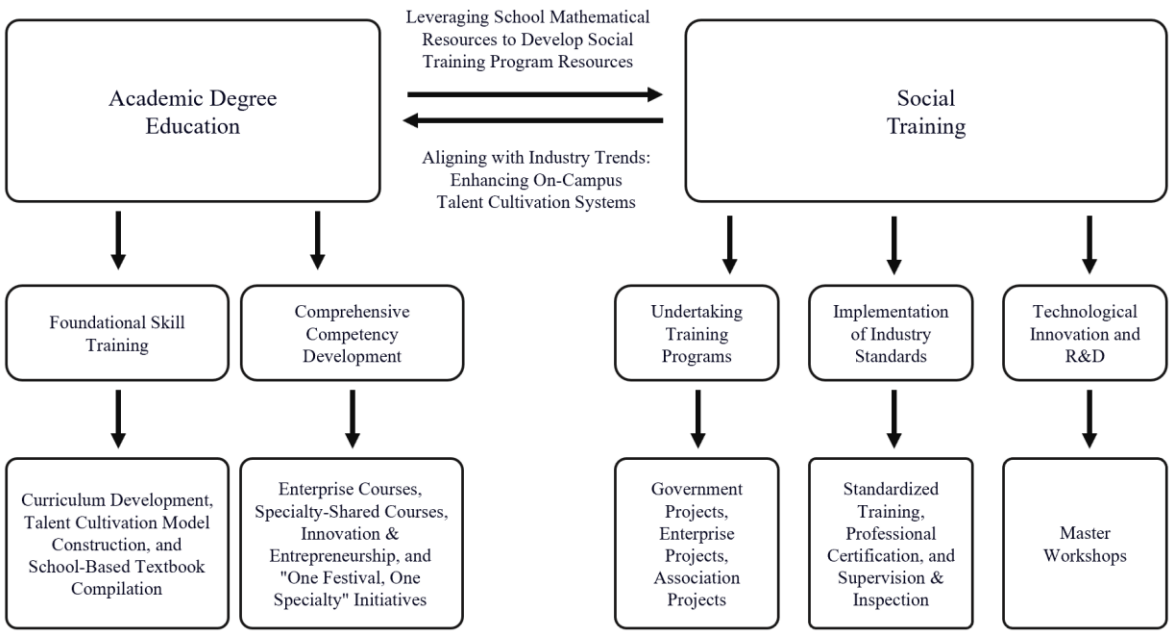
In response to the dilemmas encountered by the River Snail Rice Noodle industry during its process of large-scale, standardized, and innovative development, as well as the teaching challenges posed by the mismatch between talent cultivation in vocational education and industrial demands, Liuzhou No.1 Vocational Technical School has innovatively introduced the "Education and Training Parallel · Four-Way Synergy" model, injecting strong impetus into the high-quality development of the River Snail Rice Noodle industry.

### *"Concurrent Education and Training": A Dual-Track Cultivation Approach for Precise Alignment with Industrial Demands*

**Curriculum System, Deep Integration Guided by Industrial Needs:** Based on years of accumulated teaching experience, the school has meticulously established a "Concurrent Education and Training" dual-track cultivation model that runs parallel academic education and social training (as illustrated in Figure 1). To achieve seamless alignment between talent cultivation and the River Snail Rice Noodle industry, the school has assembled a professional research team to delve into various links of the River Snail Rice Noodle industrial chain, accurately grasping the dynamics of industrial demands. Based on this, the school has developed specialized core courses with strong local characteristics, such as "River Snail Rice Noodle Production and Store Operation" and "Local Snack Production," and formulated detailed curriculum standards, forming a curriculum system deeply integrated with the industry.

**Figure1**

*Dual-Track Training Model Combining "Education and Training"*



In terms of curriculum content design, the school not only delves deeply into the essence of traditional River Snail Rice Noodle production techniques but also incorporates key links of the modern industrial chain. Taking the course "River Snail Rice Noodle Production and Store Operation" as an example, while students systematically learn traditional production processes such as soup base preparation, ingredient pairing, and noodle cooking techniques, they also delve into practical operational knowledge, including the golden rules of store location selection, precise positioning of decoration styles, scientific methods of personnel management, and refined strategies for cost control. This teaching model, which closely integrates theory with practice, enables students to quickly adapt to and meet job requirements after graduation, whether they choose to start their own River Snail Rice Noodle stores through entrepreneurship or engage in relevant work within enterprises.

**Practical Teaching, Industry-Education Integration Facilitates the Enhancement of Vocational Competencies.** The school actively promotes in-depth integration between industry and education, meticulously designing courses in collaboration with River Snail Rice Noodle production enterprises to create an authentic working environment for students, where they can hone their vocational competencies through practice. Meanwhile, the school introduces shared professional courses in marketing, entrepreneurship, etc., to comprehensively enhance students' overall qualities and entrepreneurial capabilities.

The school has established profound cooperative relationships with renowned enterprises in the industry, such as Luobawang and Liujiang Renjia, jointly creating off-campus internship bases. By interning in the authentic production environments of these enterprises, students can intuitively understand the enterprises' operational modes, market demand dynamics, and industry development trends. During the internship process, students have the opportunity to participate in every link of River Snail Rice Noodle production, from raw material procurement, processing, and manufacturing to finished product packaging, experiencing firsthand every detail of the production process and accumulating invaluable practical work experience. Additionally, technical backbone personnel from these enterprises regularly deliver lectures and conduct skill training sessions at the school, imparting the latest industry technologies and practical experiences to students.

**Social Training, Inclusive Services Enhance the Quality of Industrial Talents.** Adhering to the educational philosophy that "everyone can achieve success," the school is committed to enhancing the inclusiveness of public services in vocational education. As a demonstration base for the River Snail Rice Noodles (River Snail Rice Noodle) labor brand recognized by the Regional Human Resources and Social Security Department, the school fully leverages its advantages to conduct multi-level and comprehensive specialized training for practitioners in the River Snail Rice Noodles industry, continuously strengthening its professional social service functions.

Based on the dynamic changes in talent demands within the River Snail Rice Noodles industry, the school continuously refines its curriculum system. The annual specialized training sessions on River Snail Rice Noodles production attract a large number of participants from across the country. The training content is rich and comprehensive, encompassing the essence of traditional River Snail Rice Noodles production techniques, innovative applications of modern production technologies, stringent quality control standards, and key aspects of food safety. Through systematic training, participants not only master the core skills of River Snail Rice Noodles production but also gain insights into the latest industry trends and developments. Upon completion of the training, participants can obtain corresponding vocational skill level certificates, which undoubtedly adds

significant weight to their employability in the job market and significantly enhances their competitive edge.

### *Promoting Industrial Standardization and Scalability, Leading Industrial Upgrading*

**School Takes the Lead, Exploring Pathways for Scalable and High-End Development.** The school's training base enterprise, Yizhi Grand Hotel in Liuzhou, is one of the early pioneers in the large-scale operation of River Snail Rice Noodles (River Snail Rice Noodle) in Liuzhou, providing valuable experience for the development of the River Snail Rice Noodles industry. In 2016, the school, with a keen eye for market opportunities, took the lead in attempting the production and sales of bagged River Snail Rice Noodles, opening a new chapter in the industrialized production of the River Snail Rice Noodles industry. In 2021, the school further intensified its innovation efforts by establishing the River Snail Rice Noodles Collaborative Education Center, an industry-education integration base, to fully drive the development of River Snail Rice Noodles products towards a high-end trajectory.

At the Collaborative Education Center, the school has gathered a group of industry experts and technical backbone personnel to conduct innovative research on River Snail Rice Noodles production techniques. Through continuous optimization of raw material selection, improvement of production processes, and development of new seasoning formulas, the center has successfully enhanced the quality and taste of River Snail Rice Noodles products. For instance, in the aspect of soup base preparation, the research team, after repeated trials, has adopted a variety of high-quality ingredients and unique brewing methods, resulting in a more rich, mellow, and lingering soup base. In terms of ingredient pairing, new ingredients and techniques have been introduced, enriching the variety and taste of the ingredients to meet the needs of different consumers. These innovative achievements not only promote the high-end development of the River Snail Rice Noodles industry but also provide abundant practical cases for the school's teaching and scientific research.

**Fostering Entrepreneurship, Cultivating Industry-Leading Enterprises.** The school actively encourages outstanding graduates to engage in innovation and entrepreneurship within the River Snail Rice Noodles (River Snail Rice Noodle) industry, providing them with comprehensive support and assistance. With the school's help, numerous outstanding graduates have successfully established leading enterprises in the industry, such as Luobawang, Liujiang Renjia, and Hugui Group, becoming the mainstay driving the development of the River Snail Rice Noodles industry.
Taking Luobawang as an example, its founder is an outstanding graduate of the school's culinary arts program. During his time at the school, he not only mastered solid culinary skills but also cultivated a keen market insight and innovative spirit. After graduation, he led his team to conduct in-depth market research, combining traditional production techniques with modern consumption concepts to develop a series of innovative River Snail Rice Noodles products. Through vigorous promotion on e-commerce platforms, Luobawang River Snail Rice Noodles quickly expanded into the national market, becoming a well-known brand familiar to consumers. Meanwhile, the school has established close cooperative relationships with these enterprises, jointly creating internship bases and employment channels, thus providing students with abundant practical opportunities and broad employment prospects. During their internships at these enterprises, students can gain exposure to the cutting-edge industry technologies and advanced production management modes, laying a solid foundation for their future career development.

**Standard Setting, Ensuring Industrial Quality and Efficiency.** For the sustainable

development of the Liuzhou River Snail Rice Noodles (River Snail Rice Noodle) industry, adherence to high standards is imperative. Building upon the in-house curriculum standards for River Snail Rice Noodles production, the school leverages its professional expertise to spearhead the formulation of two local food safety standards for the Guangxi Zhuang Autonomous Region and twelve local standards for Liuzhou City, all pertaining to River Snail Rice Noodles.

These industrial standards meticulously and rigorously stipulate key aspects of River Snail Rice Noodles production, including craftsmanship, raw material selection, and quality control. In terms of craftsmanship, specific parameters such as the duration, temperature, and ingredient ratios for soup base preparation are clearly defined to ensure consistent quality and taste in every bowl of River Snail Rice Noodles. Regarding raw material selection, regulations specify the origin, quality standards, and inspection methods for ingredients like pickled bamboo shoots, wood ear mushrooms, and peanuts, safeguarding product safety and quality from the source. In quality control, a comprehensive quality inspection system and traceability mechanism are established to rigorously test each batch of products, ensuring compliance with standard requirements. Through the formulation and implementation of these standards, the production efficiency and product quality of the River Snail Rice Noodles industry have significantly improved, providing robust support for its large-scale and standardized development. In 2022, the standard system for the entire River Snail Rice Noodles industrial chain in Liuzhou was basically formed, marking a new phase of standardized and high-quality development for the River Snail Rice Noodles industry.

### *Constructing a "Quadrilateral Synergy" Ecosystem of Government, University, Enterprise, and Association to Optimize Industrial Resource Allocation*

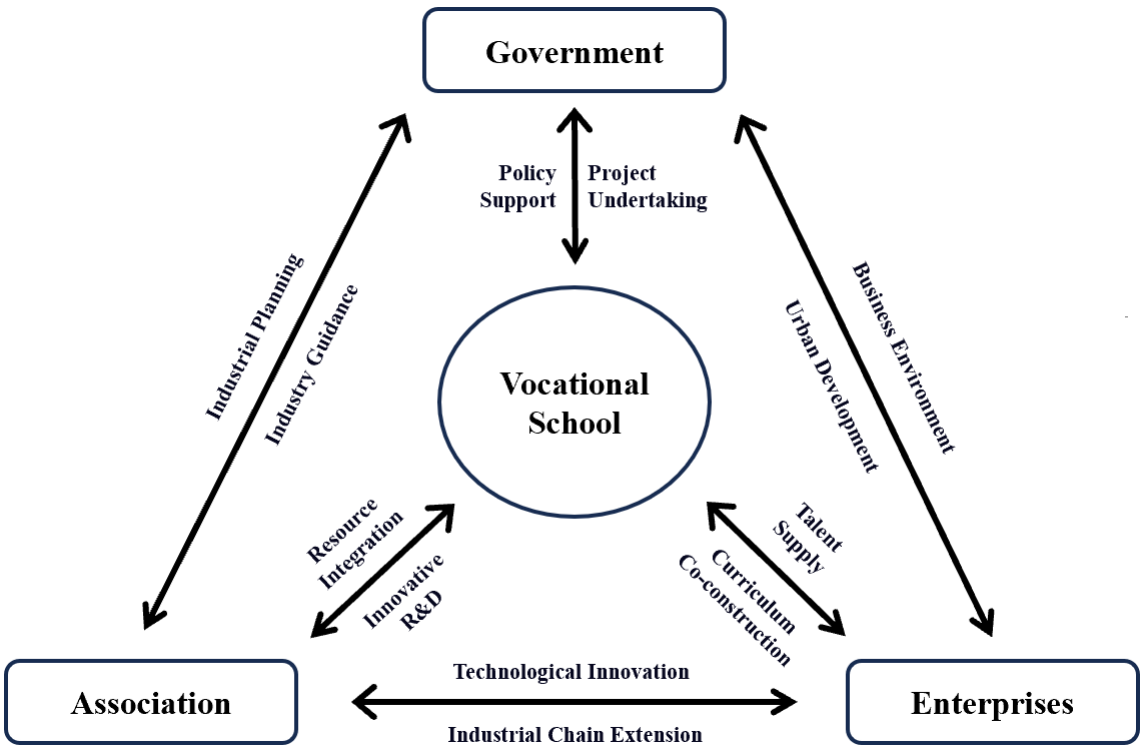
Mutual collaboration among diverse entities is pivotal for achieving resource interoperability, sharing, and complementary advantages. Leveraging its abundant social resources, the university actively engages in industry development, proactively liaises with governmental departments, industry associations, and enterprises, and establishes a resource integration platform, thereby forming an industrial chain ecosystem characterized by "quadrilateral synergy" (as illustrated in Figure 2).

**Government Synergy, Policy Guidance and Financial Support.** At the governmental level, the university closely adheres to relevant policy guidelines, actively responds to Liuzhou's "Five Ones" initiative for the River Snail Rice Noodles (River Snail Rice Noodle) industry, and proactively undertakes industry-related training projects. Through close collaboration with governmental departments such as the Bureau of Commerce and the Bureau of Human Resources and Social Security, the university has established a "River Snail Rice Noodles Industry Service Task Force," coordinating over 50 million yuan in policy support funds. These funds are primarily used to support technological upgrades, brand building, and talent cultivation within enterprises, effectively facilitating 50 enterprises in obtaining ISO certification and enhancing their management capabilities and market competitiveness. Simultaneously, the government has introduced a series of preferential policies to encourage enterprises to engage in industry-university-research cooperation with the university, fostering a favorable policy environment for the development of the River Snail Rice Noodles industry.

**University Synergy, Talent Cultivation and Supply.** The university fully leverages its core role in talent cultivation, continuously conducting River Snail Rice Noodles-related social training through a dual-track cultivation model of "concurrent education and training." In terms of academic

**Figure 2**

*A Schematic Diagram of the Industrial Chain Ecosystem Based on " Quadrilateral Synergy"*




education, the university meticulously develops boutique courses in local snack production and River Snail Rice Noodles production, emphasizing the integration of theory and practice to cultivate students' professional skills and innovative capabilities. Through these initiatives, the university continuously supplies the industry with standardized professionals of different levels and attributes, constructing a comprehensive talent matrix for the industry and providing solid talent support for the development of the River Snail Rice Noodles industry.

**Enterprise Synergy, Innovation, Entrepreneurship, and Talent Cultivation.** At the enterprise level, the university continuously nurtures and supports outstanding graduates in launching innovation and entrepreneurship activities, assisting them in establishing high-quality enterprises such as "Luobawang," "Liujiang Renjia," and "Hugui Group." Simultaneously, the university engages in in-depth cooperation with leading enterprises in the industry to jointly create the "River Snail Rice Noodles Collaborative Education Center." Here, enterprises introduce actual production projects into teaching, and university faculty members and enterprise technical backbone personnel jointly guide students in learning and practice, achieving seamless integration between teaching scenarios and production workshops. Through participation in the talent cultivation process, enterprises can obtain high-quality technical and skilled talents that meet their specific needs; the university, leveraging enterprise resources and platforms, can stay abreast of the

latest industry trends and technological developments, continuously optimizing teaching content and methodologies, and realizing a virtuous cycle of development between enterprises and the university.

**Association Synergy, Industrial Integration and Innovative R&D.** At the association level, the university actively promotes outstanding graduates and industry practitioners to establish or join non-governmental associations, leveraging the resource advantages of associations such as the Liuzhou Culinary and Catering Association and the Liuzhou Gourmet Alliance to integrate upstream and downstream industrial resources, including raw material production bases, bagged River Snail Rice Noodles processing plants, and e-commerce platforms, forming an integrated closed-loop from "cultivation-processing-sales." This full-industry-chain integration model effectively reduces enterprise operating costs, improves operational efficiency, and enhances the overall competitiveness of the industry.

Meanwhile, the university vigorously conducts innovative R&D work relying on the Li Wensen Master Studio. The studio gathers a group of top industry experts and technical talents to tackle technological challenges such as River Snail Rice Noodles preservation and taste consistency. Through unremitting efforts, it has successfully applied for 5 patents, with a technology transfer rate of 80%. These innovative achievements not only resolve technological bottlenecks in the development of the River Snail Rice Noodles industry but also provide strong technological support for its sustained innovation and development.

Liuzhou No.1 Vocational Technical School has achieved remarkable results in talent cultivation, industrial upgrading, and resource integration through the "Concurrent Education and Training · Quadrilateral Synergy" model, setting an exemplary benchmark for the development of the River Snail Rice Noodles industry. In the future, the school will continue to deepen reform and innovation, continuously optimize its talent cultivation model, strengthen cooperation and exchanges with all parties, and contribute more significantly to the high-quality development of the River Snail Rice Noodles industry.

## Achievements and Inspirations

### *Comprehensive Improvement in Talent Cultivation Quality*

**Precision Delivery of High-Quality Talents to Local Catering Enterprises.** The employment quality of graduates serves as a crucial indicator for measuring the match between talent supply and demand. The graduates of the culinary arts program at this school have achieved remarkable employment results, with a primary employment rate consistently maintained above 90% for fifteen consecutive years and an employment satisfaction rate exceeding 95%. Numerous graduates have smoothly entered local catering enterprises, with employment units extensively covering leading enterprises in the River Snail Rice Noodles (River Snail Rice Noodle) industry such as Guangxi Shanyuan Food Co., Ltd. and Guangxi Hugui Food Group. During this process, the school has not only cultivated a large number of industry elites but also produced two inheritors of the intangible cultural heritage of Liuzhou River Snail Rice Noodles, Wu Mengxue and Yang Zhi. Nearly 60% of the executive chefs and backbone employees in the local catering industry and major star hotels are graduates of this school. Relying on the professional knowledge and skills systematically learned during their time at the school, students have rapidly grown into the core forces driving enterprise development, contributing significantly to the sustained growth of enterprises.

**Graduates Becoming Core Leaders in the Development of the River Snail Rice Noodles Industry.** Outstanding graduates of the culinary arts program at this school have played a pivotal leading role in the development process of the Liuzhou River Snail Rice Noodles industry. They have not only founded and promoted the exquisite development of River Snail Rice Noodles cuisine but also actively participated in the establishment of projects such as the River Snail Rice Noodles Cultural Museum and Guangxi Weizhifang Food Technology Co., Ltd. The founders of the first batch of industrialized River Snail Rice Noodles enterprises and leading enterprises, including renowned companies such as Guangxi Luobawang Food Co., Ltd., Guangxi Shanyuan Food Co., Ltd., and Guangxi Hugui Food Group, as well as representatives in River Snail Rice Noodles industrial technology research and development and inheritors of the intangible cultural heritage of Liuzhou River Snail Rice Noodles, all hail from the culinary arts program at this school. These distinguished graduates have become industry leaders, making indelible and significant contributions to the standardized and large-scale development of the River Snail Rice Noodles industry.

**Students Demonstrating Excellent Professional Skills.** Since 1999, teachers and students from this school have repeatedly achieved outstanding results in provincial and municipal competitions related to River Snail Rice Noodles, as well as in various competitions organized by industry associations. Among these, they have won 5 first prizes, 2 second prizes, and 2 third prizes at the regional level, with a competition award-winning rate of 100%. From 2010 to 2024, teachers and students from this school participated in national and regional culinary competitions, winning a total of 9 national awards, 61 first prizes at the regional level, 116 second prizes, and 104 third prizes. The school's repeated excellent performances in various competitions fully demonstrate students' solid professional skills, outstanding innovative capabilities, and comprehensive overall qualities.

### *Promoting the Synergistic Development of Industrial Standardization and Scalability*

**Notable Achievements in Formulating and Promoting Industrial Standards**. The "River Snail Rice Noodles Production Industry Standard" and "Industrialized Food Production Quality Standard" led and formulated by the school have successfully obtained certification as local food safety standards in Guangxi (DBS45 - 034 - 2016). Meanwhile, the school has also formulated 12 local standards for Liuzhou City, which cover 80% of the production enterprises. Through the effective implementation of these standards, the product qualification rate has significantly increased from 65% before the implementation of the standards to 98%. The formulation and promotion of these standards have provided a solid institutional guarantee for the standardized development of the River Snail Rice Noodles industry, effectively enhancing product quality and market competitiveness. Taking the promotion of standards as an example, River Snail Rice Noodles enterprises strictly adhere to quality control standards during the production process, ensuring the stability of product quality and the consistency of taste, thereby enhancing consumer recognition and loyalty to the River Snail Rice Noodles brand.

**Remarkable Outcomes in Industrial Resource Integration and Synergistic Development.** By actively promoting the deep integration of upstream and downstream resources in the River Snail Rice Noodles industry, the school has facilitated the establishment of the River Snail Rice Noodles Industry Association and the River Snail Rice Noodles Industrial Park, significantly improving the production and operational efficiency of upstream and downstream enterprises and

vigorously driving the rapid and scalable development of the industry. Taking the River Snail Rice Noodles Industrial Park as an example, its establishment has achieved effective coordination in raw material supply, production and processing, sales, and other links, reducing production costs for enterprises and improving production efficiency. Meanwhile, under the organization and coordination of the industry association, enterprises have strengthened cooperation and exchanges, forming a powerful industrial cluster effect and further promoting the scalable development of the River Snail Rice Noodles industry.

### *A Leap Forward in the Brand Influence of River Snail Rice Noodles*

**Synergistic Drive of Brand Certification and Talent Cultivation for Brand Development**. The school has actively carried out professional certification work for "River Snail Rice Noodles Production Technicians," effectively promoting the implementation of industrial standards and laying a solid foundation for the standardized development of the River Snail Rice Noodles industry. Simultaneously, through extensive social training initiatives, the school has cultivated a large number of high-quality technical and skilled talents for the River Snail Rice Noodles industry, significantly enhancing its brand effects. For instance, the school conducts an average of 5,500 social training sessions annually, covering key positions such as raw material processing, production management, and e-commerce operations, and issues River Snail Rice Noodles-specific skill certifications to trainees. The employment rate of certified individuals reaches as high as 100%. Through standardized training, the skill compliance rate of enterprise employees has increased to 90%, production loss rates have decreased by 20%, and labor costs have been reduced by 30%. These achievements provide a solid talent base for industrial upgrading and further enhance the brand influence of the River Snail Rice Noodles industry.

**Complementary Integration of Cultural Tourism and Brand Promotion**. Collaborating with industry enterprises and alumni-run businesses, the school has meticulously developed cultural and tourism integration projects such as River Snail Rice Noodles cultural experience study tours and intangible cultural heritage workshops. Taking the promotion of the "River Snail Rice Noodles Cultural Experience Tour" route as an example, tourists not only get to taste authentic Liuzhou River Snail Rice Noodles but also gain an in-depth understanding of its production techniques and cultural connotations, effectively elevating the brand's visibility and reputation. This project annually attracts 100,000 visits from primary and secondary school students as well as tourists, strongly propelling River Snail Rice Noodles culture to become a significant hallmark of Liuzhou as an "internet-famous city" and further expanding the brand influence of River Snail Rice Noodles.

## Reflection and Summary

### *Project Reflection*

**Inadequate Adaptation of Teaching to Industrial Dynamics**. Despite the project's establishment of a curriculum system closely integrated with the industry, the River Snail Rice Noodles industry is in a phase of rapid development, with new technologies and demands constantly emerging. During the project implementation, the updating of teaching content has failed to fully keep pace with the rhythm of industrial changes. For instance, in emerging fields such as e-commerce operations and new media marketing, there is a disconnect between some teaching content and current practical operations, resulting in poor application of students' learned.

knowledge in real-world work scenarios. This reflects the need to improve the dynamic adjustment mechanism for curriculum development and establish more efficient channels for industrial information feedback to promptly incorporate the latest industrial trends into teaching.

**Limited Depth and Breadth of Practical Teaching**. Although the project has strengthened practical teaching links and established internship bases in collaboration with multiple enterprises, there is still room for improvement in the depth and breadth of practical teaching. Due to their own busy production tasks, some enterprises invest limited effort in guiding student internships, making it difficult for students to access core technologies and key production processes. Meanwhile, the practical teaching content mainly focuses on River Snail Rice Noodles production and manufacturing processes, with insufficient practical exploration of other links in the upstream and downstream industrial chain, such as raw material cultivation and breeding, and logistics and distribution. This limits students' opportunities to comprehensively understand the industry and is not conducive to cultivating interdisciplinary talents.

**Difficulties in Transforming Innovation and Entrepreneurship Education Outcomes**. The project attaches importance to innovation and entrepreneurship education, and some promising entrepreneurial ideas and projects have emerged. However, challenges are faced in transforming these outcomes. On the one hand, students lack resources such as startup capital and market channels, making it difficult to convert their ideas into actual products or services. On the other hand, the school's support and services in terms of entrepreneurial project incubation and market docking are not yet well-developed, leading to the premature demise of some excellent entrepreneurial projects. This indicates that innovation and entrepreneurship education require a more complete ecosystem for support, with enhanced cooperation with financial institutions, enterprises, etc., to provide students with more resources and guarantees for entrepreneurship.

**Challenges in Promoting and Supervising the Implementation of Industrial Standards**. The school has taken the lead in formulating multiple standards for the River Snail Rice Noodles industry, playing a regulatory role in its development. However, some resistance has been encountered during the standard promotion and implementation supervision process. Some small enterprises and individual industrial and commercial households lack a deep understanding of the standards and show low enthusiasm for implementation, engaging in practices such as cutting corners and illegal production. Meanwhile, the strength for standard implementation supervision is limited, making it difficult to conduct comprehensive and timely supervision of all enterprises. As a result, some non-compliant products still exist in the market, affecting the overall image of the industry and impeding quality improvement.

**Uneven Participation of "Quadrilateral Synergy" Entities**: In the "quadrilateral synergy" ecosystem involving government, enterprise, school, and association, there is an imbalance in the participation of various parties. The government has played a significant role in policy support and capital investment, but the implementation cycle of some policies is relatively long, affecting the efficiency of project promotion. Enterprises show high enthusiasm in talent cultivation and industrial innovation, but some participate in cooperation more out of their own short-term interests, lacking long-term strategic planning. Industry associations serve as a bridge in resource integration and standard formulation, but their efforts in promoting standard implementation and industry self-regulation need to be strengthened. As the main body of project implementation, the school bears significant pressure in coordinating resources and promoting cooperation among various parties, sometimes finding it difficult to fully meet the needs of all stakeholders.

### *Project Summary*

**Remarkable Achievements in Talent Cultivation, Providing Robust Support for the Industry**. Through the "Dual Approach of Education and Training with Quadrilateral Synergy" model, the project has achieved notable success in talent cultivation. The curriculum system closely integrated with the industry has equipped students with knowledge and skills in River Snail Rice Noodles production and relevant links of the industrial chain. Strengthening practical teaching links has enabled students to enhance their vocational abilities in real-world work environments. Conducting specialized social training programs for River Snail Rice Noodles has improved the quality of industry practitioners. Graduates enjoy high employment quality, supplying a large number of high-quality talents to local catering enterprises. Many graduates have become industry leaders, steering the development of the River Snail Rice Noodles industry. With outstanding professional skills, students have excelled in various competitions, providing a solid talent guarantee for industrial advancement.

**Promoting Standardized and Scalable Industrial Development, Enhancing Industrial Competitiveness**. The project has played a pivotal role in driving the standardized and scalable development of the River Snail Rice Noodles industry. The industrial standards formulated under the school's leadership, upon promotion and implementation, have significantly increased product qualification rates, ensuring the quality and taste consistency of River Snail Rice Noodles products, and elevating the industry's overall image and market competitiveness. By facilitating the integration of upstream and downstream resources and aiding in the establishment of the River Snail Rice Noodles Industry Association and industrial parks, the project has improved enterprise production and operational efficiency, propelling the rapid and scalable development of the industry, forming an industrial cluster effect, and enhancing the industry's risk-resilience in the market.

**Boosting the Brand Influence of River Snail Rice Noodles, Contributing to Local Economic Development**. Through initiatives such as brand certification and talent cultivation, as well as the integration of cultural tourism and brand promotion, the project has significantly enhanced the brand influence of River Snail Rice Noodles. Conducting professional certification for "River Snail Rice Noodles Production Technicians" and promoting standard implementation have improved the quality of industrial talents and the brand effect. The cultural tourism integration projects developed in collaboration with industry enterprises and alumni, such as River Snail Rice Noodles cultural experience study tours and intangible cultural heritage workshops, have attracted a large number of tourists, with an impressive annual visitor count. These projects have propelled River Snail Rice Noodles culture to become a significant hallmark of Liuzhou as an "internet-famous city," driving the development of local tourism, catering, and other related industries, and making important contributions to local economic development.

**Exploring New Models for Vocational Education to Serve Local Characteristic Industries, with Demonstrative and Promotional Value**. Liuzhou No.1 Vocational Technical School has provided valuable experience for vocational education to serve local characteristic industries through the "Dual Approach of Education and Training with Quadrilateral Synergy" model. This model closely aligns with the needs of local characteristic industries, integrating resources from the government, school, enterprise, and association to achieve a deep integration of talent cultivation and industrial development. This innovative model is not only applicable to the River Snail Rice Noodles industry but also offers references and insights for vocational education in other regions to

serve local characteristic industries. It holds broad demonstrative and promotional value, aiding in the coordinated development of vocational education and the local economy.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Cui, S. Q. (2025). An exploration of the development trajectory and value orientation of vocational education from the perspective of the "three attributes" of education. *China Vocational and Technical Education*, (07), 69-75+112.

Fang, X. H. (2024). A study on the promotion paths of vocational education serving the rural revitalization strategy. *Journal of Liaoning Provincial College of Communications*, 26(03), 43-46.

Gong, M. Y. (2022). An analysis of the "going viral" strategies and development approaches of Liuzhou River Snail Rice Noodles in the new media era. *Journal of News Research*, 13(12), 181-183.

Guangxi: The "Liuzhou River Snail Rice Noodles (Revised)" is officially released, and the standard system for the entire industrial chain is basically established. (2022). *China Food*, (22), 22-23.

Rao, L. X., Xu, Y. F., & Zhang, X. (2022). A brief analysis of the sustainable development status of regional characteristic agricultural product industries: Taking the River Snail Rice Noodles industry in Guangxi as an example. *Shanxi Agricultural Economics*, (10), 92-94.

Su, G. L. (2019). River Snail Rice Noodles in the wave of "standardization". *Friend of Farmers*, (04), 21.

Wang, R. R., Zhang, K., & Zhou, J. (2025). A study on the talent supply-demand match in higher vocational education based on national big data analysis. *Journal of Vocational and Technical Education*, 46(12), 67-73.

Wang, Y. F. (2025). The theoretical implications and practical approaches of industry-education integration in vocational education under the background of high-quality development. *Journal of Vocational and Technical Education*, 46(10), 52-58.

Wang, Y. L., Qian, X. S., & Zhu, J. W. (2025). The contemporary value, practical issues, and countermeasures of empowering talent cultivation in vocational education through city-level industry-education consortia. *Education and Vocation*, (08), 37-44.

Zhang, Z. P. (2022). The connotation evolution, ideal pursuit, actual state, and path selection of industry-education integration in the 2.0 era of vocational education. *Adult Education*, (3), 66-73.

## Authors' Bibliography

**Qing Qin** serves as the Head of the Culinary Arts Department at Liuzhou No.1 Vocational and Technical School. She holds the titles of Senior Lecturer and Senior Technician in Catering

Services. She has led multiple projects that have been awarded Provincial-Level Teaching Achievement Prizes and served as the chief editor for a course recognized as a National-Level Online Exemplary Course. Her primary research interests include educational tourism for primary and secondary school students, as well as vocational education in the catering and hospitality sector.

**Huiyu Wu** is currently employed at Liuzhou No.1 Vocational and Technical School, serving as a Lecturer. She holds a Master's Degree conferred by Pathumthani University in Thailand. Her primary research interests lie in specialty construction and curriculum development within vocational education, with a specific focus on Western-style pastry education.

**Chenghao Li** is currently employed at Liuzhou No.1 Vocational and Technical School as a full-time faculty member specializing in Western Culinary Arts. He graduated from Xingjian College of Science and Liberal Arts, Guangxi University, holding a Bachelor of Science degree. His primary research interests focus on specialty curriculum construction and development in vocational education, with a specific emphasis on Western culinary arts programs and curriculum design for Southeast Asian cuisine preparation.

**Han Huang** is currently employed at Liuzhou No.1 Vocational and Technical School as a full-time faculty member. She holds a Master's Degree conferred by Guangxi Normal University. Her primary research area is tourism services in vocational and technical education.

Global
Cases & Practices of
Vocational Education

ARTICLE

# From Policy Texts to Teaching Settings: Decoding the Growth Paradigm and Practical Landscape of Dual-Qualified Teachers

## Authors
Jiayi Huang, Lingxin Chen, Xiaoying Zhang, Xiaorong Chen

## Correspondence
Lingxin Chen, Email: 527298773@qq.com

Received: May 1, 2025
Revised: May 16, 2025
Accepted: June 6, 2025
Published: June 15, 2025

## Citation
Huang, J.Y., Chen, L.X., Zhang, X.Y., & Chen X.R. (2025). From Policy Texts to Teaching Settings: Decoding the Growth Paradigm and Practical Landscape of Dual-Qualified Teachers. *Global Cases & Practices of Vocational Education,* 1(1), 70-92.

Global
Cases & Practices of
Vocational Education

ARTICLE

# From Policy Texts to Teaching Settings: Decoding the Growth Paradigm and Practical Landscape of Dual-Qualified Teachers

**Jiayi Huang[a], Lingxin Chen[a], Xiaoying Zhang[a], Xiaorong Chen[b]**
[a] South China Normal University
[b] Guangdong Engineering Polytechnic

## Abstract

Over the past three decades, China's policies on "dual-qualified" teachers have evolved to establish a systematic support framework for the teaching faculty. However, grassroots practice remains mired in the paradox of "policy symbolization" and "capability hollowing." Taking five vocational institutions as case studies, this article exposes the triple fragmentation mechanisms in policy implementation, namely "rigid standards - inert collaboration - unitary evaluation," and critiques the institutional flaws of "quick-fix training" and "academic qualification orientation." The study proposes that dual-qualified teachers need to reconstruct the three dimensions of teacher growth: explicit "dual-certificate" certification, implicit cultivation of multifaceted capabilities (including Professional Expertise, Technical skills, Industry experience, Innovativeness, Internationalization/Nationalization, Research Competence) , and identity-driven motivation. It calls for the construction of a new ecosystem for the collaborative development of industry-education integration in vocational education, promoting the transformation of teachers from "dual-certificate holders" to "dynamically adaptable" professionals, thereby providing systemic solutions for the high-quality development of vocational education.

***Keywords:*** *Dual-Qualified Teachers, Vocational Education Policies, Teacher Capability Development*

## Introduction

As the reform of vocational education advances in depth, dual-qualified teachers, serving as the core nexus between industrial demands and educational supply, play a pivotal role in determining the effectiveness of industry-education integration. Despite the national policy's continuous emphasis on transitioning from "dual-certification" to "dual-competence," contradictions such as "certified but incompetent" and "superficial school-enterprise collaboration" persist in grassroots practices, reflecting a profound disconnect between policy ideals and classroom realities. While existing research predominantly focuses on macro-level policy design, there is a lack of empirical analysis on the institutional barriers hindering the differentiated implementation of policies across regions, particularly overlooking the "institutional paradoxes" in the development of teachers' competencies. To address these issues, this study conducted fieldwork in two secondary vocational

schools (ZA, ZB) and three higher vocational colleges (GA, GB, GC) from March to May 2025. Five group interviews, each lasting approximately one hour, were conducted to explore hot topics in the development of dual-qualified teachers, including their training objectives, current dilemmas, and competency characteristics. A total of 22 interviewees participated, generating over 40,000 words of qualitative data. This research delves into the current development issues surrounding dual-qualified teachers in vocational education, aiming to unveil the underlying logic of policy implementation gaps, propose dynamic and adaptive paths for teachers' self-growth, and offer practical references for the construction of vocational education faculties.

## Decoding the Policy Code: The "Dual-Qualification Gene Map" of National Strategy

The construction of China's "dual-qualified" teaching faculty has undergone over three decades of policy evolution, progressing from initial exploration to institutional refinement, and gradually forming a systematic support framework. Essentially, it represents a genetic map of dual-qualified teachers with practical empowerment as its core and dynamic adaptability as its goal, providing directional guidance and institutional safeguards for teachers' professional growth.

The evolution of policies concerning "dual-qualified" teachers in vocational education has primarily undergone four stages: the initial exploration phase, the institutional establishment phase, the in-depth development phase, and the comprehensive optimization phase. During the initial exploration phase, policies concentrated on enhancing teachers' practical capabilities and initially introduced the concept of "dual-qualified" teachers. In the institutional establishment phase, policies gradually quantified the proportion of "dual-qualified" teachers and refined the training and recruitment mechanisms. During the in-depth development phase, policies emphasized the connotative construction of "dual-qualified" teachers, driving reforms in qualification certification, school-enterprise cooperation, and evaluation mechanisms. In the comprehensive optimization phase, policies have focused on the high-level construction of the "dual-qualified" teaching faculty, reinforcing unified standards and dynamic management.

### *Initial Exploration Phase (1991–2000): Laying the Foundation for Practical Competence and the Emergence of the Concept*

In January 1991, the State Education Commission issued the "Opinions on Strengthening the Work of Regular Higher Vocational Education," which for the first time emphasized the need for teachers engaged in vocational college education to "enhance their professional practical competence" and incorporated practical experience into the criteria for professional title evaluations (State Education Commission of the People's Republic of China, 1991). In December 1995, the State Education Commission issued the "Notice on Launching the Work of Building Demonstrative Vocational Universities," in which the concept of "dual-qualified" teachers in vocational education was first introduced in policy documents (State Education Commission of the People's Republic of China, 1995). Taking this document as a benchmark, the policy on "dual-qualified" teachers in vocational education entered its initial exploration phase.

During the period from 1995 to 1997, policies started to explicitly mandate that specialized course teachers in vocational education should possess "dual-qualified" qualifications, necessitating

vocational colleges to have a certain proportion of faculty members with industry experience (former State Education Commission, 1997). In January 2000, the Ministry of Education issued the "Opinions on Strengthening the Work of Cultivating Talents in Higher Vocational and Specialized Post-Secondary Education," which proposed the training objective of "dual-qualified" teacher status, encouraging educators to acquire professional certifications and participate in enterprise-based practical experiences (Ministry of Education, 2000). However, there has yet to be a clear narrative or explanation regarding the specific connotation of "dual-qualified" teachers in vocational education. An elucidation of the scope of recognition, the procedures for recognition, the criteria for recognition, and the safeguards for such recognition is notably absent (Xu & Yuan, 2024).

During this phase, policies took practical competence as the entry point, supplemented by symbolic advocacy (such as encouraging school-enterprise cooperation), and initially constructed the standards for "dual-qualified" teachers through qualification certification and school-enterprise collaboration.

### *Institutional Establishment Phase (2001-2010): Quantitative Allocation and System Construction*

In 2000, the "Opinions on Strengthening the Work of Cultivating Talents in Higher Vocational and Specialized Post-Secondary Education" issued by the Ministry of Education outlined plans to organize teachers to participate in social practice and encouraged those engaged in vocational education to obtain corresponding vocational certificates or technical grade certificates (Ministry of Education, 2000). In 2001 and 2002, the Ministry of Education required secondary and higher vocational colleges to increase the proportion of "dual-qualified" teachers to "a certain percentage," encouraged the recruitment of technical talents from enterprises, deepened the implementation of educational qualification attainment rates, and promoted the enhancement of educational levels (Ministry of Education, 2001, 2002). Meanwhile, schools were advised to give preferential treatment to teachers with "dual-qualified" attributes in terms of job promotion and salary increases (Ministry of Education, 2002). In September 2004, the Ministry of Education, along with five other departments, issued the "Several Opinions on Further Strengthening Vocational Education Work," proposing that teachers should undertake two months of practical experience in enterprises annually, which would be a prerequisite for promotion (Ministry of Education et al., 2004). In 2006, the "Several Opinions on Comprehensively Improving the Teaching Quality of Higher Vocational Education" issued by the Ministry of Education mentioned the gradual establishment of a "dual-qualified" teacher qualification certification system (Ministry of Education, 2006). Furthermore, the "National Outline for Medium- and Long-Term Educational Reform and Development Plan" in 2010 promoted the joint construction of training bases by schools and enterprises (Office of the Working Group for the National Outline for Medium- and Long-Term Educational Reform and Development Plan, 2010).

During this phase, incentive policies and capacity-building policies (such as the joint establishment of training bases by schools and enterprises) began to be introduced. The focus shifted from mere qualification requirements to the construction of a recognition system, forming a trinity training framework that integrates "practical experience + certificates + training."

### *Phase of Deepened Development (2011-2020): Refinement of Standards and Innovation-Driven Progress*

Starting from 2011, the Ministry of Education and the Ministry of Finance mandated the cultivation of a highly qualified and professionalized "dual-qualified" teacher workforce as a goal (Ministry of Education et al., 2011), setting a quantitative target for the proportion of "dual-qualified" teachers to exceed 50%. A framework for the cultivation and training of "dual-qualified" teachers was gradually constructed, requiring regular undergraduate institutions to establish vocational and technical education colleges (Ministry of Education, 2011). From 2014 to 2019, teacher qualification standards were progressively refined, and professional standards for teachers were implemented (State Council, 2014). Support was provided for the effective operation of "dual-qualified" master teacher studios and platforms for the inheritance and innovation of teachers' craftsmanship and skills (State Council, 2017). The enterprise practice system was further detailed in policies, mandating "five-year cyclic comprehensive training" for teachers and initiating the construction of "structured teacher innovation teams," emphasizing teacher collaboration and modular teaching capabilities (State Council, 2019). In September 2020, the "Action Plan for Improving the Quality and Cultivating Excellence in Vocational Education" proposed the abolition of the "five exclusives" evaluation tendency, incorporating enterprise project experience into promotion criteria (Ministry of Education et al., 2020).

During this phase, a comprehensive approach was adopted by integrating hybrid policy instruments (such as preferential performance-based pay, enterprise practice systems, and master teacher studios) with the reconfiguration of teacher evaluation mechanisms. The focus shifted from merely meeting quantitative targets to enhancing quality, emphasizing the cultivation of a composite skillset integrating "technical proficiency + innovation" under a standardized training and evaluation system.

### *Phase of Comprehensive Optimization (2021-Present): High-Quality Development and Dynamic Adaptation*

In October 2021, the General Office of the State Council issued the "Opinions on Promoting the High-Quality Development of Modern Vocational Education," explicitly formulating national standards for "dual-qualified" teachers. These standards stipulate that teachers must possess both "professional teaching capabilities" and "practical guidance capabilities," and introduce practical assessment modules such as "enterprise project design" and "technological achievement transformation" into the national teacher qualification examination (State Council, 2021). In 2022, the Ministry of Education promulgated detailed rules for the recognition of "dual-qualified" teachers, requiring provincial-level coordination of the recognition process and insisting that teachers' professional ethics and conduct serve as the primary criterion for evaluating their capabilities and qualities as "dual-qualified" teachers (Ministry of Education, 2022). The 2023 "Management Measures for Part-Time Teachers in Vocational Schools" mandate that technical backbone personnel from enterprises undertake responsibilities for "cultivating dual-qualified attributes," deepening the mechanism of mutual hiring between schools and enterprises (Ministry of Education et al., 2023). Regarding the teacher cultivation and training system, policies explicitly outline a three-dimensional framework comprising "school-enterprise co-construction of training bases + comprehensive rotation training for all staff + targeted cultivation." They continue to mandate comprehensive rotation training for all staff every five years, support the transformation of

higher vocational colleges into vocational and technical teacher education colleges, and rely on high-level engineering institutions to cultivate teachers by discipline. Simultaneously, these policies strengthen enterprise practice and the construction of teaching innovation teams.

During this phase, policies are guided by dynamic adaptation, emphasizing a four-dimensional teacher development ecosystem characterized by "prioritizing teachers' ethics, standardizing criteria, school-enterprise collaboration, and lifelong development."

Through four iterative phases of upgrading, China's "dual-qualified" teachers have seen a gradually constructed, comprehensive support system encompassing the entire chain of their development through policy initiatives. Despite the rigorous logic underlying this policy framework, there remains a potential for fragmentation in its grassroots implementation. When the ideal blueprint of top-level design clashes with regional disparities, industrial demands, and implementation inertia, the deep-seated contradictions in the cultivation of "dual-qualified" teachers gradually surface.

## Bridging the Textual Divide: A "Spectrum of Dual-Qualified Teacher Dilemmas" in the Teaching Arena

### *The Disparity Between Policy Requirements and Practical Implementation (A Case Study of Five Interviewed Institutions)*

Through field research conducted at five institutions (Table 1), it has been found that there exist structural discrepancies between the implementation outcomes of the "dual-qualified" teacher policy at the institutional level and the policy objectives. Specifically, the following disparities have been identified:

Amidst the tension between the rigidity of standards and the diversity of industries, national policies emphasize a dynamic evolution from "dual certificates" to "dual competencies" and further to "multidimensional capabilities," requiring teachers to possess the ability to integrate industry and education as well as the capacity for technological achievement transformation. Particularly for emerging majors such as artificial intelligence and new energy, flexible and adaptable recognition guidelines need to be formulated. However, there exists a notable disconnect in the implementation process in Guangxi: the recognition standards are uniformly prescribed by the government, with schools passively executing them, lacking differentiated guidelines tailored to characteristic majors like intelligent terminals and robotics. For instance, in Guangxi vocational colleges (GB), teachers' achievements are still predominantly evaluated based on traditional teaching outcomes, while contributions to enterprise benefits and technological research and development are not adequately incorporated into the evaluation system. The contradiction between the "one-size-fits-all" policy design and the diverse needs of regional industries results in the failure to effectively reflect teachers' actual industry value.

In the contradiction between meeting quantitative targets and enhancing quality, Guangxi's provincial policies explicitly stipulate that the proportion of "dual-qualified" teachers in secondary vocational schools' specialized course faculties should exceed 80%, with a focus on recruiting young teachers and optimizing the faculty structure. Although Guangxi has achieved the quantitative benchmark (for instance, 81% of teachers in vocational college GB are dual-qualified), there exist underlying structural risks. Firstly, the age structure of the faculty is aging, with an

insufficient proportion of young teachers. A high reliance on seasoned, veteran educators raises concerns about future sustainability. Secondly, newly recruited teachers are required to accumulate experience through training labs, yet the training content often diverges from real-world industrial demands, resulting in a prolonged period for capability transformation. Consequently, new teachers struggle to promptly adapt to the teaching requirements that integrate industry and education, exposing an imbalance in policy implementation between short-term compliance and long-term capacity building.

In the tension between formal compliance and substantive effectiveness, while policies encourage the recruitment of high-level technical talents from enterprises and advocate for flexible hiring strategies, the implementation in Guangxi encounters multiple barriers. On one hand, due to disparities in remuneration and staffing constraints, enterprise technical pillars exhibit high mobility, making it challenging for them to commit to long-term tenures. Institutions of higher learning still rely heavily on government-set certification standards for recruitment, overlooking the alignment between actual teaching capabilities and industry experience. On the other hand, the evaluation mechanism has become oversimplified. As one interviewee remarked, "Once certificates are linked to the 'dual-qualified' status, teachers identified as such must possess certification levels obtained through examinations administered by the Ministry of Human Resources and Social Security" (ZB02). This has led to an excessive focus on certification levels rather than on teaching transformation abilities, resulting in some teachers being "certified but incompetent," thereby compromising teaching quality. This contradiction between policy orientation and implementation reflects deeper issues such as insufficient synergy between schools and enterprises and the absence of market-oriented incentive mechanisms.

It is worth noting that in terms of the iteration speed of vocational education policies, "the frequency of updates for high-profile national policies is relatively more rapid compared to basic education, implying that policies and requirements are in a constant state of flux and adjustment" (ZB01). Against this backdrop, the vocational teacher cohort not only has to meet the stringent requirements for "dual-qualified" capacity building but also needs to continuously keep abreast of policy orientations and promptly respond to institutional changes in areas such as teaching reform and the integration of industry and education. This poses an ongoing challenge to teachers' learning adaptability.

### *Academic Debate: The "Competency Trap" and Institutional Paradox in the Cultivation of "Dual-Qualified" Teachers*

The disparity between the ideal vision of policy design and grassroots practice not only reflects issues at the implementation level but also reveals deeper logical contradictions in the cultivation model of "dual-qualified" teachers. Professor Xu Guoqing from East China Normal University, in his article "Dual-Qualified Teachers Cannot Be Cultivated" (Xu, 2024), acutely points out that "the attempt to 'create' dual-qualified teachers through short-term enterprise practice or training essentially reduces the complex process of competency development to a mere formal label." His critique primarily focuses on two aspects:

**The Temporal Paradox of Competency Development.** Xu Guoqing argues that genuine "dual-qualified" teachers should possess five key skill characteristics: functionality, systematicity, scientificity, diversity, and innovativeness. These competencies are typically cultivated through long-term practical experience in enterprises (spanning at least 5-10 years), coupled with

**Table 1:**
*Interviewee Information*

| | Institution Code | Interview Date | Region | Interviewee & Position | Personal Code |
|---|---|---|---|---|---|
| 1 | ZA | 2025.03.27 | Guangxi | Vice President, Director of Academic Affairs Office, Secretary of the Party Branch of the Business School, Dean, and Director of the Culinary Technology and Management Department | ZA01-ZA04 |
| 2 | ZB | 2025.03.28 | Guangxi | Director of Academic Affairs, Deputy Director of the Cultural Tourism Department and Relevant Functional Departments, Department Head | ZB01-ZB05 |
| 3 | GA | 2025.03.27 | Guangxi | Deputy Director of Academic Affairs and Training Management Office, Dean of the Tourism and Wellness College, Vice Dean of the School of Architecture and Art Design, Teachers and Relevant Responsible Persons of the Tourism and Wellness College | GA01-GA04 |
| 4 | GB | 2025.03.27 | Guangxi | Vice President, Director of Academic Affairs Office and Relevant Department Heads | GB01-GB08 |
| 5 | GC | 2025.05.08 | Guangdong | Hotel Management and Digital Operations Teacher at the School of Cultural Tourism | GC01 |

continuous reflection. However, current policies rely on short-term measures such as "teachers' enterprise internships" and "five-year rotational training," which only enable teachers to acquire fragmented operational skills or superficial industry insights. Such approaches fall short of nurturing teachers' profound understanding of technological principles or their innovative capabilities. This "crash-course cultivation" results in teachers being "certified but incompetent," with classroom

teaching descending into a "hollow" predicament.

**The Institutional Shackles of Academic Credentialism.** Despite policies advocating for the recruitment of technical talents from enterprises, the hiring practices in vocational colleges remain constrained by a "credentialism" mindset. Xu Guoqing points out that "high academic qualifications do not equate to high technical proficiency." For instance, there is a widespread requirement for master's degrees among secondary vocational school teachers and doctoral degrees for higher vocational college teachers. However, technical pillars in enterprises often possess lower academic qualifications. As a result, to meet the academic qualification thresholds, institutions are compelled to forgo candidates who genuinely possess practical experience. This "academic qualification first" hiring rule fundamentally conflicts with the "competency first" requirement for dual-qualified teachers.

Xu Guoqing's critique is corroborated by the interview cases in Guangxi: Although higher vocational colleges (GA) have introduced industrial robot projects through school-enterprise cooperation, teachers find it difficult to independently complete equipment debugging due to insufficient practical experience and thus rely on assistance from enterprise engineers; meanwhile, despite meeting the dual-qualified teacher ratio requirement through "certification," higher vocational colleges (ZB) find that the newly established colleges related to digital fields cannot match the skills of their teachers, leading to teaching that lags behind industrial demands. Furthermore, in recruitment, preference is given to graduates from traditional institutions such as Xi'an Jiaotong University and Beijing Jiaotong University. However, newly hired teachers lack frontline experience and require an additional two years of enterprise internships to become competent in teaching, further exacerbating the dilemma of "dual-qualified yet dual-incompetent" teachers. This contradiction reveals a fundamental proposition: the essence of dual-qualified teachers lies in being "experience-based talents" rather than "academic credential-based talents.“

## *Reconstructing the "Growth Code": Three Dimensions of Cultivating Dual-Qualified Teacher Competency*

The current challenges faced by Liuzhou in implementing policies, whether it be the imbalance in the age structure of teachers, the difficulty in quantifying the transformation of achievements, the barriers to talent recruitment, or the inadequacy of the training system, all fundamentally point to the construction and development of the "dual-qualified" teacher workforce. Through a review of the literature, it is found that existing research on "dual-qualified" teachers mostly adopts a macro perspective, focusing on policy-oriented discussions on topics such as the reform of the training system for "dual-qualified" teacher workforce construction (Xu & Yuan, 2024), the improvement of evaluation and incentive mechanisms (Liu, Jin et al., 2025), and the enhancement of the teacher professional development mechanism system (Cai, 2024). However, there is relatively less research from a micro perspective on the self-development of "dual-qualified" teachers' competencies. Most of these studies have merely touched upon the quality requirements of "dual expertise and dual competence" for "dual-qualified" teachers (Feng & Zhang, 2017) and teacher competency (Wang, 2022). There is a dearth of literature that systematically explores the self-growth pathways of "dual-qualified" teachers.

Furthermore, we must acknowledge that simply optimizing and refining policy frameworks, evaluation criteria, training systems, and incentive mechanisms is inadequate to transcend these predicaments. The crux lies in each individual who aspires to become a "dual-qualified" teacher

predicaments. The crux lies in each individual who aspires to become a "dual-qualified" teacher gaining a profound awareness of their own developmental path and the competencies and attributes they need to nurture. This self-awareness is pivotal for aligning more effectively with industrial sectors and adapting to the evolution and innovations within vocational and technical education. Consequently, this paper delineates a threefold dimensional approach to forging "dual-qualified" competencies, encompassing the acquisition of tangible "dual certifications," the cultivation of intangible multifaceted capabilities, and the construction of a deeply rooted, internally motivated Professional Recognition These dimensions form a layered, interconnected, and externally propelled yet internally driven competency development system, which is instrumental in the construction of a "dual-qualified" teaching cadre. This, in turn, better caters to the emerging demands for technically skilled personnel in economic and social development.

**Explicit Characteristics: Dual Certifications.**

***Teacher Qualification Certificate: The Key to Educational and Teaching Access.*** The Teacher Qualification Certificate serves as a fundamental prerequisite for engaging in educational and teaching work. It represents a tangible acknowledgment of a teacher's theoretical knowledge and basic teaching skills in the field of education, and moreover, it functions as the "entry threshold" for the teaching profession (Ministry of Education, 1995). In the realm of vocational education, while the teaching of practical skills holds significant importance, theoretical instruction is equally indispensable. A teacher's solid teaching capabilities enable them to employ appropriate pedagogical methods to impart abstract theoretical knowledge to students in a vivid and accessible manner, thereby assisting students in constructing a comprehensive knowledge framework and providing theoretical underpinnings for the acquisition of practical skills. For instance, when elucidating the consumption psychology of tourists, a teacher may utilize the case study teaching method, integrating actual tourist behaviors observed in real-world travel scenarios to guide students in analyzing the underlying psychological factors. This approach not only stimulates students' interest but also deepens their understanding of theoretical knowledge, ultimately enhancing their ability to apply theoretical knowledge to resolve practical problems.

***Vocational Skill Level Certificates: A Robust Testimony to Industry Practical Competence.*** "Dual-qualified" teachers are required to demonstrate their professional competence in industry practice through vocational skill certifications, which serve as a significant marker distinguishing them from ordinary teachers (Dong & Luo, 2024). Vocational skill level certificates not only attest to a teacher's professional capabilities but also act as a bridge connecting teachers with the industry. These certificates enable teachers to stay abreast of industry technological requirements, integrate industry standards and occupational norms into their teaching content, and cultivate talents that meet industry demands. "These certificates necessitate teachers to undergo relevant training, enhancing their abilities in both teaching and practical skills, which they can then apply in our teaching to improve students' learning outcomes in technical skills," (ZB01). During the teaching process, teachers can impart the practical experience and professional knowledge they have accumulated while obtaining these certificates to students. Their firsthand demonstrations allow students to be exposed to authentic industry work scenarios in the classroom, thereby enhancing students' practical abilities and their adaptability to job roles.

In practical terms, the evaluation of "dual-qualified" teachers is often closely linked to the possession of "dual certifications." As one interviewee put it, "For a teacher to be recognized as 'dual-qualified,' they must hold a certificate issued by the Ministry of Human Resources and Social

Security at a certain level before they can apply for the 'dual-qualified' status" (ZB01). However, there are still institutions that regard the acquisition of "dual certifications" as the sole criterion for identifying "dual-qualified" teachers. While this approach may rapidly increase the proportion of "dual-qualified" teachers numerically and meet the national evaluation requirements, it merely emphasizes the external qualifications of "dual-qualified" teachers in a formalistic manner, failing to fulfill the requirements in terms of their competencies and qualities (Feng & Zhang, 2017).

**Implicit Traits (External Driving Force): Cultivation of Multifaceted Competencies.**

***Professional Expertise: The Cornerstone of Teaching.*** Disciplinary professional knowledge, along with pedagogical knowledge and industry-specific practical knowledge (the latter corresponding to the "acquisition of dual certifications"), constitutes a crucial dimension of the competency profile for "dual-qualified" teachers. The organic integration of these three facets is pivotal for achieving effective teaching (Wang, 2022). A solid foundation in professional expertise serves as the bedrock upon which "dual-qualified" teachers base their pedagogical endeavors, forming a prerequisite for effective teaching. For instance, in the field of tourism management, teachers are required to possess in-depth knowledge spanning multiple disciplines, including tourism studies, management, and economics, thereby forming a systematic and comprehensive knowledge framework. This enables them to dissect the underlying causes of phenomena from multiple perspectives during case study instruction. Furthermore, in the wake of rapid technological advancements, particularly the development of artificial intelligence, and the swift evolution of the times, "dual-qualified" teachers must continuously update and enrich their professional expertise. They should stay abreast of industry trends and cutting-edge research findings, integrating new knowledge into their teaching to ensure that students' learning remains contemporary and better aligned with the developmental needs of the industry.

***Technical Skills: The Core of Practical Teaching***. Practical operational capabilities constitute one of the core competencies of "dual-qualified" teachers, directly influencing the effectiveness of cultivating students' vocational skills. Only when "dual-qualified" teachers themselves possess proficient technical operational abilities can they effectively guide students in their practical learning, ensuring that the skills students acquire in school align with the actual job requirements of enterprises. Consequently, numerous institutions adopt training approaches to further enhance teachers' technical skills. "Technical personnel must provide our teachers with repeated training sessions" (GA01). "In our efforts to cultivate a teaching faculty, we encourage young teachers to delve into new technologies" (GA03). "We also offer relevant training during our tenure, including national and provincial-level training programs during regular holidays and summer vacations" (GC01). For instance, in the realm of hotel services, teachers are expected to be proficient in guest room service skills, encompassing operational procedures such as room cleaning, linens change, and guest reception. They should also master catering service skills, including restaurant table setting, order-taking services, food delivery, and beverage services, as well as the operation and maintenance of hotel equipment and facilities. During practical training sessions, teachers guide students in restaurant table setting exercises. By meticulously explaining and demonstrating aspects such as the sequence of tableware placement, spacing, and napkin folding techniques, teachers enable students to master standardized catering service skills through practice, thereby elevating their practical operational proficiency and laying a solid foundation for their future careers in the tourism industry. Moreover, teachers should remain vigilant about industry technological trends,

continuously upgrading their own technical skill levels, and integrating the latest technologies and craftsmanship into their teaching, thereby nurturing high-caliber technical talent that meets the demands of the new era.

***Industry Experience: The Linchpin for Integrating Theory with Practice.*** In the process of deepening the integration of industry and education in vocational education, the industry experience of "dual-qualified" teachers undoubtedly serves as a crucial link for achieving a profound integration of theory and practice. Possessing work experience in the industry enables "dual-qualified" teachers to gain an in-depth understanding of the actual operations of enterprises and the latest industry trends, thereby bridging the gap between schools and enterprises. At the practical level, numerous institutions have established stable practical platforms. "We select outstanding enterprises and designate them as our teacher training bases" (ZA01). Through hands-on work experiences, such as "new teachers being required to undertake temporary assignments in enterprises" (GB01) and "teachers spending two months each year in enterprises for temporary assignments" (ZB01), teachers' practical experiences are enriched, helping them to discern the dynamics of industry development. This, in turn, enables teachers to accurately grasp the competency requirements of the industry for talents, thereby cultivating students' vocational abilities in a targeted manner during teaching. Furthermore, teachers can leverage their industry resources to provide students with internship and employment opportunities, inviting enterprise employees to deliver lectures at the school and guide practical teaching. "Employees within enterprises act as mentors to our students; in essence, they assume dual roles, being both mentors in the enterprise and teachers in our school" (ZA01). "Teachers are mentors, and mentors are teachers; it is a mutually enriching process for both parties" (ZA02). In this way, teachers and enterprise personnel form a growth community characterized by bidirectional empowerment (a school-enterprise community), achieving profound sharing of resources between schools and enterprises, fostering in-depth cooperation between them, and truly realizing a seamless alignment between talent cultivation and enterprise demands (Jia & Liang, 2015). Therefore, teachers' industry work experience not only enhances their personal capabilities but also acts as a bridge between schools and enterprises, promoting the in-depth development of industry-education integration and injecting more practical elements into vocational education.

***Internationalization/Nationalization: Broadening Teaching Horizons.*** In the contemporary era characterized by globalization and cultural diversity, the capabilities of internationalization and nationalization are of paramount importance for "dual-qualified" teachers. These capabilities serve as crucial tools for teachers to broaden their teaching horizons and elevate the quality of their instruction, adapting to the distinctive developmental goals of vocational colleges that evolve with the times.

With the internationalization of various industries, the wave of vocational education going global has been continuously rising. Various vocational colleges (such as ZA and ZB, secondary vocational schools in Guangxi) have successively launched international education programs. "In the future, there may be integrated cooperation with overseas enterprises" (ZA02). "Our school-initiated internationalization efforts in 2019. As a result, our teachers have undergone some international training in terms of faculty development, and all of them possess international certification credentials" (ZB02). "Currently, teachers' international literacy has also become a key cultural competency to be enhanced" (GB01). "We integrate domestic and international education in multiple forms" (GB03). "We also engage in extensive Sino-foreign cooperative education

programs, attracting international students to study here" (GC01). These initiatives include projects such as the China-Laos Luban Workshop and the China-ASEAN Community for the Integration of Production and Education, enabling not only the "import" but also the "export" of curriculum resources and technical skills. This also necessitates that "dual-qualified" teachers possess an international perspective and be well-informed about the development trends and cutting-edge technologies in the international market of their respective industries.

Moreover, the professional identity of "dual-qualified" teachers is characterized by its "humanistic" nature. Integrating ethnic cultural elements into teaching serves as a crucial avenue for achieving cultural inheritance and innovation (Xue & Su, 2021). As expressed by an interviewee, "One province, one service" means that when operating a school in Guangxi, we should serve the pillar industries of Guangxi well. Schools established in Liuzhou should cater to the industries and enterprises of Liuzhou" (ZB02). To better serve the characteristic industries in Guangxi based on local conditions, higher vocational colleges in Guangxi (GA) have adopted ethnic characteristics as their school-running features. They have established research societies for traditional intangible cultural heritage craftsmanship and designed a series of products with ethnic characteristics. Secondary vocational schools in Guangxi (ZB) have, in particular, pioneered an innovative educational model by integrating intangible cultural heritage (ICH) elements, known as the "Five Integrations, Four Entities, and Three Advancements" model for the modern inheritance of the "The Five Matriarchs of the Dong People" ICH. This model fully embodies the distinctive features of ethnic vocational education, earning them national-level teaching achievement awards in the field of vocational education. The cultivation of both internationalization and nationalization capabilities of "dual-qualified" teachers not only enhances students' overall competencies but also enriches the teaching content with unique characteristics and profound cultural connotations. This approach not only aligns with the development goals of schools aiming for distinctive educational identities but also propels the innovative development of disciplines and institutions.

***Innovativeness: The Key to Adapting to Industry Transformations.*** Innovativeness stands as a pivotal competence for "dual-qualified" teachers to adapt to the rapid transformations within the industry. This encompasses two main facets: digital literacy capabilities and the capacity for innovation in teaching competitions.

In the context of the digital era, the education sector should embrace technological advancements with an open mindset, leveraging the applications of artificial intelligence (AI) and emerging technologies in teaching to vigorously promote the digital transformation of vocational education and enhance teachers' innovative capabilities and teaching quality (Li, 2025). Digital literacy has thus emerged as one of the essential competencies for "dual-qualified" teachers. "In the forthcoming construction of supporting professional programs, teachers are also required to possess digital competencies, which is also referred to as the enhancement of AI-related qualities" (GB01), with the aim of facilitating the intelligent reform of educational models. However, there is a dilemma as mentioned by an interviewee (GA02): "We've bought the machines, only to find them gathering dust, unable to be integrated into our classroom teaching, and we're also in the dark about their full capabilities." "Dual-qualified" teachers should actively embrace new technologies, cultivate a lifelong learning attitude, take the lead in acquiring and mastering emerging technologies, and innovate teaching methods. For example, applying VR virtual simulation technology in tour guide training courses can significantly enhance students' interpretation skills; integrating DeepSeek in tourism planning projects; and utilizing word cloud diagrams during

brainstorming sessions in courses. Furthermore, propelled by the transformation in assessment methods, "current teacher evaluations also assess whether digital education reform tools and technologies are utilized to analyze students' pre-class learning conditions" (ZB02). Teachers should strive to introduce cutting-edge technologies into the classroom, scientifically evaluate the rationality of curriculum content and segment design, and ultimately improve teaching effectiveness and students' engagement in class.

Vocational education places significant emphasis on skills and technical competitions. "There have been adjustments in the requirements of the current National Technical Skills Competition. For the secondary vocational school group, the focus has gradually shifted from merely skills-based proficiency to incorporating an increasing emphasis on innovation" (ZB01). "In the evaluation of teacher skills competitions, attention is paid to whether the course content aligns with new industry trends, methodologies, and technologies" (ZB02). This necessitates that teachers possess keen insights during the guidance process. They are required not only to stay abreast of the latest industry trends and hot topics but also to seamlessly integrate them into the competition entries, offering innovative and creative guidance. By participating in such competitions, students not only enhance their professional skills but also cultivate innovative thinking and teamwork abilities. Meanwhile, "dual-qualified" teachers continually improve their own innovative capabilities and guidance expertise throughout this process.

***Research Competence: The Driving Force for Advancing Teaching and Industry Development.*** Research competence serves as a differentiating competency for "dual-qualified" teachers, distinguishing outstanding educators from ordinary ones. It stands as the core impetus for promoting teaching reform and industry advancement (Wang, 2022), manifesting in two primary dimensions: pedagogical research and research within their specialized fields.

In the realm of pedagogical research, teachers are required to continuously engage in scholarly inquiry, actively exploring teaching methodologies, curriculum systems, and talent cultivation models that are tailored to the specific needs of vocational education within their respective disciplines (Xu, 2019). For instance, they may investigate how to apply project-based learning, case-based teaching, and situational simulation teaching methods in specialized course instruction to enhance students' learning motivation and practical skills. Additionally, they explore how to construct a curriculum system grounded in the work process, ensuring that course content closely aligns with the actual demands of industry positions. Through the application of pedagogical research findings, teachers continually refine the teaching process and elevate the quality of education.

In the context of research within their specialized fields, teachers are expected to remain vigilant about the hot-button and challenging issues plaguing the industry. "Our university places significant emphasis on research tasks, imposing substantial requirements on us in this regard" (GC01). Through in-depth research endeavors, teachers aim to furnish theoretical underpinnings and viable solutions to propel industry development and drive innovation in teaching content. This, in turn, fosters a profound integration between teaching and research activities.

**Intrinsic Traits (Intrinsic Motivation): Identity Recognition.** Teacher identity recognition represents a recurrent process and outcome through which teachers, as individuals, engage in reflective thinking about their identity and occupation during interactions, and reconstruct the meaning of their occupation (Yang, 2021). It holds paramount importance for their self-development. "I have been working at a secondary vocational school for 17 years, and I find myself

increasingly passionate about my profession. I believe I have developed a profound sense of identity with it" (ZB02). Positive emotional feedback from work can enhance teachers' socio-emotional competencies and exert a positive influence on their work engagement (Fan & Xu, 2024). Teachers with a strong sense of identity recognition are more adept at perceiving changes in the educational environment, proactively adjusting their teaching strategies, and achieving resonance between their self-development and the development of education.

In the field of vocational education, "dual-qualified" teachers are required to possess dual identities from both the vocational institutions and the industry, thereby forming a "dual-identity" recognition mechanism for their professional growth (Pan, 2025). Drawing reference from the dimensions of its measurement scale, this paper further elaborates on identity recognition by dividing it into four major dimensions: role recognition, occupational efficacy, community cohesion, and work engagement. The aim is that after "dual-qualified" teachers recognize their identities, they can accurately anchor their functional roles, generate endogenous motivation for teaching innovation, acquire sustainable momentum for career development, and thus form a spiral upward development path.

***Role Recognition: Clarifying Responsibilities of Multiple Identities.*** Role recognition marks the initial step in identity formation. Vocational teachers must first comprehend their professional roles, encompassing both their roles as vocational educators and their roles within the social division of labor pertaining to their expertise. After gaining a profound understanding of their professional identities, vocational teachers will conduct a self-assessment of their careers. This process may evoke both positive and negative emotions. Only when positive emotions are abundant and stable does professional identity emerge (Pan, 2025). Consequently, role recognition serves as a crucial foundation for the identity recognition of "dual-qualified" teachers, necessitating that teachers clearly define their multiple roles in teaching, practical guidance, and students' career planning. Within the intricate landscape of vocational education, "dual-qualified" teachers are required to seamlessly transition between different roles, each of which carries distinct responsibilities and missions. It is not merely about recognizing their roles as teachers but also about attaining professional recognition within their respective industrial domains (ZA04).

The professional identity of "dual-qualified" teachers is characterized by both "pedagogical" and "molding" attributes (Xue & Su 2021). Teachers must recognize that they are not only disseminators of knowledge but also instructors of practical skills and guides for students' career development. In the classroom teaching setting, teachers assume the role of knowledge transmitters, responsible for conveying systematic professional knowledge to students in a clear, accurate, and vivid manner. At training bases, teachers transition into the role of practical mentors, guiding students through practical training, demonstrating practical techniques, and explaining practical details, thereby cultivating students' professional qualities and practical abilities through the process of error correction and adjustment. During the students' internship and employment phase, teachers become career guides. They need to gain a deep understanding of each student's personality traits, professional skill levels, and career interests, while maintaining close communication with numerous enterprises to gather information on job requirements, corporate cultures, and development prospects. By continually adjusting the key and difficult points in teaching, teachers provide assurance to help students better adapt to internship work. The clarity of role recognition directly influences teachers' level of engagement in teaching and the effectiveness of their instruction. Only by clearly defining their multiple roles can teachers maximize their effectiveness

in different teaching scenarios and cultivate high-quality talents that meet industry demands.

***Professional Efficacy: Enhancing Teaching Confidence and Motivation.*** Competence serves as a crucial guarantee for an individual's work efficiency. The higher the competence level, the better the performance and the greater the enthusiasm for work. This passion is intricately linked to the establishment of one's professional identity (Pan, 2025). In the field of education, teachers' competence and professional passion are often transformed into concrete occupational efficacy through their perception of their own professional roles. Occupational efficacy refers to the firm belief that "dual-qualified" teachers hold regarding their ability to effectively enhance students' vocational competencies. It represents a subjective cognition of teachers about their own teaching effectiveness and professional influence (Bandura, 1997). This belief does not emerge spontaneously; instead, it is rooted in the students' outstanding performance and positive feedback throughout their internships, employment, and career advancement. When students receive high recognition from enterprises during their internships, such as winning awards in national technical and vocational skills competitions or being praised during the internship, teachers can directly perceive the fruits of their teaching, thereby bolstering their sense of occupational efficacy. "Amidst the demands for diversity and multi-skilled competencies, and within the intense internal competition, I have been making steady progress, achieving a certain sense of accomplishment. I feel both exhausted and joyful," (ZB02) This sense of efficacy not only validates teachers' teaching efforts but also acts as a potent intrinsic motivator, spurring teachers to engage more proactively in teaching, continuously explore new teaching methodologies and strategies, and ultimately enhance the quality of instruction. In comparison, teachers with a high sense of occupational efficacy tend to be more proactive in keeping abreast of the latest industry trends and technical requirements. They actively participate in various teaching training programs and seminars, learning advanced teaching philosophies and techniques to enhance their teaching proficiency and promptly update their teaching content and methods. As emphasized by Dong Zhaoxing and Luo Shengquan (2024), modern "dual-qualified" teachers are required to possess the core competency of "moral integrity and technical proficiency," which is not only reflected in their professional skills but also in their commitment to the educational cause and their sense of occupational efficacy in student cultivation. Occupational efficacy serves as an intrinsic driving force for teachers' continuous development, enabling them to maintain a positive attitude when confronted with teaching difficulties and challenges. It empowers teachers to continually improve their teaching capabilities and professional qualities, thereby providing more robust support for students' career development.

***Community Cohesion: Facilitating Knowledge Sharing and Collaboration.*** The community cohesion in the professional development of vocational teachers has a notable impact on the formation of their professional identity (Pan, 2025). Meanwhile, community cohesion is also manifested at two levels: the active integration of "dual-qualified" teachers into teaching teams and industrial communities. It serves as a crucial avenue for teachers to acquire resources, enhance their capabilities, and achieve joint development (Wenger, 1999).

Within the internal teaching faculty of a school, teachers achieve knowledge sharing and experience exchange through participating in teaching seminars, jointly developing courses, and collaborating on teaching reform projects. Through close collaboration among team members, resources from various parties are integrated, resulting in richer and more practical course content, as well as more diversified teaching methods, thereby enhancing the overall quality of the courses. This form of teamwork not only enhances individual teachers' teaching competencies but also

generates a powerful collective teaching force, propelling the in-depth development of program construction and teaching reform.

Meanwhile, "dual-qualified" teachers can actively engage with tourism industry communities, fostering exchanges and collaborations with peer teachers, corporate experts, industry elites, and faculty from other institutions. Through these interactions, they can gain access to the latest industry trends, technological advancements, and market demands. The cohesion within such communities not only provides teachers with a broad platform for professional development but also enables them to continuously learn and grow through collaboration with others, thereby fostering a favorable ecosystem for their career advancement.

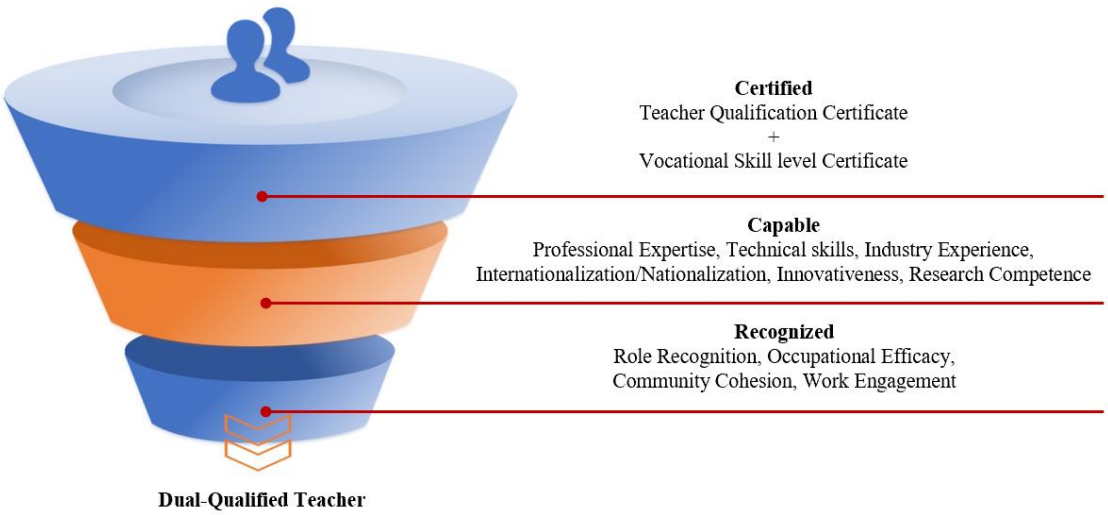
***Work Engagement: Embodying Educational Mission and Passion.*** Work engagement holds significant importance for both organizations and individuals. It enhances work efficiency, facilitates the achievement of organizational goals, promotes personal career development, and strengthens team cohesion (Pan, 2025). Work engagement also serves as a tangible manifestation of the identity recognition of "dual-qualified" teachers, reflecting their wholehearted dedication to teaching in terms of time, energy, and emotional investment (Schaufeli et al., 2002). In terms of time commitment, it is demonstrated by teachers voluntarily utilizing their spare time to acquire new teaching techniques and knowledge in tourism, staying abreast of the latest industry developments, and continuously updating their knowledge base. Regarding energy investment, teachers meticulously design teaching plans and devote substantial efforts to guiding students in participating in various tourism skill competitions. Emotionally, teachers are deeply passionate about their teaching work, regarding the cultivation of outstanding talents for the tourism industry as their vital mission. Statements such as "I have been working at a secondary vocational school for 17 years, and I am increasingly fond of my profession" (ZB02) and "In the era of artificial intelligence, I am highly optimistic about my specialty. I believe both my specialty and my students will have a promising future. My enthusiasm for work will surely inspire them" (ZA04) exemplify this emotional commitment. The identity anxiety of "dual-qualified" teachers can be alleviated through cultural construction, with work engagement being a crucial aspect of this process and an external expression of teachers' professional identity recognition (Ou, 2018). Work engagement not only enhances teachers' teaching quality and professional competence but also inspires students, stimulating their learning enthusiasm and professional identity, thereby fostering a positive atmosphere of mutual teaching and learning.

## *Future Prospects: Building a New Ecosystem for the Vocational Education Development*

**Integration of Policy and Practice: Driving the Restructuring of the Vocational Education Ecosystem.**

***A bidirectional alignment mechanism between policy orientation and industry needs.*** "Dual-qualified" teachers represent a unique group of teachers whose professional growth is intrinsically driven by an integration of theoretical teaching, practical experience, and technical skills (Li & Xing, 2020). In recent years, the state has successively introduced policies related to "dual-qualified" teachers, leading to a continuous increase in their numbers. However, the issue of talent quality urgently needs to be addressed. The design and updating of policies should dynamically align with industry needs as its core, focusing on the iterative requirements for teacher capabilities in emerging fields such as intelligent manufacturing and the digital economy. By establishing a competency standard system that matches industry needs, promoting dynamic adjustments to

**Figure 2:**
*A Three-Dimension, Six-Capability Development Path Model*




curriculum modules, and ensuring that teaching content is both standardized and cutting-edge. For instance, teachers can develop modular curriculum systems that incorporate specialized content such as industrial robot operation and the application of digital management tools, and deeply integrate them with industry certification systems to form a closed loop of "teaching-industry-certification," thereby driving innovation in vocational education through professionalization.

***A dynamic upgrade path for teaching standardization.*** To enhance the implicit work or learning performance of "dual-qualified" teachers, it is essential to create authentic, immersive, open, and shared practical contexts. Such specific teaching practice contexts require the establishment of an open, flexible, and mutually beneficial resource-sharing mechanism (Wang, Huang et al., 2024). By providing digital tools and situated teaching to facilitate capability development, and leveraging virtual simulation technology to reconstruct teaching scenarios, the limitations of traditional static curriculum systems in teaching can be overcome. This approach offers "dual-qualified" teachers tools for participation, including communication and collaboration tools, thereby improving the efficiency of collaborative lesson planning and teaching practices. For instance, utilizing digital platforms to simulate real enterprise production processes can transform theoretical teaching into situated skill training, enhancing students' practical abilities. The introduction of project-based learning methods can drive the evaluation system to shift from "theoretical assessment" to "practice-oriented outcomes." Such reforms not only facilitate the transition of teacher capabilities from "single-skill" to "cross-disciplinary collaboration" but also lay the foundation for cultivating professional talents with composite capabilities for the industry.

**Breaking through the Triple Dilemmas: Systematic Reconstruction of the Vocational Education Ecosystem.**

***Innovation in the Educational Arena: From Theoretical Indoctrination to Scenario-Based Teaching.*** Traditional vocational education classrooms have long been trapped in the dilemma of

"emphasizing theory while neglecting practice." Vocational education teachers are typically well-versed in theoretical knowledge but often lack practical teaching experience. To overcome this dilemma, teachers' practical experience is indispensable. Therefore, capacity enhancement and experience accumulation can be achieved through leveraging digital tools and deepening school-enterprise cooperation. On the one hand, AI-powered intelligent systems and big data platforms can be utilized to simulate real-world industry scenarios, transforming actual enterprise problems into teaching cases. On the other hand, by deeply engaging in learning at enterprise practice bases, teachers can cultivate their personal practical abilities in authentic enterprise production environments. This enables teachers to apply their existing knowledge and skills to address potential issues that may arise during the teaching process and directly integrate their experiences into the development of teaching resources, thereby breaking through the traditional model of theoretical indoctrination. For instance, teachers can design teaching cases based on actual enterprise needs, guiding students through the entire process from scheme design to project implementation. This approach achieves a profound integration of theory and practice, facilitating effective teacher-student discussions tailored to actual enterprise requirements while inspiring students to contemplate future prospects in light of current enterprise trends.

***Industry Field Deepening: An Innovative Model for School-Enterprise Symbiosis.*** Currently, school-enterprise cooperation predominantly remains at superficial levels, such as short-term internship arrangements and the signing of cooperation agreements, making it difficult for teachers to delve into the core business operations of enterprises. Therefore, there is a need to continuously promote an innovative model of bidirectional communication between schools and enterprises. This involves establishing specialized institutions to facilitate communication and collaboration between vocational colleges and enterprises, constructing a new platform for school-enterprise cooperation, and jointly conducting project research. By fully leveraging the advantages of "innovation, professionalism, and synergy" inherent in school-enterprise cooperation, we can support the development of a "dual-qualified" faculty and the cultivation of high-quality technical and skilled talents (Li, Jiang, et al., 2023). For instance, full-time teachers can be encouraged to participate in enterprise-funded research projects, transforming the outcomes into teaching modules to form an ecological chain of deep integration between industry and education. With the bond of shared interests, a cooperative community featuring bidirectional communication between schools and enterprises can be forged. Various measures should be taken to support enterprise staff in serving as part-time teachers at vocational colleges or to guide in-service teachers to engage in practical teaching at enterprises. Through bidirectional interactions, a regular collaborative mechanism between teachers and enterprise experts can be established, achieving substantive breakthroughs in school-enterprise cooperation.

***Embedding Ethical Responsibilities: Cultivating Compassionate Vocational Talents.*** "Dual-qualified" teachers should place emphasis on integrating professional ethics, the spirit of labor, the spirit of model workers, and the spirit of craftsmanship into curriculum instruction, and organically incorporate ideological and political work throughout the entire teaching process (Yin, 2025). In the current vocational education system, which is predominantly driven by technological rationality, there has been a long-standing absence of vocational ethics education. This has led teachers, when imparting knowledge, to prioritize skill development and academic performance while neglecting ethical considerations. Consequently, in the process of education and teaching, teachers should not only focus on students' course learning and skill acquisition but also guide them in professional

skills courses to become high-quality labor talents with both competence and ethical qualities. By integrating professional ethics and the spirit of craftsmanship into curriculum instruction, teachers can steer students towards transforming from "mere skill operators" to "responsible practitioners." This can be achieved by embedding ethical topics such as "green manufacturing" and "data security" into professional courses and reinforcing students' professional values and ethical responsibilities through the discussion of controversial cases.

**Future Mission: Iteration of Dynamic Capabilities and Guarantee of Ecological Synergy.**

***Capability Iteration: The "Hexagon Warrior" for Coping with Industrial Transformations.*** Driven by the dual forces of digital transformation and intelligent upgrading, digital and intelligent technologies are profoundly reshaping the ecosystem of vocational education, bringing about significant changes in learning environments, knowledge production models, and teaching modalities. Guided by the new development philosophy, the industry skills of "dual-qualified" teachers should transcend the basic requirement of merely "possessing" such skills. Instead, they should follow a policy orientation of hierarchical construction, a goal orientation of lifelong development, and an outcome orientation of radiating leadership, gradually forming a pattern that runs parallel with teaching skills (Liu, Jin et al., 2025). Dual-qualified teachers should continuously adapt to the inherent requirements of evolving social production demands, promoting their personal professional practical abilities with the concept of lifelong development, and striving to upgrade from being "holders of dual certificates" to becoming "hexagon warriors" who possess not only professional knowledge and technical skills but also enterprise practice experience, innovation capabilities, research capabilities, and an international perspective.

***Identity Reconstruction: From "Dual-Certificate Possession" to "Dual-Certificate Identity".*** Identity recognition serves as a prerequisite for dual-qualified teachers to realize their subjective value (Dai, 2017). As professional teachers with dual identities within the vocational education context, dual-qualified teachers possess a unique understanding and perception of their own identity, which distinguishes them from ordinary academic subject teachers. This specific group faces significant challenges regarding their professional values and sense of belonging to their occupation. Only when they develop a reasonable sense of identity towards themselves can the subjectivity of their participation in educational reform be acknowledged. Only then can they consciously reflect their characteristics as dual-qualified teachers in the selection of teaching designs and methodologies, and provide more meticulous attention to the cultivation of students' professional literacy and technical skills.

***Long-term Support Mechanism: Collaborative Empowerment through Policies and Institutions.*** To ensure the sustainable development of "dual-qualified" teachers, a multi-level support system needs to be established. At the policy level, it is imperative to expedite the formulation of professional standards for "dual-qualified" teachers, meticulously and scientifically regulating the requirements for their professional competencies, and clearly defining the teaching capabilities and requirements specific to different disciplines. Moreover, regions should establish targeted and valuable teacher indicator systems based on their actual conditions in teacher team construction. In the process of optimizing incentive mechanisms, institutions need to facilitate the transition of the assessment system from rigid constraints to developmental incentives, fully leveraging the guiding function of performance evaluation. By enhancing teachers' sense of self-efficacy, their endogenous motivation for development can be stimulated, while relying on exemplary teachers to continuously drive the overall advancement of the teaching faculty.

Ultimately, a synergistic development mechanism integrating policy guidance, institutional empowerment, and teacher autonomy should be formed, creating a sustainable driving force system for enhancing the quality of vocational education.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Bandura, A. (1997). Self-efficacy: The exercise of control. WH Freeman and Company, New York, NY.

Cai, W. P. (2024). The practical dilemmas and implementation paths for the high-quality development of the "dual-qualified" teaching staff in higher vocational education. China Higher Education, (18), 55-58.

Dai, X. R. (2017). An analysis of the connotation, significance, and framework of the identity of "dual-qualified" teachers. Vocational Education Forum, (29), 5-8.

Dong, Z. X., & Luo, S. Q. (2024). The modern concepts and development paths of "dual-qualified" teachers. Chinese Journal of Education, (10), 73-78.

Feng, X. F., & Zhang, G. C. (2017). An exploration of the construction of the teaching staff with "dual qualifications and dual abilities" in "transformation" pilot universities. Research in Higher Engineering Education, (01), 140-144.

Former State Education Commission. (1991). Opinions on Strengthening the Work of Regular Higher Vocational College Education (Jiao Gao [1991] No. 3). Former State Education Commission. (1995). Notice of the State Education Commission on Launching the Work of Building Demonstrative Vocational Universities (Jiao Zhi [1995] No. 15).

Former State Education Commission. (1997). Notice on Issuing the "Opinions on Strengthening the Construction of Teaching Staff in Secondary Vocational Schools" (Jiao Zhi [1997] No. 8).

General Office of the Central Committee of the Communist Party of China and General Office of the State Council. (October 2021). Opinions on Promoting the High-Quality Development of Modern Vocational Education. General Office of the Ministry of Education. (2017). Administrative Measures for the Project Management of the Plan for Improving the Quality of Teaching Staff in Vocational Colleges (Jiao Shi Ting [2017] No. 3).

General Office of the Ministry of Education. (2022). Notice of the General Office of the Ministry of Education on Doing a Good Job in the Identification of "Dual-Qualified" Teachers in Vocational Education and the Basic Standards for "Dual-Qualified" Teachers in Vocational Education (Trial) (Jiao Shi Ting [2022] No. 2).

Jia, W. S., & Liang, N. S. (2015). The construction of the "dual-qualified" teaching staff in higher vocational colleges based on the university-enterprise community. China Higher Education Research, (01), 92-95. doi:10.16298/j.cnki.1004-3667.2015.01.18

Li, C. Z. (2025). The construction path of the teaching innovation team for logistics professionals in vocational colleges. Journal of Shanxi University of Finance and Economics, 47 (S1), 214-216.

Li, H., Jiang, X. T., Ren, S. P., & Li, H. T. (2023). The construction of practical paths for the teaching staff with "dual qualifications" in higher vocational colleges. Chinese Vocational and Technical Education, (06), 73-78.

Li, M. Q., & Xing, X. (2020). The formulation and implementation of the qualification certification standards for "dual-qualified" teachers. Education and Vocations, (04), 19-26. doi:10.13615/j.cnki.1004-3985.2020.04.003

Liu, T. T., Jin, M. L., & Cai, L. Y. (2025). The dilemmas and solutions for the construction of the professional capabilities of "dual-qualified" teachers in higher vocational colleges: A qualitative study based on large-scale corpora. Journal of East China Normal University (Education Science Edition), 43(04), 116-125. doi:10.16382/j.cnki.1000-5560.2025.04.009

Ministry of Education. (2000). Opinions on Strengthening the Work of Talent Cultivation in Higher Vocational and Technical Education (Jiao Gao [2000] No. 2).

Ministry of Education. (2001). Opinions on Strengthening the Construction of Teaching Staff in Secondary Vocational Schools during the "Tenth Five-Year Plan" Period (Jiao Zhi Cheng [2001] No. 10).

Ministry of Education. (2002). Opinions of the General Office of the Ministry of Education on Strengthening the Construction of Teaching Staff in Higher Vocational (Technical) Colleges (Jiao Gao Ting [2002] No. 5).

Ministry of Education. (2006). Several Opinions on Comprehensively Improving the Teaching Quality of Higher Vocational Education (Jiao Gao [2006] No. 16).

Ministry of Education and Ministry of Finance. (2011). Opinions on Implementing the Plan for Improving the Quality of Teaching Staff in Vocational Colleges (Jiao Zhi Cheng [2011] No. 14).

Ministry of Education. (2011). Opinions of the Ministry of Education on Further Improving the Training System for Vocational Education Teachers (Jiao Zhi Cheng [2011] No. 16).

Ministry of Education, National Development and Reform Commission, Ministry of Finance, Ministry of Personnel, Ministry of Labor and Social Security, Ministry of Agriculture, and Poverty Alleviation Office of the State Council. (2004). Several Opinions on Further Strengthening Vocational Education Work (Jiao Zhi Cheng [2004] No. 12). Ministry of Education, National Development and Reform Commission, Ministry of Industry and Information Technology, Ministry of Finance, Ministry of Human Resources and Social Security, Ministry of Agriculture and Rural Affairs, State-owned Assets Supervision and Administration Commission of the State Council, State Taxation Administration, and Poverty Alleviation Office of the State Council. (2020). Action Plan for Improving the Quality and Excellence of Vocational Education (2020-2023) (Jiao Zhi Cheng [2020] No. 7).

Office of the Working Group for the National Medium- and Long-Term Education Reform and Development Plan. (2010). National Medium- and Long-Term Education Reform and Development Plan (2010-2020).

Ou, X. J. (2018). The identity anxiety and cultural construction of teachers with "dual qualifications and dual abilities". Research in Higher Education in Heilongjiang, (02), 107-110.

PAN, J.J. (2025). *Development of a Dual Professional Identities Scale for Chinese Vocational*

*Teachers and Analysis of Its Mediating Effect Between Education/Entry Routes and Resilience. Doctoral Thesis.* The Department of Education Policy and Leadership, The Education University of Hong Kong

Schaufeli, W. B., Salanova, M., González-romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. Journal of Happiness Studies, 3(1), 71–92. State Council. (1995). Regulations on Teacher

Qualifications. (Order No. 188 of the State Council of the People's Republic of China). Government Portal Website of the Ministry of Education of the People's Republic of China.

State Council. (2014). Decision of the State Council on Accelerating the Development of Modern Vocational Education (Guo Fa [2014] No. 19). State Council. (2019). Implementation Plan for National Vocational Education Reform (Guo Fa [2019] No. 4).

Wenger, E. (1999). Communities of practice: Learning, meaning, and identity. Cambridge university press.

Wang, M. Q., Huang, M. Y., & Wei, M. (2024). An exploration of the professional development paths for "dual-qualified" teachers from the perspective of "legitimate peripheral participation". Vocational and Technical Education, 45(24), 36-41.

Wang, Q. (2022). An analysis of the competency structure of "dual-qualified" teachers in vocational colleges. Teacher Education Research, 34 (02), 53-60. Xue, H., & Su, D. (2021). The construction of the professional identity of "dual-qualified" teachers: From the perspective of the philosophy of technology. Teacher Education Research, 33 (01), 22-27.

Xu, G. Q. (2025). "Dual-qualified" teachers cannot be cultivated. Vocational Education Forum, 40 (01), 1.

Xu, H., & Yuan, X. H. (2024). The evolutionary logic and optimization path of the identification policy for "dual-qualified" teachers in China's vocational education: A content analysis based on 87 policy texts nationwide. Modern Education Management, (06), 108-118.

Yin, Y. H. (2025). An analysis of the high-quality development of the "dual-qualified" teaching staff in vocational education under the background of building a strong education country. Vocational and Technical Education, 46(01), 57-63.

## Authors' Bibliography

**Jiayi Huang** is currently a Master's student majoring in Vocational and Technical Education (Tourism Direction) at the School of Tourism Management, South China Normal University.

**Lingxin Chen** is currently a Master's student majoring in Vocational and Technical Education (Tourism Direction) at the School of Tourism Management, South China Normal University.

**Xiaoying Zhang** is currently a Master's student majoring in Vocational and Technical Education (Tourism Direction) at the School of Tourism Management, South China Normal University.

**Xiaorong Chen** is a graduate of South China Normal University, is Deputy Director (and Assistant Lecturer) of Hotel Management and Digital Operations at Guangdong Engineering Polytechnic, a Senior Tea Art Specialist, focusing on vocational and technical education (tourism services).

Global
Cases & Practices of
Vocational Education

ARTICLE

# The "Trio-drive Model" of Vocational Textbook Compilation Under the Framework of CBE Theory, the Case of "Sommelier Service And Management" Compiling Process

## Authors
Yujun Fan, Bing Yu, Jiajia Pan

## Correspondence
Bing Yu, Email: 1316643157@qq.com

Received: March16, 2025
Revised: March 29, 2025
Accepted: May 21, 2025
Published: June 15, 2025

## Citation
Fan, Y.J., Yu, B., & Pan, J.J. (2025). The "Trio-drive Model" of vocational textbook compilation under the framework of CBE theory, the case of "Sommelier Service and Management" compiling process. *Global Cases & Practices of Vocational Education,* 1(1), 93-108.

## Funding Support
The research work of this thesis was funded by the Quality Project of Shenzhen Polytechnic University. (Project No. :7024310347).
本研究受深圳职业技术大学质量工程项目资助（项目编号： 7024310347 ）。

Global
Cases & Practices of
Vocational Education

ARTICLE

# The "Trio-drive Model" of Vocational Textbook Compilation Under the Framework of CBE Theory, the Case of "Sommelier Service And Management" Compiling Process

**Yujun Fan[a], Bing Yu[b], Jiajia Pan[c]**
[a] Shenzhen Polytechnic University
[b] Liuzhou No.2 Vocational High School
[c] Innovation Institute for Industry-Education (IIIE)

## Abstract

High-quality teaching materials are intricately linked to both their content and the corresponding teaching methodologies. They also delineate the direction and scope of students' learning activities. The development of teaching materials constitutes a pivotal task in the advancement of education. Currently, some published teaching materials for higher vocational education are plagued by various issues, including convoluted structures, outdated content, and a lack of alignment with industry practices. This article delves into the editing process of the recently published textbook, "Sommelier Service and Management," illustrating how pedagogical theory, enterprise involvement, and classroom practice can impact the quality of the material. These three elements form the cornerstone of the "Trio-drive" model for vocational material editing, which encompasses Theory Leading, Industry Guidance, and Classroom Reflection Evaluation. This dynamic editing model effectively ensures that vocational teaching materials are scientifically aligned with the development of students' abilities and the occupational demands of the workplace, while also keeping pace with the continuous evolution of the industry. The model offers a novel perspective for the development of vocational education textbooks.

***Keywords:*** *CBE; Task drive; Trio-drive Model, textbook compilation*

## Introduction

In 2019, the Ministry of Education emphasized in the *Measures for the Administration of Textbooks in Vocational Colleges* (Ministry of Education, 2019) that textbook development in vocational colleges should address the relationship between the "common issues" encountered in textbook compilation and the "characteristic development of vocational education." It is necessary to base textbook development on socio-economic development, fully reflect market demands and new technologies and trends in industries, emphasize practicality on the basis of integrating theory and practice, adapt to the requirements of teaching methods such as "task-driven" approaches, and arrange the content in a scientific and reasonable manner. The state continuously emphasizes the

importance of textbook construction and its correlation with teaching methods and teachers, aiming to promote and deepen the progress and depth of the "three teachings elements" (teaching materials, teaching methods, and teachers) reform in vocational education and improve the quality of vocational institutions by improving the quality of textbooks.

Currently, a large number of colleges, universities, and institutions across the country are engaged in textbook construction. While significant achievements have been made, there are also urgent issues that need to be addressed. Firstly, there is a lack of scientific top-level design in textbook content and planning, which is manifested in outdated knowledge content, awkward transitions in textbook revisions, and chaotic internal structures (Li & Wang, 2016). Secondly, during the compilation process, there is low industry participation, and problems such as insufficient level of cooperation, lack of motivation, and quality issues exist in school-enterprise cooperation (Pan et al., 2013), leading to practical training content in textbooks lagging behind the current state of industry development, which hinders students' employment and development. Finally, newly compiled textbooks still adhere to the educational philosophy of discipline-based learning, lack interaction with teaching methods, and fail to reflect the characteristic of vocational education of "learning by doing" (Wei, 2012). Based on the above situation, this paper attempts to take the compilation process of the textbook Wine Service and Management (hereinafter referred to as Sommelier Service) as an example to explore how, under the guidance of the "competency-based" theory, the compilers leverage industry participation and classroom practice to improve the structure and content of the textbook. From this, a "Trio-driven" textbook compilation model consisting of "theory guidance," "industry participation," and "classroom verification" is summarized.

## Theoretical Framework

### *Textbook Compilation under the "Competency-Based" Theory*

In pedagogy, competence is commonly defined as "the individual psychological traits that can directly affect the efficiency of activities and facilitate their smooth progress." (Guo, 2002) Competence is internalized within individuals and externalized through overt professional activities or behaviors. For vocational education, the cultivation of students' vocational competence is of utmost importance. Over the years, numerous concepts, educational theories, and paradigms centered around competence have emerged. Among them, "Competency-Based Education (CBE)," a global vocational education and training trend that originated in the last century, still has a profound impact on the reform and development of vocational education today (Jiang, 2004).

"Competency-Based Education" refers to an educational teaching philosophy and institutional system based on competence. The concept of competency-based education originated from training for retired and transferred personnel and was widely applied in teacher training in the United States in the 1960s. Subsequently, it has gradually become one of the fundamental paradigms of international vocational education (Liu & Xu, 2002). It is regarded as both a plan for the systematic development of vocational and technical education and a curriculum development or teaching model. With competence as the foundation of teaching, the framework of the curriculum is established based on the instructor's concept of competence and evaluation standards (Jiang, 2004).

People have different understandings of the specific connotation of the concept of "competence" in different regions and historical stages. Common concepts of competence include the "task-based

different regions and historical stages. Common concepts of competence include the "task-based competence view," which regards "competence as skills," the "general quality-oriented competence view," which views competence as general qualities, and the "integrated competence view," which considers competence as the sum of knowledge, skills, and attitudes demonstrated by individuals in work performance (Ji, 2005). The "integrated competence view" can avoid the limitations of the first two concepts to some extent. It connects general qualities with specific work contexts and regards competence as a complex quality structure that can be divided into different levels, which is more suitable for the current development of vocational education in China (Tan & Qian, 2001).

In classrooms based on the "integrated competency-based" approach, elements such as teachers, students, and textbooks differ significantly from those in traditional classrooms. Vocational education based on the integrated competence concept focuses on the comprehensive competence of a specific vocational position. It emphasizes students' performance and evaluation standards in real work contexts and designs everything from curriculum objectives to content, activities, and assessments around the question of "what to learn?" Unlike other competency-oriented curricula such as modular skill training and project-based teaching, the comprehensive development-oriented competency-based curriculum is not limited to the "surface structure of individual behavior," such as verbal expression and practical skills. It also emphasizes the "deep structure of individual behavior," including action patterns, thinking modes, and work attitudes that cannot be directly observed (Jiang, 2005). It can be inferred that textbooks guided by the "competency-based" theory are composed of materials from the industry and front-line positions. Compared with traditional textbooks, they meet the actual needs of employers such as enterprises to a great extent (Qin, 2011).

In general, the textbook compilation model under the "competency-based" theory is an organizational process of teaching content that closely adheres to vocational contexts and aims to acquire knowledge and skills at different levels and cultivate vocational qualities. Qualities, knowledge, and skills appear in the form of "tasks" in teaching. However, during the textbook compilation process, questions such as “How to determine tasks?”, “How to classify levels or difficulties?”, and “How to test the appropriateness of the textbook for students and classrooms so that the textbook can serve the classroom/workshop teaching?”, thereby helping to cultivate students' learning interest and improve their technical abilities, are the purposes of this research. In the following sections, this paper will describe the three important stages of compiling the *Sommelier Service* textbook, revealing how the "competency-based" theory is implemented throughout the entire action process through practical approaches, and thus summarizing an effective textbook compilation model.

## Case Background

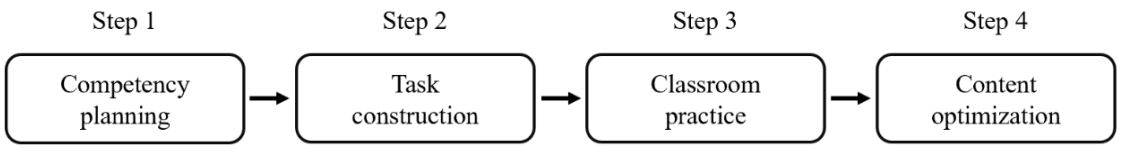
In 2019, the Ministry of Education included the "Wine Culture and Marketing" (540108) major in the professional directory of the hospitality and tourism category for the first time. Among them, "sommelier service" is defined as the core course of this major. However, there is no professional textbook in the textbook market that is suitable for the teaching of this skill. In addition, not only the newly added "Wine Culture and Marketing" major has a demand for the sommelier service course, but also majors such as "Hotel Management and Digital Operation" (540106), "Homestay Management and Operation" (540107), "Leisure Service and Management" (540113), as well as catering majors like "Culinary Arts and Nutrition" (540202) and "Western Culinary Arts" (540204)

have potential needs for offering this course. As an important skill in restaurant service, sommelier service is also an important competition segment in the "Sommelier Service" and “Hospitality Service” events of the National Vocational Students Skills Competition for Higher Vocational Colleges and the "Restaurant Service" event of the World Skills Competition. Driven by the trend of new major construction and actual teaching needs, the compilation team carried out the compilation work for the textbook of the "Sommelier Service and Management" core course.

The chief editor of the textbook has 17 years of experience in the beverage industry, is a national first-class sommelier, a senior technician, and has nearly ten years of teaching experience in wine courses at domestic and international vocational institutions. The second chief editor and the associate editor are teachers from secondary vocational schools, higher vocational colleges, and undergraduate institutions, respectively. The contributing editors also come from vocational colleges at different levels. All the editors have rich practical experience and professional development experience related to wine. They have all obtained domestic and international certifications related to wine by participating in teacher training, have an understanding of industry development, and possess the knowledge and abilities required of "dual-qualified" teachers.

The compilation process of the textbook consists of four stages: 1) Competency Planning Stage, 2) Task Construction Stage, 3) Classroom Practice Stage, and 4) Content Optimization Stage (as shown in Figure 1). Among them, the first three stages are the core stages of textbook compilation.

**Figure 1:**
*The four compiling stages of the Sommelier Service*




### *Competency Planning*

Sommelier service education is a blank in China's vocational teaching system. The sommelier service position itself originates from the Western-style restaurant services. "Sommelier Service and Management" is a course designed for students majoring in middle-and high-level vocational institutions and applied undergraduate hospitality and tourism management. It aims to enable students to master rich and solid theoretical knowledge and practical skills, so as to possess the professional qualities and competencies required of a professional sommelier. The course is highly practical and professional. Using the "competency - based" theory as the guiding principle for textbook compilation helps clarify content priorities, organize the textbook framework, and standardize the compilation process, which is in line with the fundamental logic of "cultivating morality and nurturing talents" in vocational education.

Before constructing the initial framework of the textbook, based on the discussions of (Jiang, 2004; Jiang, 2005; Tan & Qian,2001) on the "competency - based" theory, combined with the pre-investigation on sommelier service and beverage management positions in 19 enterprises in China (including 9 five-star hotels and 10 restaurants with Michelin and Black Pearl ratings), the compilation team established five major competency domains: "Professional Quality Competency",

"Professional Knowledge Competency", "Professional Technical Competency", "Professional Communication Competency", and "Professional Management Competency". In the textbook instructions, there are clear descriptions for different competencies and their manifestations.

**Professional Quality Competency.** The "Professional Quality Competency" is described as: *"...includes cultivating students' awareness of the job and position content, understanding the career development path, gaining in - depth knowledge of position - related culture and establishing professional identity, recognizing and implementing the grooming and appearance requirements for the position, and recognizing and abiding by position - related professional ethics."*

The description of its "manifestation" is:

*"The ability to understand and implement the requirements for the position."*

**Professional Knowledge Competency.** The "Professional Quality Competency" is described as: *"...includes the relevant knowledge reserves required to complete job tasks; this is mainly manifested in the cultivation of reading and memory abilities."*

The description of its "manifestation" is:

*"The ability to interpret and remember relevant knowledge."*

**Professional Technical Competency.** The "Professional Technical Competency" is described as: *"...encompasses the cultivation and training of technical skills required to perform job tasks."* The description of its "manifestation" is:

*"The ability to remember technical operation procedures and the operational skills."*

**Professional Communication Competency.** The "Professional Communication Competency" is described as:

*"...includes the ability to communicate with guests, suppliers, and colleagues (both superiors and subordinates) during the process of fulfilling job responsibilities."*

The description of its "manifestation" is:

*"Verbal expression ability, comprehension ability, and interpersonal relationship skills regarding professional communication content."*

**Professional Management Competency.** The "Professional Management Competency" is described as:

*"...It includes the abilities to manage human resources, corporate finances, and product management that are required during the process of fulfilling job responsibilities."*

The description of its "manifestation" is:

*"The ability to analyze workplace situation, the capability to coordinate and manage people, affairs, and objects, and the capacity to plan work."*

Competency planning guided by vocational education theory ensures that the "particularity of vocational education talent cultivation" is integrated into the top - level design stage of textbook compilation. Industry opinions provide the basis and guidance for the connotation and boundaries of competency planning. The interaction between the two ensures the dual driving forces of theoretical guidance and industry direction.

### *Task Construction*

After completing the planning of "competency domains", the task of the textbook compilation team is to construct corresponding learning tasks within different competency domains. Learning

Tasks are the platforms for cultivating competencies. However, how to set these tasks has become the focus of the compilation team's concern, as the chief editor of the textbook said:
*"Competency planning provides a skeleton for the textbook, which comes from theory and is also combined with the industry context. However, the connotation of the textbook is the learning tasks that students need to learn. These learning tasks are the work tasks they will undertake in their positions. With this in mind, we decided to continue contacting the cooperating enterprises and sit down with them to gain an in - depth understanding of the specific work tasks in sommelier service and management positions."*

"Typical work task analysis" is an activity in which both schools and enterprises participate. They conduct discussions and analyses on the work content, methods, and standards of a certain occupation, in order to comprehensively obtain relevant work tasks and required professional competencies (Zhao, 2008). Currently, social development is so rapid that the work content of all walks of life is constantly changing. How to accurately and timely capture the employment needs of enterprises so that students can better and faster integrate into positions, work, and society is a major challenge we are facing now. "Typical work task analysis", as a way to study the laws of career development and an effective platform to connect schools and enterprises, has become a breakthrough to solve this problem.

The purpose of holding "Typical work task analysis meeting" for positions is to understand the daily work tasks of personnel in charge of sommelier service and management positions, as well as the competency evaluation standards for engaging in certain vocational skills (such as the sommelier service process and standards for red wine). Each meeting lasts for about 1 hour. The content of the meetings is recorded and transcribed, and the text information is classified and coded.

Finally, the loose task items mentioned by enterprises are summarized into 90 classroom/workshop teaching task items.

The 90 task items summarized from the "Typical work task analysis meeting" are allocated to the five competency - building domains. Each task item has a detailed description. The description of tasks is oriented towards skill - learning "outcome" goals, often using words such as "understand", "master", "identify", and "be able to" as prefixes, for example:
*"Be able to present the wine list to guests using common phrases and respond to different reactions of guests after reading the wine list."*

The compilers number the tasks (1 - 90) according to the order in which they appear in the textbook, so that teachers and students can refer to them during the interaction process. The formulation of task items clarifies the boundaries of students' skill learning, learning objectives, and evaluation standards, and provides clear guidance for the implementation of classroom/workshop teaching. Task construction based on "Typical work task analysis" is related to the connotation and quality of the textbook. On the one hand, task construction is task construction within the "competency domains" and is task construction guided by the "competency-based education" theory. On the other hand, the process of task construction not only fills and divides the difficulty levels of the "competency domains" but also further verifies the rationality and appropriateness of the formulation of the "competency domains" through industry practice. The two interact with each other and form a driving force to promote the textbook compilation process.

### *Classroom Practice*

After completing the first draft based on the above-mentioned competency domains and task

items, the compilation team integrated 90 task items into 48 class hours and carried out classroom teaching practice for second - year students majoring in Hotel Management and Digital Operation in a vocational and technical college. The course was conducted in the training laboratory, with four class hours as one lesson, ensuring the continuity and contextualization of skill learning (Esmond, 2017). The "task-driven" teaching mode takes "problem-solving" and "task completion" as teaching objectives. Its essence is to enable students to learn around tasks and acquire target competencies in the process of completing tasks. This mode fits the process of students' cognitive development, can give full play to students' main role in the classroom/workshop, and develop students' comprehensive abilities (Guo, 2006; Yang, 2006). The competency planned in this textbook and the learning "tasks" constructed can just provide a basis for course design. The characteristics of the textbook with "tasks" as the main body and skill - learning "outcomes" as the goal orientation determine that the "task-driven" teaching mode is the preferred means of teaching implementation.

During the teaching implementation process, each class needs to complete one or more task-based teachings. Task evaluation is oriented towards learning outcomes, with only two assessment modes: "pass" and "fail". Learners who can complete the task under specified conditions (time, context, tools) through task-based learning are considered "pass"; for some skill tasks with specified steps and procedures, if learners do not complete them according to the specified steps, even if they achieve the outcome goal of the task, they will be considered "fail". The teaching process is completed in the training restaurant, providing a real work context for task-based teaching.

Through the classroom/workshop practice of the "task-driven" teaching mode, the compilation team first clarified the knowledge boundaries of each teaching task. By further polishing the learning content of "tasks", teachers can better understand the key and difficult points of teaching, thereby improving classroom efficiency. Secondly, through the "task- driven teaching mode", feedback from students in the process of "task" learning was obtained. Based on the speed at which students master specific tasks, the compilation team made additions and deletions to the relevant learning content to match the teaching content with the learning abilities of higher vocational students. According to student feedback during the classroom teaching process, the compilation team found that even tasks belonging to the same competency domain also have differences in learning difficulty. Therefore, the compilation team divided tasks belonging to the same competency domain into five difficulty levels and provided specific descriptions. For example, the descriptions of the five difficulty levels of "Professional Technical Competency" are:

Level 1: "Single skill, learn and master immediately"

Level 2: "Has several coherent operation processes, can learn with the help of videos, pictures, etc."

Level 3: "Has multiple coherent operation processes, needs to understand technical essentials under the guidance of the teacher and master through multiple practices"

Level 4: "Has complex operation processes, needs to cope with changeable work scenarios. Requires multiple practices to master"

Level 5: "Has work processes that need to be completed in collaboration with other competencies, needs to cope with complex and demanding work scenarios. Requires multiple practices under the guidance of professionals to master"

In *Sommelier Service*, to facilitate instructors in implementing teaching based on objective conditions and students' learning progress, the author provides difficulty level indications for each capacity-building task (Table 1).

**Table 1:**
The description of the difficulty level of the competency-building tasks in the book *Sommelier Service* (Pan, 2021)

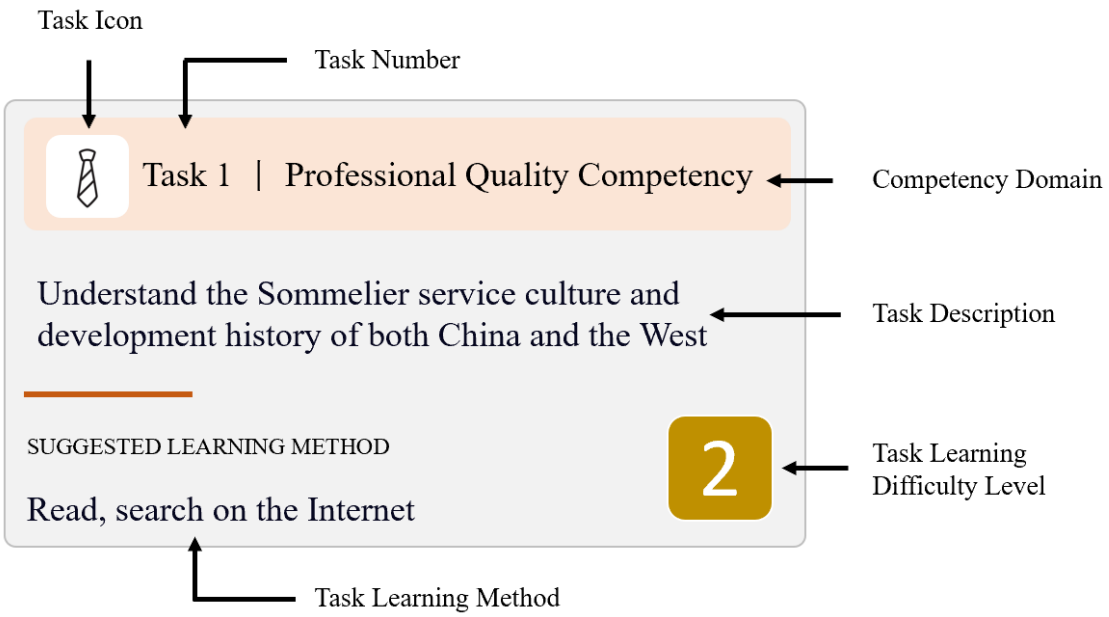
| Competence | Difficulty level | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| Professional Quality Competency | | Understanding of job content and related culture can be acquired through independent reading or instructor-led teaching | The code of conduct proposed in conjunction with the characteristics of the position needs to be learned and better understood through scenario simulations, case analyses, and other methods under the guidance of an instructor | Principles related to professional ethics need to be learned under the explanation and guidance of instructors with industry experience | The comprehension and insight into the deeper connotations of professional qualities require participation in formal job tasks, where understanding and internalization occur while deepening professional identity |
| Professional Knowledge Competency | Common-sense knowledge | Knowledge with simple content and structure, which can be acquired through independent reading or instructor-led teaching | Knowledge with relatively complex content that can be acquired through reading the textbook material and gaining a deep understanding | Knowledge with complex content and numerous derivative aspects that requires extracurricular extended reading and in-depth understanding for acquisition | Knowledge with a complex system, extensive content, or abstract nature that necessitates the acquisition through summarization and induction of experiences |

*Continued From Previous Page*

| | | | | | |
|---|---|---|---|---|---|
| Professional Technical Competency | Single skill, easily learned and mastered upon study | Skills involving several coherent operational procedures that can be learned with the aid of tools such as videos and images | Skills comprising multiple coherent operational procedures, requiring an understanding of technical essentials under the guidance of an instructor and mastery through repeated practice | Skills with complex operational procedures that need to adapt to varied work scenarios; mastery requires repeated practice | Skills involving work processes that require collaboration with other abilities to complete, needing to cope with complex and demanding work scenarios; mastery necessitates repeated practice under the guidance of professionals |
| Professional Communi-cation Competency | | | Possess the ability to recite written content and paraphrase it orally | Know how to express oneself flexibly and effectively according to work situations | Understand how to handle complex or difficult work issues through oral communi-cation |
| Professional Management Competency | | | Possess the ability to record and conduct statistics based on management tables, or have cognition and understanding of certain job management methods and processes | Be able to analyze situations based on existing standards, and have cognition and understanding of certain more complex job management methods | Evaluate, supervise, and manage complex work processes; conduct overall management of products; divide job tasks, design and calculate compensation systems; analyze inadequate aspects and propose rectification opinions |

In *Sommelier service*, after elaborating and analyzing the content of each task, the compilators annotate it in the form of a "Task Tag"; The "Task Tag" serves as an instructional aid throughout the textbook. In addition to providing information such as the task category, task description, and task difficulty, the "Task Tag" also offers task learning methods based on the editor's teaching experience for the reference of instructors and students (Figure 2).

**Figure 2:**
*Example of Competency-Building Task Tag (Pan, 2021)*




Finally, the "task-driven teaching mode" also stimulated teachers' classroom feedback. From the perspective of teachers, the compilation team collected feedback questions such as: Does the task content have output obstacles in the teaching process? Are the teaching context and equipment conducive to the mastery of "tasks"? Is the description of "tasks" evaluable and measurable? Can teaching auxiliary materials such as PPT and videos truly achieve their teaching auxiliary functions? What methods should be used to distinguish different skills in teaching? What methods should be recommended for students to use for pre-class, in-class, and after-class learning? The collation and reflection of the above-mentioned problems prepared the direction for the revision and optimization of the textbook in the next stage.

By integrating the re-definition of knowledge boundaries obtained from teaching practice and the classroom feedback from students and teachers, the compilation team was able to revise the content and structure of the textbook. In terms of teaching content, further clarifying the description of learning tasks is conducive to students and teachers' better grasp and understanding of "tasks". The second is the optimization of class hour arrangement. During the teaching practice process, the class hours required for the teaching of some tasks were more than expected. Therefore, the original 48 class hours were adjusted to 60 class hours, which is more conducive to the

development of various "task" teachings. The third is to improve the "skill assessment" and "thinking and practice" sections after each module. Finally, it is the optimization of teaching auxiliary materials, that is, re-adjusting the teaching tools required in practical training courses, the per-capita allocation quantity, and the placement location, re-designing the structure of teaching PPT, and adding or deleting the extended knowledge in the teacher's auxiliary manual.

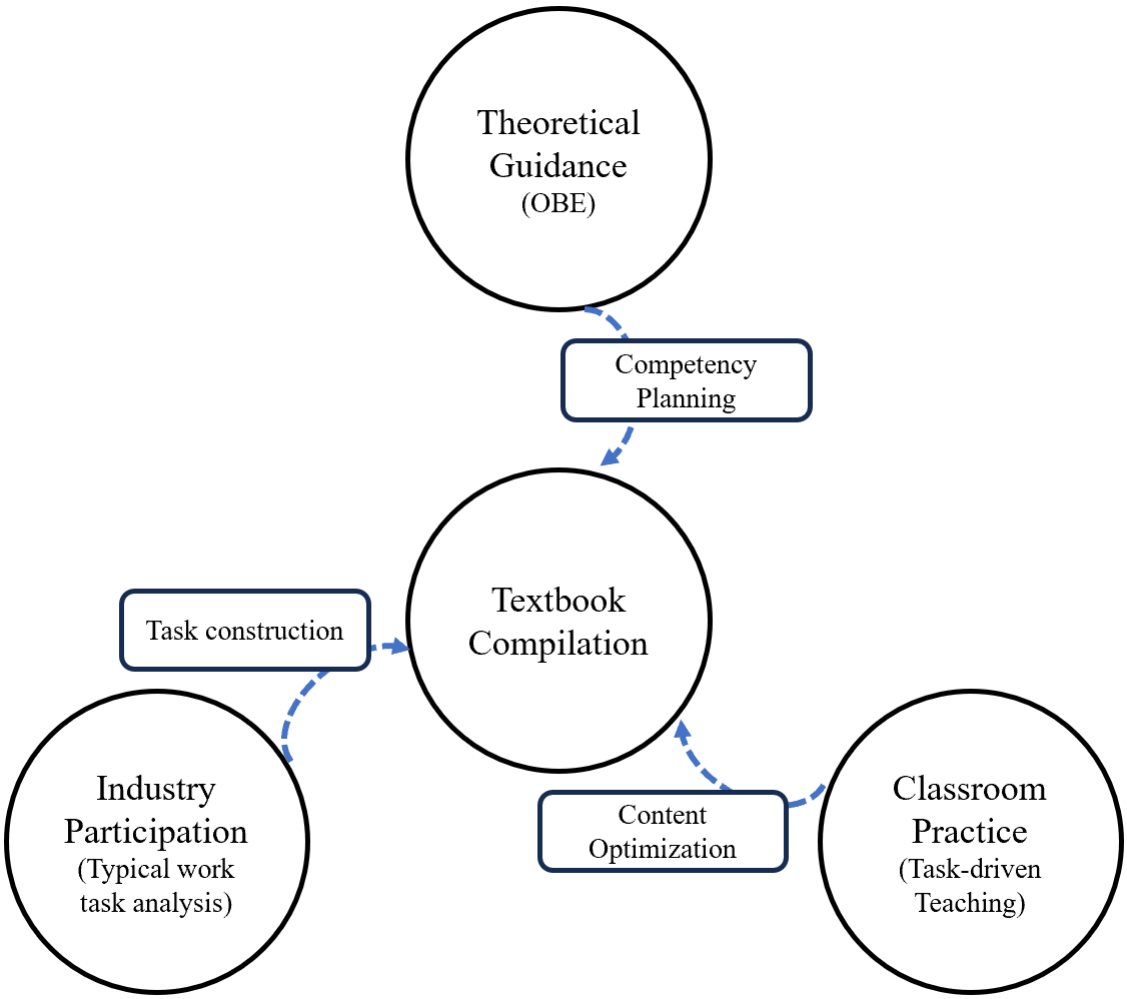
"Competencies" are composed of "tasks", and tasks are present throughout the teaching process. Therefore, classroom practice using the "task-driven" teaching mode provides a classroom verification process for textbook compilation under the "competency-based" theory. Both "task-driven" and "competency-based" have obvious outcome-oriented characteristics. The contextual nature of the "task-driven" teaching mode is consistent with the goal connotation of "competency-based". It can be seen that the skill-teaching tasks within the "competency domains" provide the basis and scope for course design and course practice. And classroom teaching with the "task - oriented" mode plays a role in testing and optimizing the construction of "tasks" in the textbook.

## Summery

By analyzing the compilation process of the Sommelier Service, this case summarized a compilation mode consisting of three core driving forces: "Theoretical Guidance", "Industry Participation", and "Classroom Practice", referred to as the "Trio-Drive" compilation mode. In this case, each of the three driving forces has specific manifestations and implementation methods. It takes the discussion of the "competency-based education" theory in vocational education as the basis for "theoretical guidance", "Typical work task analysis" as the means of "enterprise participation" and "industry guidance", and the "task-driven" teaching mode as the means of "classroom practice" verification, finally forming a systematic and replicable textbook compilation mode (Figure 3). Under the guidance of the "competency-based education" theory, the compilation team completed the planning of "competency domains" and used it as the general guideline to guide the entire process of textbook compilation. "Position typical work task analysis" fully incorporates the opinions and suggestions of enterprises on talent cultivation. By "task items" in job operations, the connotation of "competency" is improved. The "task-driven" teaching mode plays a role in revising and optimizing the "task items" of the textbook in practical training classrooms. From the above analysis, it can be seen that the three driving forces each have an independent driving effect on textbook compilation.

However, the three driving forces are not isolated from each other. On the contrary, they interact with one another. Between theory and corporate involvement, theory provides direction for enterprises in planning "employee competencies," ensuring that this direction aligns both with the practical needs of job positions and the principles of vocational education talent cultivation. Corporate involvement, in turn, helps educational theories become more focused on industry realities, making them more practical. Between theory and classroom practice, theory ensures that classroom implementation closely follows the direction of talent cultivation, setting students' "competency building" as the goal of classroom teaching. Feedback from teachers and students in the classroom then tests the "competency domains" established under theoretical guidance. Finally, between corporate involvement and classroom practice, corporate involvement enriches classroom teaching with content that meets job requirements, while the classroom, through teacher and student feedback, defines boundaries, categorizes difficulty levels, and plans teaching progress

**Figure 3:**
*"Trio-Drive" Dynamic Textbook Compilation Model*




for this content. Thus, textbook compilation under the "Trio-drive" model is not a linear process with a clear start and end but rather a cyclical process within a closed loop. This indicates that the content of textbooks will change under the influence of any of the driving forces. These changes may stem from the vocational education sector's redefinition and understanding of "competency-based education" theory, from the latest changes in industry job requirements, or from daily classroom feedback. Therefore, textbook compilation under the "Trio-drive" model is a dynamic process that fully meets the requirements for vocational education textbooks to keep pace with the times, suit industry development, and align with the laws of vocational education development.

## Discussion

The design of the "Trio-drive" dynamic textbook compilation model originates from reflections on the current state of vocational education textbook development. While constructing this model, there are also many reflections on practical conditions.

Firstly, under the "Trio-drive" model, high levels of corporate and industry involvement enhance the relevance of textbooks. However, this presupposes a close school-enterprise cooperation mechanism. For a long time, issues such as the absence, incomplete participation, and lack of depth in corporate and industry involvement in the textbook compilation process for vocational education have restricted the production of high-quality application-oriented textbooks. The disconnect between textbook content and industry realities and corporate needs inevitably affects teaching quality, leading to students' quality cultivation falling short of job requirements. The compilation process of *Sommelier Service* was led by corporate experts with many years of industry experience. Through the chief editor's combination of their own professional experience, full mobilization of industry and corporate resources, and leadership of the entire process of writing and curriculum implementation, the final book was completed. Therefore, the full commitment of corporate experts is a prerequisite for fully leveraging the driving force of "corporate involvement."

Secondly, the "Trio-drive" model requires adherence to "educational theory guidance" to achieve the parallel development of theory and practice. The challenge lies in the extremely high requirements for the accumulation of vocational education theory by the compilation team. Adhering to teaching theory as a guide in the process of textbook compilation and curriculum development provides solutions to a series of issues, such as textbook structure planning and course content selection. However, how to anchor relevant vocational education theories and how to select and apply them become the core questions. This requires the compilation team, including corporate personnel, to have a profound understanding of vocational education theories, policies, and talent cultivation models to truly exert the guiding role of "theory" in top-level design.

Thirdly, under the "Trio-drive" model, curriculum and textbook development are closely linked and mutually validated. The difficulty lies in requiring all compilation tasks to be synchronized, with timely feedback between teaching and learning and adjustments to content at any time. Compared to static, text-based textbooks that represent the final outcome, dynamic, context-based curricula respond to and adjust to vocational changes more quickly and sensitively. Course teaching is designed based on textbook content, and course practice, in turn, tests the textbook content. This interactive process requires the compilation team to simultaneously record, adjust, conduct trial lectures, and revise during the lesson preparation and curriculum implementation processes to improve both curriculum design and textbook content. Therefore, team members need a high degree of coordination and guaranteed working hours, even requiring them to personally experience classroom teaching at the same time and fulfill their respective roles. Only in this way can course feedback be timely and comprehensively reflected in curriculum design and textbook content optimization.

## Conclusion

By analyzing the compilation process of the *Sommelier Service* textbook, this paper summarizes

the "Trio-drive" dynamic textbook compilation model, which integrates "theory guidance," "industry involvement," and "classroom practice" under the "competency-based education" theory. This model fully incorporates the needs of vocational education talent cultivation, industry job requirements, and curriculum implementation needs into the textbook compilation process, making textbooks suitable for both teaching and practice. Through the interaction among the three driving forces, it provides a mechanism guarantee for the updating and iteration of textbooks. Although this compilation model is constrained by factors such as the degree of school-enterprise cooperation, the theoretical level of the compilation team, and the working mode of the compilation team, its operating mechanism is conducive to shaping the characteristics of vocational education textbooks that keep pace with the times and serve the classroom. It is a systematic and innovative textbook compilation model worth referencing.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Esmond, B. (2017). More morphostasis than morphogenesis? The ‘dual professionalism’ of English Further Education workshop tutors. *Journal of Vocational Education and Training*, 69(2).

Guo, L. Y. (2002). Psychology. *Nanjing University Press.* Nanjing.

Guo, S. Q. (2006). The connotation of task-driven teaching method. *Chinese Journal of Educational Technology*, (07), 57-59.

Ji, X. Y., Zhang, L. L., & Ni, X, X.(2005), The development trends of Western higher vocational education concepts and models. *Vocational & Technical Education Forum*,2005,(04):57-59.

Jiang, D. Y. (2005). A competency view based on comprehensive development. *Chinese Vocational and Technical Education*, (22), 1.

Jiang, D. Y. (2008). Vocational education: Differentiation between curriculum and textbooks. *Chinese Vocational and Technical Education*, (19), 13.

Jiang, L. (2004). The trend of competency-based vocational education. *Vocational Education Forum*, (22), 62-63.

Li, Z. Y., & Wang, Y. L. (2016). Discussion on the quality of textbook compilation for vocational education. *Chinese Vocational and Technical Education*, (32), 32-35.

Liu, C. S., & Xu, C. F. (2002). Vocational education pedagogy. Education Science Press, 149-151.

Ministry of Education. (2019). *Measures for the management of textbooks in vocational colleges.* Beijing.

Pan, H. S., Wang, S. B., & Long, D. Y. (2013). Analysis of the current situation and influencing factors of school-enterprise cooperation in China's higher vocational education. *Research in Higher Education of Engineering*, (03), 143-148.

Pan, J.J., & Lv, J. (2021). *Sommelier Service and Management. China Machine Press.* Beijing.

Qin, H. (2011). Curriculum models and development trends of vocational education abroad. *Chinese Vocational and Technical Education*, (33), 69-73.

Tan, Y. M., & Qian, J. F. (2001). On the reform of competency-based vocational education curriculum. *Educational Research*, (02), 54-60.

Wei, X. Y. (2012). Discussion on the reform and innovation of textbook compilation models for secondary vocational education. *Chinese Vocational and Technical Education*, (23), 81-83. (Note: The "{4}" in the original citation seems to be a formatting error and is omitted here.)

Yang, H. X. (2006). Characteristics and process design of task-driven teaching method. *Teaching & Management*, (30), 129-130.

Zhao, Z. Q. (2008). Analysis of typical work tasks and design of learning tasks. *Vocational Education Forum*, (12), 2.

## Authors' Bibliography

**Yujun Fan** holds a master's degree from South China Normal University and is currently a doctoral candidate at The Education University of Hong Kong. He is currently employed at the Research Office of Shenzhen Polytechnic University. His research areas encompass industry-education integration and teacher development, among others.

**Bing Yu** is employed at Liuzhou Second Vocational and Technical School. As a senior lecturer, she is teaching in tourism service-related majors and conducting research in vocational education.

**Jiajia Pan** holds a Doctor of Education degree from The Education University of Hong Kong. He is currently the director of Innovation Institute for Industry-Education (IIIE). He also serves as a part-time master's supervisor for the Master of Vocational and Technical Education in Tourism Management at South China Normal University. His research areas span a diverse range, including dual professional identity recognition of vocational college teachers, leadership in vocational education, wine tasting and sommelier services, as well as international trade and marketing of wine.

Global
Cases & Practices of
Vocational Education

ARTICLE

# The Effectiveness of the Profession-Oriented "Enterprise-Classroom" Model in the Development of Skill-Based Student Society in Vocational Schools, a Case Study of the Shunde Secondary Vocational School Sommelier Society

## Authors
Yan Zhong, Xiaoyong Guo, Shuijie Huang

## Correspondence
Xiaoyong Guo, Email: 191645694@qq.com

Received: April 2, 2025
Revised: April 18, 2025
Accepted: May 26, 2025
Published: June 15, 2025

## Citation
Zhong, Y., Guo, X. Y., & Huang, S. J. (2025). The Effectiveness of the Profession-Oriented "Enterprise-Classroom" Model in the Development of Skill-Based Student Society in Vocational Schools—A Case Study of the Shunde Secondary Vocational School Sommelier Society. *Global Cases & Practices of Vocational Education*, 1(1), 109-124.

## Funding Support
This research was supported by the project titled 'An Empirical Study on the Impact of the WorldSkills Competition on the Career Development of Young Skilled Talents' (Project Number: CYHZW-YB2025008), funded by the National Teaching Steering Committee for Catering Vocational Education in 2025.

全国餐饮职业教育教学指导委员会2025年度课题，一般课题：《世界职业院校技能大赛对青年技能人才职业发展影响的实证研究》。课题编号：CYHZW-YB2025008

Global
Cases & Practices of
Vocational Education

ARTICLE

# The Effectiveness of the Profession-Oriented "Enterprise-Classroom" Model in the Development of Skill-Based Student Society in Vocational Schools, a Case Study of the Shunde Secondary Vocational School Sommelier Society

**Yan Zhong[a], Xiaoyong Guo[a], Shuijie Huang[a]**

[a] Shunde Secondary Vocational School of Foshan City

## Abstract

Taking the Sommelier Society of S School's high-star hotel operations and management program as an example, this study explores the application of the profession-oriented "Enterprise-Classroom" model in the development of skill-based student society in vocational institutions. Centered on the principles of "profession orientation and integrated moral and technical training," this model integrates school-enterprise resources and implements diversified practical activities to address challenges in student society development, including the lack of value guidance, unclear training objectives, insufficient professional mentorship, and disconnection from social services. Practical findings indicate that this model significantly enhances vocational students' professional skills, career identity, and competition performance, while expanding talent development pathways and improving alignment between training outcomes and industry needs. The case study suggests that skill-based student society in vocational schools should strengthen professional development, advance market-driven operations, and establish social service branding to enhance students' vocational competencies and adaptability, fostering coordinated growth between student society and academic programs to drive innovation in vocational education talent cultivation.

***Keywords:*** *Profession orientation, Enterprise Classroom, Diversified Practice, Talent Cultivation.*

## Background

General Secretary Xi Jinping (2016) once stated, "Social practice, social activities, and various student society on campus jointly constitute the second - classroom for students, which is of inestimable value in broadening students' horizons, enhancing their comprehensive abilities, enriching their social experiences, and adding color to their lives." This statement highlights the pivotal role of student society in promoting students' all - round development. Student society serve not only as platforms for students to showcase their abilities and develop their skills but also as essential vehicles for implementing the fundamental mission of moral education and advancing holistic education. By organizing a rich variety of activities, they greatly enrich students'

extracurricular lives and inject a continuous stream of vitality into the prosperity of campus culture (Wu & Yang, 2024; Chen Fei & Guo, 2021).

As a crucial component of the education system, vocational education is characterized by its distinct "employment - oriented" nature. Its core objective is to cultivate students' vocational abilities, enabling them to possess the capabilities to adapt to market demands and achieve sustainable employment (Hou & Wang, 2009). In this context, student society, as the main front for conducting second - classroom education, are of particular importance in cultivating students' vocational abilities and innovative thinking. They can help students better understand vocational requirements and enhance their vocational literacy through simulating vocational environments and providing practical opportunities, thus laying a solid foundation for their future careers (Zhang, 2011; Meng, 2023).

However, the construction of skill-based student society in current vocational institutions still faces numerous challenges. Although these organizations have played a certain role in promoting students' skill improvement, on the whole, they are still in the initial stage of development, and there are many pressing issues to be addressed (Shan, 2015). For example, some student societies lack clear value guidance, resulting in hollow and superficial activity content. The phenomenon of an imbalance between supply and demand is prominent, with a significant gap between students' needs and the opportunities provided by the student society (Bai, 2025). In addition, some societies have a misalignment in their positioning, placing too much emphasis on form while neglecting substantive content and lacking a clear vocational orientation and professional guidance. Meanwhile, the insufficiency of social practice services also restricts the expansion of group members' vision and the improvement of their abilities (Wei, 2010).

Faced with these challenges, the High-Star Hotel Operation and Management major (hereinafter referred to as G Major) of S School in Foshan City (hereinafter referred to as S School) has shown great courage in innovation and actively explored new paths for the construction of skill-based student society. The school has determined to construct the "enterprise-classroom" model for skill-based student societies based on vocational orientation. The aim is to closely integrate the actual needs of enterprises with the educational resources of the school through this model, providing students with more practical opportunities that are closer to vocational reality. With "vocational orientation and the cultivation of both morality and skills" as the core guiding principle, this model emphasizes the cultivation of students' professional skills while paying attention to the nurturing of their professional ethics and literacy. By integrating school - enterprise resources, carrying out on-campus and off-campus practices, as well as innovation and entrepreneurship practices, the school has consolidated the foundation of talent cultivation in the societies, committed to cultivating students' core vocational abilities and helping society members achieve comprehensive improvement in terms of professional skills and vocational literacy. Ultimately, this model will achieve a win-win situation in talent cultivation for skill-based student societies and meet the needs of enterprises, injecting new vitality into the development of vocational education.

## Problem Analysis

### *Unclear Training Objectives*

Vocational education, as an educational type closely linked to the economic sphere, has the core mission of directly catering to the needs of enterprises and cultivating highly skilled professionals. Therefore, the educational activities in vocational institutions must be based on a clear vocational

orientation to ensure that the knowledge and skills students acquire closely align with market demands (Hou, 2005). In vocational institutions, student societies serve as an important supplement to professional education. Their activities often revolve around professional characteristics, aiming to guide students to deepen their professional knowledge through practice and achieve an effective extension and consolidation of classroom teaching activities (Li & Li, 2024). Based on this, professional student societies in vocational institutions should be positioned as compound organizations of "interest + skill", which not only satisfy students' interests and hobbies but also focus on the cultivation of professional skills, rather than merely remaining at the level of entertainment (Xu, 2009; Liu, 2010). However, currently, student skill-based societies in vocational institutions have significant deficiencies in value guidance, specifically manifesting as the phenomenon of "emphasizing skills over morality". That is, they over-emphasize skill training while neglecting the education of humanistic qualities such as professional ethics and professional literacy (Han Xu, 2021). In addition, the forms of society activities are monotonous, lacking depth and connotation. They often stay at the superficial level of entertainment, making it difficult to truly enhance students' comprehensive qualities (Wei, 2010).

### *Lack of Professional Guidance*

In the construction of professional societies in vocational institutions, although most professional skill-based student society are equipped with professional teachers as mentors, some on-campus professional teachers, due to their long-term work at the front-line of teaching, lack practical experience in industries and enterprises and have an insufficient understanding of the latest development trends in these sectors. This disconnection between theory and practice leads to teachers' inability to provide students with forward-looking and practical guidance and advice (Li & Li, 2024). Taking the field of sommelier service as an example, some teachers may only be familiar with traditional beverage knowledge and service skills but have a lack of understanding of emerging beverage varieties and innovative service methods in the market. This lag in knowledge update severely restricts the development of professional skill-oriented student society, making it difficult for students to access the most cutting-edge industry trends and technologies, thus affecting the improvement of their vocational abilities.

### *Insufficient Social Services*

As an important organizational form of the second-classroom, one of the core objectives of skill-based student society is to cultivate students' vocational abilities and social practice abilities (Xie et al., 2009; Wei, 2010). However, currently, some skill-based student society in vocational institutions are overly conservative in activity organization. They excessively consider factors such as safety and cost, basically confining group activities within the school campus. This closed-off activity model results in students' lack of actual social service experience, making it difficult for them to apply the knowledge they have learned to practical work, thus affecting the improvement of their social practice service abilities. Taking the Sommelier Society as an example, although students have learned rich beverage knowledge and service skills at school, due to the lack of actual social service opportunities, they are unable to transform this knowledge into practical operational abilities and find it difficult to demonstrate their professional literacy in a real work environment. This disconnection from social practice not only limits students' career development but also affects the overall improvement of the educational quality of vocational institutions.

## Main Approaches

### *Career-Oriented Development with A Focus on Integrated Moral and Technical Training*

The talent cultivation of career-oriented professional student societies should "emphasize application, serve the workplace, and drive development." Meanwhile, it is essential to guide society construction with correct values and promote the sustainable development of high-quality societies through activities that combine both fun and substance, thereby enhancing the appropriateness of talent cultivation in vocational institution student societies specializing in professional skills.

**Clarifying Talent Cultivation Objectives Based on Career Orientation.** The Ministry of Education of China has clearly proposed that vocational education should "serve as the purpose, be employment-oriented, and integrate production, teaching, and research." (Ministry of Education of the People's Republic of China, 2004) It aims to cultivate technically skilled talents with strong practical abilities, good professional ethics, and who are oriented towards frontline production, management, and service positions (Lu, 2013). The teaching team of the G major at S School deeply recognizes that student societies specializing in professional skills, as an extension of professional courses, must be based on the talent cultivation objectives of the G major and oriented towards the corresponding occupational positions in the practical field. Therefore, before establishing student societies specializing in professional skills, the team conducted thorough research. They delved into the current development status and trends of the industry, sorted out the job requirements related to sommelier services in the catering industry, and explored the talent cultivation needs of beverage service societies for occupations such as bartenders, sommeliers, wine tasters, and mixologists. On this basis, the cultivation objective of the Sommelier Society was established as cultivating compound beverage talents with a sense of national pride, an international perspective, cross-cultural competence, possessing certain beverage knowledge, having solid beverage service skills, good social communication and coordination abilities, and being able to contribute to the promotion of beverage culture.

**Emphasizing The Integration of Moral Education and Technical Skills to Achieve Core Value Guidance.** Student societies are not merely organizations initiated by students out of interest; they should also highlight their role as carriers in value guidance, ensuring a correct political orientation and vitality. When constructing skill-based student societies, the teaching team of the G major at S School attaches great importance to ideological guidance within student societies and actively creates a favorable environment for ideological and political education within the society. In the design of society curricula and activities, not only are professional skills and occupational abilities emphasized, but also the cultivation of professional ethics, craftsmanship spirit, aesthetic taste, and good service awareness. For example, by organizing visits to beverage culture museums and inviting industry role models to share experiences, students' professional ethics and craftsmanship spirit are cultivated. Meanwhile, the team fully explores the moral education elements and content within professional sommelier service skills. Through methods such as video learning, role modeling, and case studies, ideological and political elements such as "confidence in beverage culture, patriotism, international perspective, professional ethics, and craftsmanship spirit" are integrated into society curricula and activities, empowering the cultivation of compound talents in the beverage field who possess technical skills, capabilities, responsibilities, and sentiments, from the land to the dining table.

**Combining Internal and External Activities to Enrich the Connotation of Society Development. Individuals.** cultivated through vocational education should not be mere robots with only skills. Emphasis should also be placed on the cultivation of humanistic accomplishment. In the design of society curricula and activities, immersive and experiential on-site learning and education are highlighted. Based on the staged characteristics of the training in the operation and management of high-star hotels and the students' ability levels, project-based activities are introduced in an orderly manner, taking real enterprise situations as references and teaching students in accordance with their aptitude, thus forming a society curriculum and activity design that "manifests externally and seeks internally," achieving a compatibility between fun and substantive development. For example, students are organized to carry out creative activities with a wine culture theme, allowing them to not only enhance their professional skills but also cultivate innovative thinking and humanistic qualities in the activities.

### *Joint Cultivation by Schools and Enterprises: A Dual-Entity Approach to Education.*

Student societies specializing in professional skills integrate resources from both schools and enterprises, incorporating "enterprise job standards, real enterprise tasks, frontline enterprise masters, and enterprise production environments" into society construction. Simultaneously, they leverage vocational skill competitions and relevant certificate examinations to empower society development. Joint cultivation by schools and enterprises, guided by dual instructors (one from school and one from enterprise), promotes student growth.

**Pooling Resources from Industries and Enterprises to Generate Synergistic Educational Effects.** Student society activities are centered around the major, possessing strong professionalism and practicality. The cultivation of students' occupational abilities must align with the actual conditions of industries and enterprises. Enterprise-based classrooms necessitate the establishment of a comprehensive, whole-process guidance mechanism both on and off campus, featuring collaborative education by dual instructors from schools and enterprises. This mechanism ensures consistency between school education and teaching and enterprise demands, enabling students' knowledge, skills, and qualities to meet enterprise requirements (Fei, 2014). On the one hand, the advisors of the Sommelier Society actively participate in industry and enterprise-related affairs, such as serving as judges for wine and spirits competitions organized by the Guangdong Provincial Alcoholic Beverage Industry Association and international-level beverage evaluation events, thereby staying abreast of industry trends and the latest technologies. On the other hand, high-quality educational resources from enterprises are introduced, and industry masters are hired to provide skill coaching for the society members. Leveraging the frontline work advantages of enterprise instructors in positions such as sommeliers and bartenders, the latest industry trends and cutting-edge skill knowledge are integrated into the cultivation of society students. For instance, renowned bartenders are invited to demonstrate bartending techniques on-site for students, share bartending experiences, enabling students to have close contact with beverage masters and enhance their professional skill levels and professional refinement. Additionally, through enterprise-based classrooms, students participate in master class courses taught by professionals in real enterprise environments, learning in authentic settings and precisely improving their professional skills guided by real enterprise instructions.

**Integrating "post-curriculum-competition-certificate" to cultivate high-quality talents.** The integration of "post-course-competition-certificate" represents an innovative talent cultivation model for high-skilled talents in vocational education. In this model, students acquire genuine skills through the unity of knowledge and action, achieving seamless alignment between the knowledge and skills learned in school and the demands of enterprise positions (Zeng, 2021). The Sommelier Society of S School adopts the " post-course-competition-certificate" integration model of introducing job requirements into courses, incorporating courses into job positions, integrating competitions into teaching, and embedding certificates into evaluations. Job requirements for bartenders, sommeliers, wine tasters, and mixologists are integrated into the society's curriculum, enabling students to clarify their learning objectives and career directions. Meanwhile, requirements from skill competitions such as restaurant service (selected national competitions, WorldSkills Competitions), hotel services, as well as the requirements for the "1+X" Wine Tasting and Sommelier Service Certificate, are incorporated into society curricula and activities, forming a society educational model that aligns courses with job positions and integrates courses with certificates. For example, students are organized to participate in various sommelier service skill competitions, promoting learning through competition and enhancing their professional skill levels. Students are also encouraged to obtain relevant certificates to increase their employability.

**Guided by industry standards to facilitate talent cultivation.** In the development of the Sommelier Society, international educational resources are introduced, benchmarking against the globally leading Wine & Spirit Education Trust (WSET) qualification certification courses in wine and spirits. S School has successfully applied to be a WSET examination center, obtaining authorization for WSET Level 1 and Level 2 certifications, while society advisors have obtained WSET Level 1 and Level 2 instructor qualifications. Additionally, the VINCERT comprehensive wine certification system, the Chinese Alcoholic Beverage Industry Association's wine taster standards, and the China Hotel Association's star-rated sommelier occupational standards are introduced, assisting the Sommelier Society in precisely cultivating talents and enhancing the appropriateness of talent cultivation in professional skill-based societies. By adhering to industry standards, students' knowledge and skills are aligned with international standards, improving their professional qualities and employability.

### *True Knowledge Emerges from Practice, and Service Facilitates Growth*

Professional practice serves as the fundamental approach and an integral part of cultivating application-oriented talents in vocational institutions. In the construction of student societies for the G major at S School, practice is carried out in three domains: 1) consolidating professional capabilities through on-campus society activities, 2) enhancing occupational capabilities through enterprise practice, and 3) forging practical innovation capabilities through practical curriculum.

**On-Campus Society Activities: Project-Driven Development.** The Sommelier Society of the G major adheres to the principle of "project-as-carrier, task-as-driver, and occupational capability-as-core competence" in practice. Dual instructors from both the school and enterprises adopt a project-based teaching approach, assigning specific tasks based on real enterprise projects. For instance, organizing a wine tasting dinner, hosting a cocktail and cold buffet reception, or completing a masterclass sommelier service are real enterprise projects that serve as tasks for society activities or courses. Driven by these project tasks, students enhance their professional skills and occupational capabilities. Through the operation of actual projects, students can better understand and master the knowledge and skills of beverage service, improving their ability to solve practical problems.

**Off-Campus Social Practice: Service-Enabled Development.** Providing external services is an important avenue for demonstrating the value of student societies specializing in professional skills and a key factor in enhancing professional influence. During the society construction process of the G major team at S School, they actively explore the educational model of "enterprise-based classrooms" guiding society students to integrate the professional knowledge and skills they have learned with practice through participating in sommelier service practices at international wine exhibitions, international wine evaluation competitions, and other similar events. Simultaneously, based on real beverage service work scenarios, this approach further promotes the cultivation of students' occupational capabilities, effectively honing their professional qualities, social skills, sense of social responsibility, and mission. For example, when students participate in services at international wine exhibitions, they need to communicate with clients from different countries and regions. This not only improves their foreign language proficiency but also cultivates their cross-cultural communication abilities and service awareness.

**Innovation and Entrepreneurship Practice: Innovation-Inspired Vitality.** The Sommelier Society places emphasis on cultivating the innovation capabilities and entrepreneurial spirit of its society members. Outstanding graduates who have started their own businesses are invited to serve as innovation and entrepreneurship mentors for the society, sharing their experiences in innovation and entrepreneurship. The society launches innovation and entrepreneurship activities with the theme of "Setting Up Stalls by Royal Decree, Selling Beauty," guiding students to engage in innovation and entrepreneurship practices during weekends and holidays. They set up stalls in parks, riverbanks, squares, and other locations, offering non-alcoholic cocktails, classic cocktails, innovative cocktails, classic snacks, and more to local residents and tourists. Through innovation and entrepreneurship practice, a platform is provided for society members to showcase themselves, exercise their abilities, and realize their self-worth, cultivating their innovative thinking and entrepreneurial capabilities.

## Achievements

### *Consolidating Professional Skills and Enhancing Professional Identity*

Participation in professional skill-oriented student societies has emerged as a pivotal approach for vocational institutions to elevate students' sense of professional identity. Research indicates that students involved in professional student society exhibit significantly higher levels of professional awareness, preference, and engagement compared to their non-society counterparts (Liu et al., 2023). Taking the Sommelier Society of the G major at S School as an example, the society has established a distinctive cultivation model characterized by "project-led and school-enterprise joint cultivation," providing students with a platform that seamlessly integrates theoretical knowledge with practical operations.

Under the guidance of projects, students actively engage in a variety of practical initiatives related to beverage service. From acquiring knowledge about beverages to honing service skills, every aspect of their learning is closely aligned with the demands of real-world work scenarios. Concurrently, the school-enterprise joint cultivation model facilitates the direct involvement of enterprise experts in the teaching process, enabling them to impart the latest industry trends,

operational norms, and practical experiences to students. This cultivation approach equips students with a more solid foundation in beverage knowledge and more professional sommelier service skills, encompassing not only basic knowledge such as beverage varieties, origins, and taste profiles but also professional skills including beverage mixing, tasting, and service etiquette.

During their participation in various social service activities, students receive tangible remuneration for their labor, which not only acknowledges their efforts but also deepens their appreciation for the value of their professional expertise. Furthermore, these social service activities broaden students' perspectives, offering them opportunities to interact with clients from diverse backgrounds and with varying needs, thereby enhancing their understanding of the industry's diversity and complexity. These experiences further deepen students' cognitive understanding of their major, enabling them to more clearly recognize the significance and prospects of their field of study, thus significantly enhancing their professional identity and pride.

Moreover, participation in professional skill-based societies exerts a profound influence on students' future career choices. Surveys reveal that these students are more inclined to pursue careers that align with their society and major after graduation. Taking the Sommelier Society as an example, some students have resolutely chosen to enter the beverage industry upon graduation. Leveraging the rich knowledge and solid skills acquired in the school society, they swiftly adapt to their job positions, demonstrating outstanding professional qualities and innovative capabilities, and achieving favorable career development. Some students have become sales pillars in beverage enterprises, while others have been promoted to management positions in hotel bars, contributing their strength to the development of the beverage industry.

### *Outstanding Competition Achievements Broadening the Pathways for Talent Development*

In the past three years, students from the Sommelier Society of the G major at S School have achieved remarkable results in various vocational skills competitions related to beverage service, fully demonstrating the society's exceptional effectiveness in talent cultivation. At the national level competitions, two students have won awards. These accolades not only represent the students' top-tier proficiency in professional skills but also bring great honor to the school and the society. At the provincial level competitions, students have performed even more outstandingly, with a total of seven students receiving awards. These achievements are the best reward for the students' diligent efforts.

Vocational skills competitions serve not only as a test of students' professional skills but also as an important avenue for them to obtain professional skill certificates. By participating in these competitions, students have successfully acquired relevant professional skill certificates, which are strong evidence of their professional abilities and add significant weight to their career development. Meanwhile, the competition results have also provided some students with the opportunity to be recommended for admission to top-tier undergraduate or higher vocational technical institutions within the province. A total of six students have seized this precious opportunity based on their excellent performances in the competitions. These students will have the chance to further their studies at a higher platform, enhancing their professional literacy and comprehensive abilities.

The society's outstanding graduates have also achieved remarkable accomplishments in their respective fields. One of them has taken on the role of chief bartender at the Too High Bar in the

Rosewood Guangzhou Hotel. With his exquisite bartending skills and unique service philosophy, he has won the favor of numerous customers, achieving an annual income of over 250,000 yuan and becoming a leading figure in the industry. Another graduate has chosen to start his own business. Leveraging the experience and resources accumulated in the school society, he has successfully opened his own bar, realizing a splendid transformation from a student to an entrepreneur. These success stories of outstanding graduates not only provide broad development prospects for individual students but also set a good example for the school, enhancing its influence in the field of vocational education and attracting more students to apply for the beverage service major at the school.

### *Prominent Social Practice Enhancing the Alignment of Talent Cultivation*

The "on-campus practice, off-campus practice, and innovative practice" trinity talent cultivation model constructed by the Sommelier Society offers students comprehensive and multi-level practical training opportunities, effectively solidifying the fundamental skills of in students' societies. During the on-campus practice phase, students familiarize themselves with the basic procedures and operational norms of beverage service through simulated training, case analysis, and other methods, laying a solid foundation for off-campus practice. Off-campus practice serves as a crucial stage for students to apply their acquired knowledge to real-world work scenarios. They step out of the campus, delve into actual work environments such as enterprises and hotels, and engage in exchanges and learning with industry experts and frontline employees, thereby accumulating rich practical experience. Innovative practice, on the other hand, encourages students to unleash their creativity and imagination, undertake innovative projects and activities, and cultivate their innovative spirit and teamwork capabilities.

Over the past five years, teachers and students from the Sommelier Society have been invited to participate in large-scale international wine and beverage exhibitions and events, including the 30th, 31st, and 32nd China (Guangzhou) International Wine & Spirits Fair, the 25th and 26th IGC Wine & Spirits Awards, and the 110th China Food & Drinks Fair. In these events, students have garnered unanimous praise from cooperating enterprises with their excellent service awareness, sincere smiles, and professional and proficient service operations. They not only provide high-quality beverage services for the events but also actively interact with exhibitors and attendees, promoting beverage culture and professional knowledge, showcasing the demeanor and capabilities of students from vocational institutions.

Participation in external service activities has effectively enhanced the social alignment of high-standard professional talent cultivation. Through collaboration and exchanges with enterprises, the school can promptly grasp changes in industry demand for talents and adjust talent cultivation plans and curriculum settings, ensuring that the cultivated students better meet the actual needs of enterprises. Meanwhile, these activities fully validate the construction philosophy of the S School's Sommelier Society, which is "to serve society, enterprises, and members," achieving a win-win-win situation for the school, enterprises, and students.

Moreover, by participating in these large-scale events, the social influence of the professional brand has been significantly enhanced. The school's and the society's reputation within the industry has continually risen, attracting more students and social resources to pay attention to the school's beverage service major. Many students have chosen to apply for the major due to the society's outstanding achievements and good reputation in the field of beverage service. Consequently,

numerous students have opted to apply for the beverage service major at the school after learning about the school's remarkable achievements and reputation in the beverage service field. Meanwhile, numerous enterprises and institutions have established cooperative relationships with the school, offering students internship, employment, and entrepreneurship opportunities, injecting new vitality into the school's development.

The involvement in external service activities has effectively enhanced the social alignment of high-star professional talent cultivation. Through collaboration and exchanges with enterprises, the school can promptly grasp the evolving demands for talents in the industry, thereby adjusting talent cultivation plans and curriculum settings to better align students' training with the actual needs of enterprises. Meanwhile, these activities fully validate the construction philosophy of S School's Sommelier Society, which is to "serve society, serve enterprises, and serve members," achieving a win-win situation for the school, enterprises, and students.

Furthermore, by participating in these large-scale events, the social influence of the professional brand has been significantly enhanced. The school and society's reputation within the industry has continuously improved, attracting more students and social resources to pay attention to the school's curriculum development. Many students choose to apply for the G major at the school after learning about its outstanding achievements and good reputation in the field of sommelier service. Meanwhile, some enterprises and institutions have also established cooperative relationships with the school, providing students with opportunities for internships, employment, and entrepreneurship, injecting new vitality into the school's development.

## Experiential Insights

As a vital component of the vocational education system, professional skill-based student societies in vocational institutions should proactively adapt to the developmental requirements of vocational institutions and diligently cultivate in three dimensions: empowering specialty construction, advancing market-oriented operations, and forging social service brands. This endeavor aims to comprehensively cultivate students' vocational capabilities, continually enhance their social adaptability, and contribute to the high-quality development of vocational education.

### *Empowering Specialty Construction*

Professional skill-oriented student societies should closely align with the school's professional construction and fully leverage the role of the second classroom as an extension and expansion of professional education. By meticulously planning and organizing various social practice activities, a robust bridge between professional characteristics and the second- classroom can be established, creating heuristic and project-based extended classrooms (Wei, 2010). These activities should not only encompass the practical application of professional knowledge but also encourage students to undertake professional innovation projects, organically integrating professional knowledge, practice, and innovative activities to form a complete system for enhancing professional capabilities. Through participation in these practical activities, students can gain a deeper understanding of professional knowledge, improve their professional skill levels, and simultaneously cultivate a sense of identity and pride in their major, thereby fostering a virtuous cycle of mutual promotion between talent

cultivation and professional construction. For instance, societies can design and implement relevant innovation projects in conjunction with professional course content, enabling students to deepen their understanding and mastery of professional knowledge through practice, achieving a dual enhancement of knowledge and skills.

### *Advancing Market-Oriented Operations*

The construction of professional skill-based student societies should emphasize the principal status of students and adopt an enterprise-like mindset in the construction and operation of the societies (Jiang, 2010). During the society construction process, it is essential to strengthen students' understanding of enterprises, occupations, and job positions, facilitating an early transition in occupational awareness to address potential disparities in the enthusiasm for school-enterprise cooperation and meet the practical needs of students for close contact with enterprises. Societies should establish a mindset of "running a society like running an enterprise," providing service outcomes in a market-oriented manner, continually enhancing the society's "hematopoietic" function, and achieving high-quality and sustainable development of the society. For example, student society can undertake relevant projects from enterprises, providing professional services to enterprises, thereby generating economic benefits while honing students' practical abilities and professional qualities. Simultaneously, student society can actively explore new models of cooperation with enterprises, such as jointly establishing training bases and conducting joint training programs, to further broaden the society's development space.

### *Forging Social Service Brands*

The development of professional skill-based student societies is inseparable from the support of socialized practice projects. Student society should persist in taking professional projects as the core and social work in enterprises, communities, and other sectors as the foundation, continuously excavating and refining professional characteristics, and deepening and solidifying social services. In the process of providing social services, societies should scientifically and reasonably manage the relationship between the quantity and quality of social services, concentrating efforts on creating a batch of brand projects that align with professional characteristics. These brand projects should not only possess a high degree of professionalism and innovation but also effectively address social issues and meet social needs. By continuously forging and promoting these brand projects, student societies can expand the transformation of their brand achievements, attracting more teachers and students to integrate into them and jointly contribute to social development. For instance, a Sommelier Society can create distinctive beverage culture promotion projects, enhancing the society's social visibility and influence through activities such as holding beverage culture lectures and tasting sessions, while simultaneously promoting the inheritance and development of beverage culture. These activities can not only attract more students and members of the public to pay attention to and participate in beverage culture but also provide a platform for society members to showcase themselves and hone their abilities.

## Conclusion

The Sommelier Society of the G major at S School has proactively explored and established a

distinctive "enterprise-classroom" model amidst the wave of vocational education reform. Based on an occupational orientation, this model provides a highly valuable practical paradigm and theoretical reference for the construction of professional skill-oriented student societies in vocational institutions. It profoundly grasps the essence of vocational education, with "occupational orientation and the simultaneous cultivation of morality and skills" as its core principles, accurately positioning the direction of talent cultivation and offering an effective pathway to address the prominent issues in the current construction of professional skill-based student societies in vocational institutions.

Against the backdrop of numerous challenges faced in student society construction, the innovation and effectiveness of this model are particularly prominent. Currently, professional skill-based student societies in vocational institutions generally suffer from unclear training objectives, resulting in society activities lacking systematicity and pertinence, and making it difficult for students to obtain clear guidance on their career development paths. The "enterprise-classroom" model integrates an occupational orientation throughout the entire process of society construction, setting training objectives closely aligned with the needs of industries and enterprises. This enables students to clearly recognize the close connection between the enhancement of their professional skills and their future career development, thereby stimulating their learning motivation and career planning awareness.

The lack of professional guidance is another critical factor constraining society development. Although in-school professional teachers possess solid theoretical knowledge, they often lack practical industry experience, making it difficult to provide students with forward-looking and practical guidance. The "enterprise-classroom" model integrates school-enterprise resources, introducing enterprise experts to form a guidance team alongside in-school teachers, achieving a profound integration of theory and practice. Enterprise experts, with their rich practical experience, impart the latest industry technologies, operational norms, and workplace survival skills to students. In-school teachers, leveraging their theoretical strengths, help students construct a complete knowledge system. The two complement each other, providing students with comprehensive and multi-layered professional guidance.

Insufficient social services confine student society activities to the campus, depriving students of opportunities to engage with society and understand the actual demands of industries. This leads to a disconnect between talent cultivation and societal needs. The "enterprise-classroom" model actively engages in diverse practices, extending society activities to the front lines of enterprise production and community service scenarios. This allows students to hone their professional skills in real-world social environments and enhance their sense of social responsibility and service awareness. By participating in enterprise projects and community public welfare activities, students can not only apply their acquired knowledge in practice but also promptly grasp changes in societal demand for talents, thereby adjusting their learning and development strategies accordingly.

Practical effectiveness serves as a crucial criterion for evaluating the validity of a model. Driven by the "enterprise-classroom" model, the Sommelier Society of the G major at S School has achieved remarkable results. Students' professional skills have been significantly enhanced, as evidenced by their frequent successes in various professional skills competitions. These accolades not only affirm students' personal capabilities but also highlight the society's outstanding achievements in talent cultivation. Simultaneously, students' sense of occupational identity has been greatly strengthened, instilling them with confidence and enthusiasm for their chosen majors and

enabling them to more clearly define their occupational goals and development paths. Moreover, this model has broadened the pathways for talent growth, providing students with more platforms to showcase themselves and realize their value, thereby cultivating their innovative spirit and practical abilities and laying a solid foundation for their future development. More importantly, the alignment between talent cultivation and societal needs has been substantially improved, with graduates capable of swiftly adapting to the corporate work environment and creating value for enterprises, thus achieving a tripartite win-win situation for the school, enterprises, and students.

From the successful experience of the Sommelier Society of the G major at S School, we can glean profound insights. Professional skill-oriented student societies in vocational institutions should actively empower specialized construction by closely integrating society activities with professional courses, carrying out characteristic practice activities centered around core professional capabilities, fostering a collective culture with professional characteristics, and enhancing the society's professional connotation and quality. Advancing market-oriented operations is an inevitable requirement for the sustainable development of societies. Student societies should learn from enterprise management models and operational mechanisms, establish market and service awareness, conduct activities guided by market demand, improve the society's "hematopoietic" function, and achieve self-development and self-improvement. Creating social service brands is a pivotal measure to enhance the society's influence and societal recognition. Societies should focus on social hot issues and industry demands, forge a batch of exemplary and leading social service projects, form a unique brand effect, attract more teachers and students to participate, and contribute to social development.

By empowering specialized construction, advancing market-oriented operations, and creating social service brands, professional skill-oriented student societies in vocational institutions can better cultivate students' vocational capabilities, enhance their social adaptability, and achieve coordinated development between societies and majors. This not only helps to improve students' comprehensive qualities and employment competitiveness but also injects new vitality into the cultivation of vocational education talents, promoting vocational education to develop towards higher quality and level, and nurturing more high-quality skilled talents for economic and social development.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Bai, Y. F. (2025). The value orientation and practical approaches of collaborative education in institution student societies (2025). *Journal of Hubei Open Vocational Institution*, 38(6).

Chen, F., & Guo, X. H. (2022). Research on the educational function of institution student society organizations. *School Party Building and Ideological Education*, (08), 74-77.

Fei, T. T. (2014). Exploration and practice of the "double-tutor" system in the cultivation of higher vocational talents. *Occupational Space-Time*, 10(10), 78-81.

Han, X. (2021). An analysis of the current situation and improvement strategies for the educational effectiveness of institution student societies. *Ideological and Theoretical Education*, (01), 108-111.

Hou, G., & Huang, F. W. (2009). Analysis of achievements and problems in the reform of "employment-oriented" secondary vocational education. *China Vocational and Technical Education*, (21), 48-51.

Hou, Y. Y. (2005). On the positioning and orientation of higher vocational education in China. *Education and Vocation*, (9), 9-12.

Jiang, Y. (2010). Analysis of the development ideas for professional skill-oriented student societies in higher vocational institutions. *Commodity & Quality: Theoretical Research*, (5), 126-127.

Li, Y. P., & Li, X. H. (2024). An analysis of the educational practice of institution student societies under the "three-dimensional education" system. *Education Forum*, 2024, 6(4).

Liu, H. (2010). Reflections on the construction of professional student societies in higher vocational institutions. *Xinjiang Vocational Education Research*, (1), 77-80.

Liu, L., Xiang, J. R., & Dong, Y. (2023). Evaluation of the effectiveness of professional student society construction in enhancing the professional identity of preventive medicine undergraduates. *Health Vocational Education*, 41(14), 50-54.

Lu, Q. (2013). A practical study on the second-classroom practice of higher vocational secretarial majors centered on the cultivation of vocational abilities. *Journal of Nanjing Radio & Television University*, (1), 59-62.

Meng, M. N. (2023). A case study on the promotion of students' vocational abilities through professional societies. *China Training*, (07), 100-102.

Ministry of Education of the People's Republic of China. (2004). *Several Opinions of the Ministry of Education on Deepening the Reform of Higher Vocational Education Guided by Employment Orientation.* Gao Jiao (2004) No. 1.

Shan, X. Y. (2015). Research on the construction of professional skill-oriented student societies in higher vocational institutions. *Journal of Liaoning Economic Vocational Technical Institution*, (2), 81-83.

Wei, Z. B. (2010). Problems and countermeasures in the construction of professional student societies. *Journal of Institution Counselors*, (5), 45-47.

Wu, Y. G., & Yang, S. Y. (2024). Student societies empower ethnic universities to forge a stronger sense of national identity. *Ethnic Education Research*, 35(02), 28-35.

Xi, J. P. (2016). *Speech at the National Conference on Ideological and Political Work in Institutions and Universities*.

Xie, X. X., Du, L. C., & Li, T. G. (2009). Strengthening the construction of the second classroom to cultivate students' practical and innovative abilities. *Journal of Leshan Normal University*, 24(8), 112-116.

Xu, Z. L. (2009). Reflections on the construction of professional skill-oriented student societies in higher vocational institutions. *Jiangsu Social Sciences*, (S1), 131-134.

Zhang, Y. H. (2011). Practical exploration of the relationship between institution student societies and entrepreneurial education. *Education and Vocation*, (12), 95-97.

Zeng, T. S. (2021). Practical exploration of cultivating highly skilled talents through the integration of "positions, courses, competitions, and certificates". *China Vocational and Technical Education*, (08), 5-10.

## Authors' Bibliography

**Yan Zhong** is currently employed at Shunde Secondary Vocational School in Foshan City, where she serves as the Director of the Teaching and Research Office. She is a doctoral candidate in International Tourism Management at City University of Macau. Her primary research areas include culinary tourism, the "Three Teaching Reforms" in vocational education (referring to reforms in curriculum, teaching methods, and teacher development), with a particular focus on AI-enabled interdisciplinary project-based learning.

**Xiaoyong Guo** is currently employed at Shunde Secondary Vocational School in Foshan City, serving as a full-time faculty member specializing in the High-Star Hotel Operations and Management program. He is a Senior Dual-Qualified Teacher and a Senior Technician. Previously, he held the position of Deputy General Manager at a travel agency and was recognized as an Outstanding Teaching Support Expert in Qiandongnan Prefecture, Guizhou Province. He has also been awarded the First Prize in the National Competition for Teaching Ability. His primary research interests include culinary cultural interpretation and guided tours, the "Three Teaching Reforms" in vocational education (curriculum, teaching methods, and teacher development), with a specific focus on AI-enabled interdisciplinary project-based learning.

**Shuijie Huang** is currently employed at Shunde Secondary Vocational School in Foshan City, where she serves as the Head of the Economics and Management Department. She is a postgraduate student at Zhongkai University of Agriculture and Engineering, with her primary research interests focusing on development of specialized curriculum for culinary education, and construction of professional resource repositories.

Global
Cases & Practices of
Vocational Education

ARTICLE

# Situational Teaching Design and Application Effects in the Cultivation of Aesthetic Literacy for Vocational Students: A Case Study of the "Tea Art" Course

## Authors
Nuan Zhao, Hua Guo, Jiajia Pan

## Correspondence
Hua Guo, Email: guohua@m.scnu.edu.cn

Received: May 03, 2025
Revised: May 17, 2025
Accepted: June 08, 2025
Published: June 15, 2025

## Citation
Zhao, N., Guo, H., & Pan, J.J. (2025). Situational Teaching Design and Application Effects in the Cultivation of Aesthetic Literacy for Vocational Students: A Case Study of the "Tea Art" Course. *Global Cases & Practices of Vocational Education,* 1(1), 125-151.

Global
Cases & Practices of
Vocational Education

ARTICLE

# Situational Teaching Design and Application Effects in the Cultivation of Aesthetic Literacy for Vocational Students: A Case Study of the "Tea Art" Course

**Nuan Zhao[a], Hua Guo[a], Jiajia PAN[b]**
[a] School of Tourism Management, South China Normal University
[b] Innovation Institute for Industry-Education (IIIE)

## Abstract

With the gradual improvement of living standards, the tourism industry places greater emphasis on products with aesthetic value. Vocational education is employment-oriented, and its skill training tends to be mechanized, which to some extent neglects aesthetic education. This study aims to explore methods for cultivating students' aesthetic literacy through situational teaching methods. The paper first reviews the literature to understand the research progress on situational teaching methods and aesthetic literacy. Secondly, NVivo was used to extract and analyze keywords of aesthetic education policy texts and teacher interview texts to refine the dimensions of aesthetic literacy goals. Building on Du Wei's three dimensions of aesthetic knowledge, aesthetic ability, and aesthetic awareness, a dimension of moral cultivation is added, and the specific aesthetic literacy embodied in the six elements of tea art is analyzed and presented. Finally, the paper constructs a model for cultivating aesthetic literacy by combining the types of situation creation with the unique advantages of situational teaching. A six-step teaching process of "stimulate, teach, practice, integrate, showcase, evaluate" is proposed, and two rounds of action research are conducted to explore the effect of situational teaching on cultivating the aesthetic literacy of tourism major students. The study concludes the following: (1) Situational teaching methods can promote the integration of tea art courses and aesthetic education, providing a reference for integrating aesthetic education into other professional courses; (2) The teaching process design of situational teaching methods for enhancing students' aesthetic literacy is feasible; (3) Situational teaching methods have a significant effect on cultivating students' aesthetic literacy.

***Keywords:*** *situational teaching method; aesthetic literacy; tea art course; secondary vocational education*

## Introduction

### *Research Background*

In the historical process of advancing educational modernization, aesthetic education in our country's schools has made significant progress. *"The Decision on Deepening Educational Reform*

*and Comprehensively Promoting Quality-oriented Education"* (1999) reviewed and approved at the Third National Education Work Conference in 1999, established for the first time the "comprehensive development of morality, intelligence, physical fitness, and aesthetics" as the core connotation of quality-oriented education. This institutional breakthrough highlighted the intrinsic connection between quality education and aesthetic education. The *"Notice of the State Council on Issuing the National Vocational Education Reform Implementation Plan"* (2019) issued by the State Council in 2019, clearly stated that vocational education and general education are equally important, representing two different types of education. The 2019 *"Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era"* (2019) set out the main goals for aesthetic education, aiming to achieve breakthrough progress in school aesthetic education by 2022 and to basically form a modern school aesthetic education system with Chinese characteristics by 2035. However, overall, aesthetic education still faces challenges of marginalization and uneven and insufficient development, remaining a weak link in school education. Vocational education is perceived by society as a lower tier compared to general education and as non-typical education. As China's tourism industry transitions from "high-speed growth" to "high-quality development," the industry's requirements for practitioners have shifted from single-skill talents to multi-skilled talents. Cultivating students' aesthetic literacy is not only essential for their comprehensive development but also a crucial path to resolving the talent supply-demand imbalance in the tourism industry and promoting industrial upgrading. This research adopts situational teaching as the primary method for cultivating students' aesthetic literacy and explores its implementation in classroom teaching.

### *Research Purposes and Questions*

The research aims to analyze the objectives of students' aesthetic literacy and explore cultivation process for enhancing it through situational teaching methods. It proposes a practical teaching process, teaching designs, implements, and evaluates the effectiveness of situational teaching methods in cultivating students' aesthetic literacy.

The research questions are as follows: (1) What are the objectives of students' aesthetic literacy? (2) What is the teaching process for cultivating students' aesthetic literacy in the "Tea Art" course? (3) What is the effect of the situational teaching methods in cultivating students' aesthetic literacy?

## Literature Review

### *Aesthetic Literacy*

There is no clear definition of the connotation of aesthetic literacy, but it generally involves aesthetic knowledge, ability, creativity, and concepts. This study mainly refers to Du Wei's viewpoint, who considers aesthetic literacy as the quality and cultivation accumulated by individuals based on aesthetic experience, including aesthetic knowledge, ability, and awareness (Du, 2014).

Western thought on aesthetic education can be traced back to ancient Greece and Rome, where thinkers focused on exploring the interactive relationship between aesthetic education and other forms of education, although the ontological foundation of the discipline had not yet formed (Su, 2004). In the 18th century, Immanuel Kant, the founder of German classical aesthetics, formally

proposed establishing aesthetic education as a discipline, advocating for the unification of cognition and practice through aesthetic emotions (Zhu, 2017). Schiller(1984) defined aesthetic education as "education that can enhance appreciation and aesthetics," placing it alongside moral, intellectual, and physical education, indicating that aesthetic education has gained an independent status within the educational system. Since the 20th century, Western thought on aesthetic education has involved multiple fields such as pedagogy, psychology, and philosophy. Frois and Eysenck (1995) studied the increase in visual aesthetic sensitivity in adolescents and adults with age, stabilizing at age 14. Acer and Ömeroðlu (2008) researched the impact of aesthetic education on the development of aesthetic judgment in six-year-old children and recommended specific aesthetic education activities. Marković (2012) argued that the aesthetic process includes input, evaluation, and emotion. In the 21st century, Western thought on aesthetic education is facing a new developmental environment——artificial intelligence, which will undoubtedly present new developmental trends (Xu, 2021).

Domestic research focuses on the functions of aesthetic education, aesthetic education courses, evaluation research, influencing factors, and enhancement strategies. *"Opinions on Comprehensively Strengthening and Improving School Aesthetic Education"*issued the functions of aesthetic education, it not only enhances an individual's aesthetic literacy but also subtly influences a person's emotions, tastes and temperament, inspiring the spirit and nurturing the soul. Good aesthetic quality is a necessary condition for a well-rounded psychological personality (Ning, 2004). In terms of aesthetic education courses, research mainly focuses on arts appreciation and arts skills courses in colleges, showing a trend of interdisciplinarity trend. However, there are issues such as the limited number, fragmentation, and disorder in the overall course setup (Sun & Wang, 2014), as well as problems of teachers lacking aesthetic literacy and the homogenization and rigidification of aesthetic education course content (Guo, 2020). In terms of aesthetic education evaluation, current scholarly perspectives adhere to the principles of combining standardization with individualization, objectivity with subjectivity, and outcomes with processes. For example, Ran (2008) categorizes aesthetic education evaluation methods into four forms: situational evaluation, self-evaluation, peer evaluation, and test-based evaluation. In terms of factors influencing aesthetic literacy, they can be divided into subjective and objective aspects. Students' aesthetic literacy is closely related to their personal physical and mental development levels and cognitive abilities; meanwhile, school-based aesthetic education, changes in the social environment, and family atmosphere can also lead to variations in students' aesthetic literacy (Li, 2017; Tang, 2021; Yi, Xu, & Du, 2023). Regarding improvement strategies, existing literature identifies three major agents in research on strategies for enhancing aesthetic literacy. Centered on educators, Li and Wang (2018) suggest that approaches to developing teachers' aesthetic literacy mainly include proactive self-improvement by teachers, schools cultivating an environment conducive to aesthetic education, and teacher training institutions improving aesthetic training programs. Luo (2018) proposes recommendations such as strengthening ethical cultivation among teachers, emphasizing the study of aesthetic theory and practice, enhancing professional skills, and promoting self-reflection. Focusing on students, Tang, Luo, and Wang (2016) argues that aesthetic education should begin with cultivating students' aesthetic experiences, upon which efforts should be made to actively build an aesthetic campus culture and curriculum system. Li (2017) suggests that, against the background of widespread entertainment culture, schools should enhance students' ability to make aesthetic judgments and

foster an elegant aesthetic environment on campus. Regarding the population as a whole, Yi and Du (2015) propose three suggestions: providing aesthetic education through existing school art education systems, offering lifelong art education services to citizens via social cultural and art institutions, and encouraging governments to focus on improving the aesthetics of living environments. Liang, Li, and Yang (2020), taking Hanfu aesthetics as an entry point, recommend adjusting the proportion of aesthetic education within school curricula, establishing rational cultural confidence, regulating and guiding extreme online discourse, and fostering a sense of "community" among citizens.

### *Situational Teaching*

In 1986, Professor Li Jilin from China provided an initial definition of situational teaching, describing it as a pedagogical approach in which typical instructional scenarios are constructed by teachers to stimulate students' emotions, thereby integrating affective activities with cognitive processes.

Research on situational teaching abroad can be traced back to the views of American educator John Dewey. He argued that learning should originate from real-life experiential contexts and pointed out in his work "How We Think" that the initial stage of knowledge construction must be rooted in concrete practical settings (Dewey, 2015). In 1996, the book "Perspectives on Situated Learning" was published, integrating situational cognition theory with practical applications at multiple levels and further advancing the development of theoretical frameworks (Clancey, 1995). In 2000, "Learning Environments" included discussions on situational cognition theory, clarifying the direct relationship between situational cognition theory and both learning and practice (Jonassen & Land, 2000). This theoretical breakthrough propelled research on situational teaching into deeper application areas such as educational technology and vocational training, ultimately forming an interdisciplinary integrated system.

Domestic research on situational teaching can be divided into three stages. Stage One: Initial Exploration Period (End of the 20th century). In 1978, Li (1995) conducted experiments on the situational teaching method in China, marking the beginning of situational teaching research in the country. Stage Two: Rapid Development Period (End of the 20th century—2015). Around the turn of the century, the new curriculum reform emphasized the "three-dimensional objectives," focusing on enhancing abilities and cultivating emotional engagement, which aligned with the fundamental connotations of situational teaching; consequently, situational teaching experienced significant growth. He (2004) proposed a five-step situational teaching model centered on educational theory, which includes: Situation First, Entering the Context with Reasoning, Clarifying Reason through Context, Analyzing Context with Reasoning, and Continuing the Context to Cultivate Emotion. Chen (2012) emphasized "creating learning situations and bringing students to real-life settings," aiming to enhance students'hands-on skills and teamwork spirit through situational teaching. Stage Three: The High-Quality Development Phase (since 2015). With the arrival of the digital era, competencies such as critical thinking and digital literacy have gained significant attention. In the context of situational teaching in tourism English, Chen (2017) suggested that teachers should employ modern educational technologies, such as electronic whiteboards, recording systems, and WeChat, to stimulate students' interest in learning English.

### *Aesthetic Literacy and Situational Teaching*

Research has shown that Li (2010) frequently highlighted the connection between situational teaching and aesthetic education. She believed that developing students' ability to perceive beauty forms the foundation of aesthetic education. Beauty exists objectively, without the ability to recognize beauty, one cannot appreciate or create it. Situational teaching can effectively foster students' aesthetic and moral emotions. In beautiful and enriched environments, students feel joyful, which accelerates neural connections, leading to happy and efficient learning (Li, 1987). Teachers use beauty to evoke emotion, use emotion to stimulate intelligence, and integrate emotion and intelligence to stimulate students' "internal motivation" for active development. This is the highest level of situational education (Li, 2016). From the perspective of embodied cognition, the situational teaching method creates immersive and interactive learning environments that enable students to convert abstract aesthetic concepts into tangible bodily memories through physical participation, emotional resonance, and sensory experiences (Gong, Jia, & Liu, 2018). From an interdisciplinary integration standpoint, situational teaching acts as a "bridge", addressing the challenge of integrating knowledge across disciplines through scenario design and emotional engagement (Jin & Li, 2024). The application of situational teaching to cultivate aesthetic literacy among secondary vocational tourism students not only enriches theoretical research but also provides educators with new practical opportunities.

## Research Design

### *Case Site Selection*

Zhuhai First Vocational School is a full-time public national key secondary vocational school. The school upholds the educational philosophy of "cultivating people through beauty," guided by its "Harmonious and Joyful Culture," and integrates aesthetic education throughout the entire student development process. Modern teaching facilities such as posture training rooms, art studios, and photography studios have been established, and over 50 student clubs focused on aesthetic education have been created, providing students with an excellent environment for aesthetic learning and offering abundant resources for research in this field.

### *Research Methods*

Semi-structured Interviews: Before instructional design began, teachers were interviewed to understand the current state of students 'aesthetic literacy development and related educational objectives.

Questionnaire Survey: This study designed an "Aesthetic Literacy Evaluation Scale" based on four dimensions——aesthetic knowledge, aesthetic ability, aesthetic awareness, and moral cultivation. Students were assessed before and after instruction, and the results were analyzed and compared to explore the effectiveness of aesthetic literacy cultivation.

Action Research: Situational Teaching methods were applied to the "Tea Ceremony" course in secondary vocational education through four stages: planning, action, observation, and feedback. Two cycles of instructional design and implementation were carried out.

### *Research Design*

Aesthetic Literacy Objectives: NVivo software was used to extract concepts from literature, policy documents, and teacher interviews related to aesthetic education, identifying key dimensions of aesthetic literacy objectives. These dimensions were then used to develop a Likert-type measurement scale tailored to the "Tea Art" Course.

Instructional Design: Situational Teaching methods were employed to design the instructional flow of the "Tea Art" Course. Two tea lessons were selected for instructional design and implementation to evaluate the effectiveness of Situational Teaching in fostering students 'aesthetic literacy.

Teaching effectiveness: This study integrates qualitative and quantitative analyses. Quantitative analysis is carried out through comparisons of pre- and post-tests as well as practical assessment scores, while qualitative analysis is based on feedback from teaching faculty and students.

## Aesthetic Literacy Objectives

This study is grounded in national policies on aesthetic education and addresses the practical needs of secondary vocational education. Drawing upon the foundational structure of aesthetic literacy proposed by Du (2014), The dimensions of aesthetic quality objectives were extracted using the qualitative analysis software NVivo: first, the policy texts on aesthetic education were encoded; Second, in-depth interviews were conducted with five full-time teachers from the Tourism Department to extract aesthetic literacy objectives from frontline teaching practices. Ultimately, a four-dimensional framework of aesthetic literacy objectives was synthesized: "Aesthetic Knowledge—Aesthetic Ability—Aesthetic Awareness—Moral Cultivation.“

### *Literature Perspective Analysis*

Du Wei posits that aesthetic literacy primarily consists of three components: aesthetic knowledge, aesthetic ability, and aesthetic awareness. Aesthetic knowledge serves as the foundation of aesthetic literacy and includes knowledge of aesthetics and art; aesthetic ability represents the core and encompasses aesthetic sensibility, appreciation, and creativity; aesthetic awareness functions as the soul of aesthetic literacy and comprises aesthetic taste and values (Du, 2024), this study draws on Du Wei’s framework, identifying aesthetic knowledge, aesthetic ability, and aesthetic awareness as the fundamental elements of aesthetic literacy.

### *Aesthetic Education Policy Analysis*

This study is grounded in the Chinese government's specific requirements for aesthetic education and adopts a policy-oriented approach. NVivo software is utilized to analyze original texts of relevant aesthetic education policies, identifying key elements essential for fostering students' aesthetic literacy. To ensure the objectivity of the research, this paper focuses on documents officially issued by the Ministry of Education. By searching for the keyword "aesthetic education" on the Ministry’s official website, sequentially browsing and organizing publicly available policies, and excluding those unrelated to the topic, five representative policy documents from 2014 to 2024 are selected. Relevant statements concerning aesthetic literacy are extracted and analyzed to

identify initial concepts, as presented in Table 1, which illustrates part of the coding process.

**Table 1**
*Policy Document Analysis*

| Policy | Original Policy Text | Initial Concept |
|---|---|---|
| Opinions on Comprehensively Strengthening and Improving School Aesthetic Education | *Aesthetic education is not only aesthetic cultivation, but also emotional and spiritual education. It enhances individuals' aesthetic literacy and subtly influences their emotions, tastes, dispositions, and outlooks, inspiring the spirit and nurturing the heart...* | Aesthetic education, moral cultivation, spiritual development enhances aesthetic literacy, subtly influence, emotions, tastes, dispositions, outlooks, inspiring the spirit, nurturing the heart... |
| Notice on Carrying Out the Sports and Aesthetic Education Immersion Action Plan | *Uphold the principle of educating and cultivating people. Based on the characteristics of physical and aesthetic education as well as the laws of students' physical and mental development, promote Chinese excellent traditional culture, inherit and develop revolutionary culture, and spread advanced socialist culture through physical education and aesthetic influence, aiming at every student. Guide students to establish correct outlooks on life, values, health, and aesthetics...* | China's excellent traditional culture, revolutionary culture, advanced socialist culture, outlooks on life, values, health, and aesthetics... |
| Opinions on Effectively Strengthening Aesthetic Education in Higher Education Institutions in the New Era | *School-based aesthetic education carries strong ideological attributes. It should be guided by socialist core values, promote Chinese excellent traditional culture, inherit revolutionary culture, and develop advanced socialist culture, thus fostering a new awareness among college students of enhancing cultural subjectivity and assuming cultural responsibilities...* | Socialist core values, Chinese excellent traditional culture, revolutionary culture, advanced socialist culture, cultural subjectivity... |

*Continued From Previous Page*

| | | |
|---|---|---|
| Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era | *Beauty is a vital source for purifying morality and enriching the spirit. Aesthetic education encompasses aesthetic, emotional, and moral education; it is also education that nurtures imagination and fosters innovation. It enhances aesthetic literacy, cultivates sentiments, nurtures the heart, and stimulates creativity...* | Purifying morality, enriching the spirit, encompasses aesthetic, fosters innovation, cultivates sentiments, nurtures the heart, and stimulates creativity... |
| Notice on the Comprehensive Implementation of the School Aesthetic Education Immersion Action | *Promote the spirit of Chinese aesthetic education and strengthen cultural confidence. Regard immersion as the goal and approach of aesthetic education, integrating it into all aspects of teaching and learning activities. Subtly demonstrate its educational effectiveness in improving aesthetic literacy, cultivating sentiments, nurturing minds, and stimulating creativity, thereby cultivating well-rounded socialist builders and successors with moral integrity, intelligence, physical fitness, aesthetic appreciation, and a strong work ethic...* | Cultural confidence, nurturing minds, stimulating creativity... |

### *Analysis of Teacher Interviews*

To explore the objectives of cultivating students' aesthetic literacy, semi-structured interviews were conducted with teachers from the Tourism Department at Zhuhai First Vocational School. The participants included four teachers from the department and one external teacher, assigned codes T1 to T5. Details of the interviews are provided in Table 2.

Teachers' backgrounds involve expertise in tourism and aesthetic education:

T1:Host of the Guangdong Province Model Principal Studio, research focus on “Virtue Integration”.

T2: Tea Art Instructor, teaching the course “Chinese Tea Art”.

T3: Deputy Director of the Tourism Department, Senior Lecturer, teaching the course “Hotel Services”.

T4: Pearl River Scholar, part-time master's supervisor at South China Normal University, research focus on wine tourism.

T5: Tea Art Instructor, teaching the course “Chinese Tea Art”.

After the interviews, the author compiled 24383 words of raw text. Initial concepts were identified from the interview text, as shown in Table 3, which displays some of the coding results.

**Table 2**
*Interview Information*

| Number | Date | Interview Location | Courses Taught | Recording Format |
|---|---|---|---|---|
| T1 | 2024.04.25 | Famous Head Teacher Studio | Physical Education Class | Audio Recording |
| T2 | 2024.04.23 | Office of the Tourism Department | Tea Art Class | Audio Recording |
| T3 | 2024.04.28 | Office of the Tourism Department | Hotel Services | Notes |
| T4 | 2024.04.22 | Master's Studio | Mixology class | Audio Recording |
| T5 | 2024.04.28 | Office of the Tourism Department | Tea Art Class | Notes |

**Table 3**
*Initial concepts from teacher interviews*

| Number | Specific description | Initial concept |
|---|---|---|
| T1 | "Our hotel management students are highly sought after by employers at campus job fairs. This is mainly reflected in three areas: first, their overall image and demeanor; second, their language skills and communication abilities; and third, their overall cultural literacy and sophistication." | Image and demeanor, language skills, communication abilities, perfect posture, cultural confidence... |
| T2 | "We also provide students with opportunities to create and design tea ceremonies, including clothing coordination, hoping that they will exercise their creativity in courses that meet the basic requirements of tea art." | Creativity, tea ceremony design, clothing coordination... |

*Continued From Previous Page*

| | | |
|---|---|---|
| T3 | "Just like Western-style dining service, it is first and foremost about the beauty of language and physical appearance, followed by the professionalism demonstrated throughout the service process. In the front of house, you always need to look your best with makeup, and when setting up the dining area for Western-style meals, you must be thoroughly familiar with the entire workflow." | The beauty of language, physical appearance, professionalism, image, makeup, job responsibilities... |
| T4 | "In course design, the focus is on etiquette and personal image. As vocational school students, they have basically mastered these skills, such as makeup application, hair styling, posture while walking and sitting, and proper attire. However, they lack the ability to appreciate and create beauty, so they often end up imitating others without truly creating beauty themselves." | Personal image, posture, grooming, aesthetic appreciation, creative ability, imitating others... |
| T5 | "Students are able to notice details such as room layout and the cleanliness of public areas, which are all manifestations of moral cultivation." | Attention to detail, room layout, cleanliness of public areas... |

### *Aesthetic Literacy Objective Dimensions*

A total of 121 initial concepts were extracted from the original texts of policy documents and teacher interviews. Considering the redundancy and overlap among the initial concepts, the author refined them to obtain 28 initial categories. To further explore the relationships between the initial categories, they were grouped into subcategories and main categories, ultimately yielding 10 subcategories and 4 main categories. The main categories include aesthetic knowledge, aesthetic ability, aesthetic awareness, and moral cultivation, as detailed in Table 4.

The logical connection among the four is manifested as a dynamically generated structural relationship. Aesthetic knowledge provides the cognitive foundation for the development of aesthetic abilities, while the practice of aesthetic abilities in turn feeds back into the iteration of knowledge. Aesthetic awareness determines how students select their focus within the complex knowledge system, and moral cultivation represents the stable professional competencies and moral qualities that students gradually develop throughout this process. The parallel arrangement of moral cultivation alongside aesthetic knowledge, aesthetic ability, and aesthetic awareness signifies that aesthetic education is not limited to the training of artistic skills, breaking through the previously fragmented state of aesthetic education and moral education.

**Table 4**

*Categories of aesthetic literacy*

**Table 4**
*Categories of aesthetic literacy*

| Main category | Subcategory | Initial category | Initial concept |
|---|---|---|---|
| Aesthetic knowledge | Aesthetic Knowledge | Aesthetic knowledge | Knowledge and skills, aesthetic knowledge, aesthetic experience, cultural understanding, spiritual beauty, visual beauty, linguistic beauty, behavioral beauty, discovery of beauty |
| | Tea Culture Knowledge | Tea culture knowledge, historical knowledge | Promoting and preserving China's excellent culture, China's excellent traditional culture, the spread of Tea, The origin of Tea |
| Aesthetic Ability | Aesthetic Sensitivity | Subtle influence, cultural environment, aesthetic experience, aesthetic perception | Subtle influence, affecting one's emotions, elegant taste, aesthetically pleasing campus cultural environment, aesthetic experience, aesthetic perception, experiencing beauty |
| | Aesthetic Appreciation | Aesthetic judgment, aesthetic appreciation | Appreciation of beauty, appreciation ability, image aesthetics, judgment of dress style, identification of special attire |
| | Aesthetic Creativity | Imagination, innovative thinking, creative ability, expressing beauty, outputting beauty | Stimulating imagination and innovative thinking, enriching imagination, cultivating innovative thinking, stimulating innovative vitality, innovative ability, cultural innovative thinking, creative practice, creativity, creative ability, imitating others blindly, artistic expression, expressing beauty, embodying aesthetic sense, verbal expression, actively outputting beauty, enhancing aesthetic output attitude, willingness to output expression |

*Continued From Previous Page*

| | | | |
|---|---|---|---|
| Aesthetic Awareness | Aesthetic Concepts | Aesthetic views, cultural views | Moral education, spiritual education, establishing correct aesthetic concepts, possessing a broad perspective and open mind, historical views, ethnic views, national views, cultural views, aesthetic views |
| | Aesthetic Taste | Interests and hobbies, personality traits | Influences a person's taste, temperament, layout, interests and hobbies, personality traits |
| Moral Cultivation | Professionalism | Dedication to one's job, professional competence, craftsmanship | Passion, commitment, providing the best service, extra effort, personal demeanor, communication skills, manners and etiquette, customer service, personal demeanor, manners and etiquette, eloquence, professional conduct, professional appearance, makeup, personal image, posture and demeanor, grooming, job responsibilities, respect for others, impartiality, tea ceremony design, clothing coordination, attention to detail, room arrangement, cleanliness of public areas, etiquette exercises |
| | Moral Cultivation | Personal cultivation, high moral character, cultivation of emotions, nurturing of the soul | Worldview, values, pure morality, enrichment of the spirit, cultivation of emotions, nurturing of the soul, inspiration of the spirit, nurturing of the soul, beauty of the soul, beauty of music and dance, beauty of order, beauty of health, beauty of diligence, beauty of art, character cultivation, artistic expression, physical and mental well-being, vitality, sound character, beauty of moral character, gratitude activities, themed class meetings |
| | Cultural Confidence | National culture, traditional culture, cultural Identity | Rooted in the excellent traditional culture of China, drawing on the outstanding achievements of human civilization, nurturing deep national emotions, cultural identity, and cultural innovation consciousness, the core values of socialism, the genetic heritage of China's excellent traditional culture, cultural identity, cultural confidence, historical culture, confidence introduction, cultural confidence, national dance learning, classical dance learning, cultural accumulation |

### *Aesthetic Literacy Objectives in the Tea Art Course*

The vocational education course "Tea Art" incorporates rich aesthetic literacy objectives. Based on the "National Vocational Skills Standard for Tea Artisans (2018 Edition)" and the "14th Five-Year Plan" textbook "Tea Art Fundamentals", this study uses the six elements of tea art as a basis for classification and summarizes the aesthetic literacy objectives of the vocational education course "Tea Art," as shown in Table 5.

**Table 5**

*Aesthetic Literacy Goals*

| Tea Art Six Elements | Aesthetic Literacy Dimensions |
|---|---|
| The Beauty of Tea Leaves | **Aesthetic Knowledge:**<br>Understand the brightness and color tones of dry tea and tea soup;<br>Understand the types, origins, history, and cultural background of tea, as well as tea processing techniques.<br>**Aesthetic Ability:**<br>Be able to taste and distinguish the different flavors of tea, and evaluate its quality;<br>Be able to identify the quality of tea samples by observing the shape of dry tea and tea leaves.<br>**Aesthetic Awareness:**<br>Be able to appreciate the natural beauty and craftsmanship of tea;<br>Have a deep understanding of the taste of tea and being able to appreciate its layers and changes.<br>**Moral Cultivation:**<br>Cultivate a keen sense of observation and a craftsman's spirit through tea aroma appreciation activities. |
| The Beauty of Tea Masters | **Aesthetic Knowledge:**<br>Understand the requirements for appearance, attire, and language in tea art performances;<br>Master the cultural connotations of social etiquette.<br>**Aesthetic Ability:**<br>Reasonably control posture, sitting posture, walking posture, hand gestures, and facial expressions;<br>Choose appropriate attire, makeup, and hairstyle.<br>**Aesthetic Awareness:**<br>Appreciate the fluidity of the tea master's movements or the elegance of their speech at the tea ceremony.<br>**Moral Cultivation:**<br>Cultivate an awareness of proper etiquette in daily life. |

*Continued From Previous Page*

| | |
|---|---|
| The Beauty of Tea Wear | **Aesthetic Knowledge:**<br>Understand the materials, craftsmanship, and cultural significance of tea ware;<br>Learn about the history of tea ware.<br>**Aesthetic Ability:**<br>Be able to select appropriate tea ware for brewing tea and tea art performances.<br>**Aesthetic Awareness:**<br>Have a basic understanding of the aesthetic value and cultural significance of tea ware;<br>Understand the balance between functionality and aesthetics in tea ware.<br>**Moral Cultivation:**<br>Cultivate one's character through the use and appreciation of tea ware;<br>Develop a respect for tradition and a commitment to excellence. |
| The Beauty of Tea Water | **Aesthetic Knowledge:**<br>Understand the impact of tea-to-water ratio, water temperature, and water quality on the quality of tea soup.<br>**Aesthetic Ability:**<br>Be able to optimize the taste of tea soup by adjusting the tea-to-water ratio and water temperature.<br>**Aesthetic Awareness:**<br>Recognize the impact of water quality and water temperature on tea soup.<br>**Moral Cultivation:**<br>Develop rigorous and standardized operating habits;<br>Cultivate keen observation skills through tea brewing activities. |
| The Beauty of Tea Ceremony | **Aesthetic Knowledge:**<br>Master the techniques and steps of tea ceremony performance and understand the cultural connotations behind them.<br>**Aesthetic Ability:**<br>Be able to independently perform tea ceremony using a glass cup, purple clay teapot, or covered bowl;<br>**Aesthetic Awareness:**<br>Appreciate the three stages of tea ceremony performance: skill through practice, standardization and refinement, and expression of spirit and charm.<br>**Moral Cultivation:**<br>Strengthen a sense of professional mission and awareness of traditional cultural heritage. |

*Continued From Previous Page*

| | |
|---|---|
| The Beauty of Tea Ambiance | **Aesthetic Knowledge:**<br>Understand the impact of environment, artistic conception, and state of mind on the tea tasting experience.<br>**Aesthetic Ability:**<br>Be able to choose the right environment and atmosphere to enhance the tea tasting experience.<br>**Aesthetic Awareness:**<br>Have a basic understanding of the aesthetic value of the tea tasting environment.<br>**Moral Cultivation:**<br>Cultivate a harmonious attitude towards life by creating a suitable tea tasting environment. |

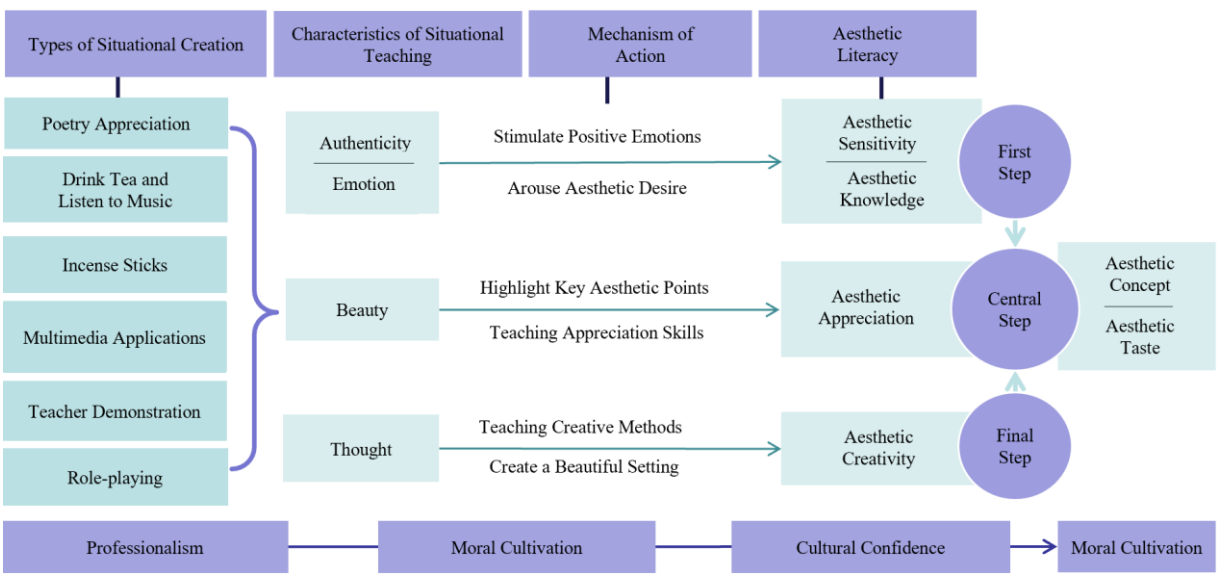
## Situational Teaching Design Oriented Toward Cultivating Aesthetic Literacy

### *Teaching Design*

**A Model for Cultivating Aesthetic Literacy in Situational Teaching.** This study reviewed Li Jilin's literature on the relationship between Situational Teaching methods and aesthetic literacy. By combining the types of situational teaching and the four characteristics of authenticity, emotion, beauty, and thought, a model for cultivating aesthetic literacy through situational teaching has been constructed, as shown in Figure 1. Situational teaching methods for cultivating aesthetic literacy can be divided into three major stages.

**Figure 1**

*Model of Situational Teaching for Cultivating Students' Aesthetic Literacy*



The first step is to focus on cultivating students' aesthetic sensitivity. Without the ability to perceive beauty, one cannot appreciate it, let alone create it. Therefore, cultivating students' ability to perceive beauty through its outward manifestations is the foundation of aesthetic education (Li, 2010). How can students be made to feel deeply involved in the learning process? First, the imagery must be vivid (authentic), visible, and audible, so that students can form a genuine sense of connection. Second, teachers should use sincere emotions to move students (emotion), reducing psychological distance and fostering emotional resonance, thereby achieving emotional engagement. This process enhances students' aesthetic perception. In the context, students develop positive emotions, which stimulate their aesthetic desires. This not only accelerates their understanding and internalization of knowledge but also provides a solid foundation for transforming learned knowledge into practical action.

The central step is to enhance students' aesthetic appreciation. To make the content of situational teaching richer and more in-depth, teachers need to start from the teaching objectives and carefully design each aesthetically pleasing situation (beauty) in the teaching process, ensuring that they all closely revolve around the teaching objectives. Teachers should highlight the key points of aesthetics, impart appreciation knowledge, and better guide students to deeply understand the teaching content, thereby enhancing their aesthetic appreciation.

The final step is to enhance students' aesthetic creativity. A broad and profound artistic conception can stimulate students' imagination (thought). Students can provide feedback on their imagination to teachers during the learning process. Teachers can then teach students creative methods based on their feedback, strive to create beautiful contexts for students, and engage in innovative practices to enhance students' aesthetic creativity.

From these three stages, it is evident that students' learning is not merely about acquiring knowledge but also involves cultural cultivation and emotional immersion (Li, 1997). Students gradually internalize what they have learned and experienced, enriching their spiritual world and forming relatively stable aesthetic views and tastes. The development of moral cultivation also depends on teachers' guidance and example. As cultural bridges and value guides, teachers integrate aesthetic education with moral education, enabling students to enhance their moral cultivation through subtle influence.

**The teaching process of aesthetic literacy in situational teaching.** In the overall structure of the teaching process, the three stages of pre-class situational preparation, in-class situational experience, and post-class situational extension are closely linked, together forming a complete chain of teaching processes, each of which plays an irreplaceable key role, as shown in Figure 2.

Pre-class situation preparation consists of three main parts: collaborative division of labor, post task, and create situation. Collaborative division of labor refers to students clarifying their tasks before class. Post task refers to teachers assigning specific tasks to students via the Learning Pass app, guiding them to engage in independent learning before class. Create situation refers to creating an aesthetically pleasing teaching scenario that facilitates students' acquisition and internalization of knowledge in class.

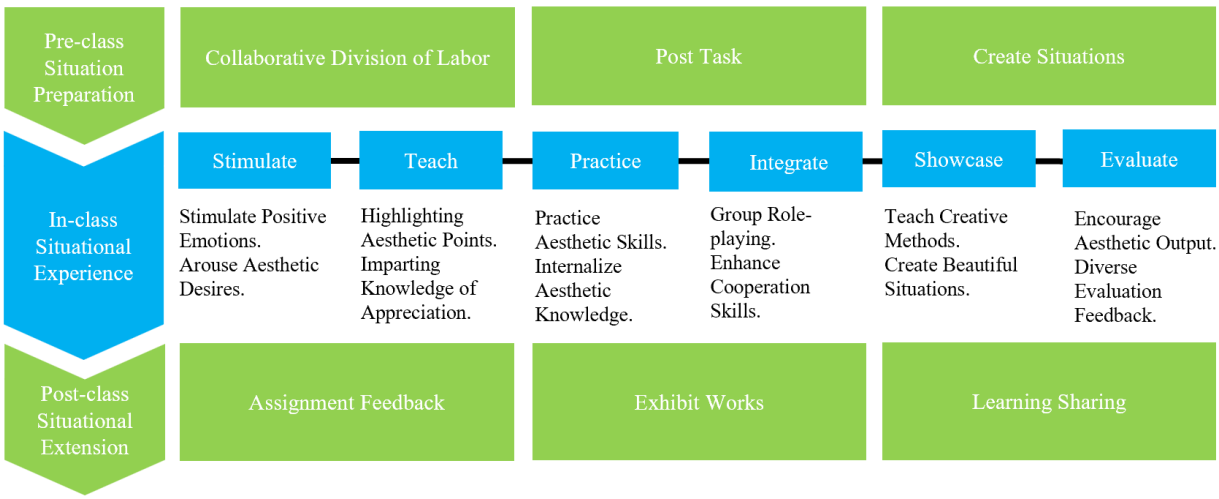
In-class situation experience includes six parts: stimulate, teach, practice, integrate, showcase and evaluate. Stimulation and introduction refers to teachers introducing course content in an interesting way at the beginning of class to stimulate students' positive emotions and arouse their aesthetic desires. Teaching refers to teachers highlighting aesthetic points and imparting appreciation

knowledge during the explanation process. Practice guidance refers to students practicing according to the teacher's explanation and demonstration, with teachers providing guidance and promptly correcting incorrect operations. Integration involves students enhancing their cooperative skills through group role-playing. Showcase involves students demonstrating their aesthetic output through performances. Evaluation and summary involve teachers and students providing diverse feedback on the presented content and summarizing key aesthetic knowledge and skills.

Post-class situation extension includes three parts: assignment feedback, exhibiting works, and sharing. Assignment feedback refers to teachers providing targeted comments on students' homework. Exhibiting works involves showcasing students' work in campus cultural settings such as classroom cultural walls and bulletin boards to create an “aesthetic” atmosphere. Sharing refers to utilizing third-party platforms for learning exchanges with more people to broaden aesthetic horizons.

**Figure 2**

*Teaching Process Design Diagram*




## *Teaching Implementation*

The “Tea Art” course is a required professional course for the Tourism major at Zhuhai First Vocational School and a general elective course for the entire school. It is typically offered in the second year of vocational school and is equipped with a tea art training room for students to practice hands-on skills. This study focuses the instructional content on the final four class periods of this course, specifically Project 8 Task 4: Tea beverage mixing, and conducts two rounds of action research. The two rounds of action research were used to verify the effectiveness of the teaching models and processes in cultivating aesthetic literacy.

**First round of action research.** Class Information: The teaching content is creative fruit tea beverage mixing. The class time is 2024.06.07, 90 minutes.

Teaching Objectives: In Knowledge and Skills: Students will master the usage method of the cocktail shaker and the production process of mixed tea beverages. In Process and Methods:

Students will experience the process from creative conception to practical production. In Emotion, Attitude, and Values: To cultivate students' interest in and respect for Chinese tea culture, and enhance cultural confidence. In Aesthetic Literacy: Students will understand the visual effects of different colors in mixed tea beverages and be able to create aesthetically pleasing mixed fruit tea beverages from aspects such as color coordination and flavor balance.

Key and Difficult Teaching Points: The key points are the usage method of the cocktail shaker, and color coordination and flavor balance in mixed tea beverage production. The difficult point is guiding students to create aesthetically pleasing mixed fruit tea beverages from aspects such as color coordination and flavor balance.

**Second round of action research.** Class Information: The teaching content is creative milk tea beverage mixing. The class time is 2024.06.14, 90 minutes.

Teaching Objectives: In Knowledge and Skills: Proficiently master the judgment methods for black tea infusion quality, including the tea sommelier evaluation method and the international milk-addition evaluation method. In Process and Methods: Review black tea evaluation methods and experience the aesthetic norms of tea art operations in practice. In Emotion, Attitude, and Values: Stimulate students' strong interest in tea culture and enhance cultural confidence. In Aesthetic Literacy: Guide students to explore and enhance aesthetic creativity.

Key and Difficult Teaching Points: The key points are enabling students to master the judgment methods for black tea infusion quality, explaining the specific methods from creative source to transformation, and improving students' aesthetic creativity. The difficult point is stimulating students' innovative thinking and enabling students to organically integrate cultural elements, personal creativity, and tea art aesthetics.

### *Implementation Results*

**Pre- and Post-Test Comparison.** To verify the effectiveness of cultivating students' aesthetic qualities, questionnaires were distributed to students before and after the two rounds of action research. Forty-two evaluation forms were collected online. After matching the pre- and post-test data, the sample size was 41 people. The data analysis is shown in Table 8.

As shown in the table, prior to the teaching practice, the mean aesthetic knowledge score of the students was 3.89. After two rounds of teaching practice, the mean score was 4.51, representing a significant increase of 0.62. Tea culture knowledge increased by 0.51, with $p < 0.05$, indicating a significant difference. This suggests that the students' aesthetic knowledge has been effectively enhanced. In terms of aesthetic ability, aesthetic perception, aesthetic appreciation, and aesthetic creativity increased by 0.34, 0.63, and 0.61, respectively, with $p < 0.05$, indicating significant differences. This suggests that students' aesthetic abilities have improved. In terms of aesthetic awareness, aesthetic taste increased by 0.39, with $p < 0.05$. In terms of moral cultivation, professional spirit and cultural confidence increased by 0.53 and 0.39, respectively, with significant differences. However, students' aesthetic concepts and moral cultivation did not increase, with $p > 0.05$, indicating no significant differences.

**Table 6**

*Results of paired sample T-tests*

| Dimension | Test Variable | Sample Size | Mean Pre-Test | Mean Post-Test | Mean Difference | P |
|---|---|---|---|---|---|---|
| Aesthetic Knowledge | Aesthetics Knowledge | 41 | 3.89 | 4.51 | 0.62 | 0.011 |
| | Tea Culture Knowledge | 41 | 3.95 | 4.46 | 0.51 | 0.001 |
| Aesthetic Ability | Aesthetic Perception | 41 | 4.12 | 4.46 | 0.34 | 0.037 |
| | Aesthetic Appreciation | 41 | 4.00 | 4.37 | 0.63 | 0.007 |
| | Aesthetic Creativity | 41 | 3.88 | 4.49 | 0.61 | 0.003 |
| Aesthetic Awareness | Aesthetic Concepts | 41 | 4.49 | 4.34 | -0.15 | 0.393 |
| | Aesthetic Taste | 41 | 4.05 | 4.44 | 0.39 | 0.041 |
| Moral Cultivation | Professional Spirit | 41 | 3.88 | 4.41 | 0.53 | 0.000 |
| | Moral Cultivation | 41 | 4.41 | 4.37 | -0.04 | 0.767 |
| | Cultural Confidence | 41 | 4.02 | 4.41 | 0.39 | 0.014 |

Practical Assessment Score Comparison. In both teaching practices, the same scoring sheet was used for the practical assessment, consisting of two scoring sheets: one for intergroup scoring and one for teacher scoring. The intergroup scoring sheet was out of 70 points, and the teacher scoring sheet was out of 100 points. By measuring the group score difference, the overall change in the aesthetic literacy of the group members was determined.

The groups with the largest score differences among teachers were Group 8 (10 points), Group 1 (9 points), and Group 9 (9 points). These three groups also made significant progress in peer

evaluations between groups (with score differences of 9 points, 10 points, and 11 points). This indicates that these groups gained a deeper understanding and practical application of the aesthetic-related knowledge emphasized by the teacher in the “Tea Art” course during the second class. The groups with smaller differences in teacher scores were Group 2 (5 points), Group 4 (4 points), and Group 7 (5 points). The intergroup peer evaluation score differences for these three groups were 9 points, 3 points, and 3 points, respectively. All nine groups showed improvements in both intergroup peer evaluation and teacher evaluation scores, indicating that the use of situational teaching methods in the “Tea Art” course to cultivate students' aesthetic literacy is highly effective.

**Table 7**

*Practical Assessment Score Comparison*

| Scoring Sheet | Intergroup Scoring | | | Teacher Scoring | | |
|---|---|---|---|---|---|---|
| Group | First Lesson Score | Second Lesson Score | Point Difference | First Lesson Score | Second Lesson Score | Point Difference |
| Group 1 | 52 | 62 | 10 | 81 | 90 | 9 |
| Group 2 | 59 | 68 | 9 | 83 | 88 | 5 |
| Group 3 | 50 | 62 | 12 | 79 | 86 | 7 |
| Group 4 | 48 | 51 | 3 | 77 | 81 | 4 |
| Group 5 | 55 | 66 | 11 | 85 | 92 | 7 |
| Group 6 | 52 | 59 | 7 | 81 | 88 | 7 |
| Group 7 | 55 | 58 | 3 | 80 | 85 | 5 |
| Group 8 | 57 | 68 | 9 | 86 | 96 | 10 |
| Group 9 | 49 | 60 | 11 | 79 | 88 | 9 |

The groups with the largest score differences among teachers were Group 8 (10 points), Group 1 (9 points), and Group 9 (9 points). These three groups also made significant progress in peer evaluations between groups (with score differences of 9 points, 10 points, and 11 points). This indicates that these groups gained a deeper understanding and practical application of the aesthetic-related knowledge emphasized by the teacher in the “Tea Art” course during the second class. The groups with smaller differences in teacher scores were Group 2 (5 points), Group 4 (4 points), and Group 7 (5 points). The intergroup peer evaluation score differences for these three groups were 9

points, 3 points, and 3 points, respectively. All nine groups showed improvements in both intergroup peer evaluation and teacher evaluation scores, indicating that the use of situational teaching methods in the “Tea Art” course to cultivate students' aesthetic literacy is highly effective.

**Teaching Optimization Recommendations.**

***In terms of Pre-class situation preparation.*** Systematically organize teaching materials. Teachers should prepare a list of materials for each group in advance and set up a supply of spare materials on the workbench to meet unexpected needs, ensuring the smooth running of the practical session.

Establish a group leader responsibility system. Group leaders should supervise group members in preparing materials, cultivating a sense of responsibility and teamwork habits.

***In terms of In-class situation experience.*** Enhance students' emotional experiences. Teachers should use hand gestures to illustrate key operational points during explanations and use eye contact to identify signs of confusion among students. During practical sessions, teachers should increase patrols, immediately use hand gestures to point out minor errors, pause for collective demonstrations when common issues arise, and immediately praise innovative approaches.

Reasonably adjust each stage of the teaching process. Teachers should increase the time allocated for group cooperative exploration, invite tea art instructors into the classroom to create a dual-teacher classroom, and ensure that teaching content meets both curriculum standards and industry demands.

***In post-class Post-class situation extension.*** Set up a “mobile aesthetics wall” in the classroom, rotating group works weekly, with QR codes linking to detailed explanatory videos, and interacting with other works on Xiaohongshu.

Regularly organize students to visit industrial bases for on-site inspections, transforming industry-standard aesthetic criteria into learning outcomes.

## Conclusions and Prospects

### *Research Conclusions*

This study investigates the teaching design and application of situational teaching methods in the cultivation of students' aesthetic literacy in vocational school tea art courses. After exploring the cultivation model and teaching process of aesthetic literacy under situational teaching, two rounds of action research were conducted to investigate the teaching effectiveness of situational teaching methods in cultivating students' aesthetic literacy. The following conclusions were drawn:

First, the aesthetic literacy assessment scale was improved. Previous studies primarily borrowed Du Wei's proposed structure of aesthetic literacy for questionnaire design, which included three dimensions: aesthetic knowledge, aesthetic ability, and aesthetic awareness. This study found that China's aesthetic education policies frequently mention expressions related to moral cultivation. Using NVivo to analyze aesthetic education policy texts and teacher interview texts, the dimension of moral cultivation was added, forming four dimensions: aesthetic knowledge, aesthetic ability, aesthetic awareness, moral cultivation. These four dimensions are further broken down into ten sub-dimensions: aesthetic knowledge, tea culture knowledge, aesthetic sensitivity, aesthetic appreciation, aesthetic creativity, aesthetic concepts, aesthetic tastes, professionalism, professional spirit, moral cultivation, and cultural confidence.

Second, the situational teaching method is practical for designing teaching processes aimed at enhancing students' aesthetic literacy. By reviewing relevant literature by Li Jilin and combining the unique advantages of situational teaching with different types of situational creation, a model and teaching process for cultivating aesthetic literacy through situational teaching were established. After two rounds of action research in teaching design and implementation, it was verified that this teaching process provides clear design guidelines for teaching and is highly practical.

Third, the application of situational teaching methods in tea art courses has a significant effect on enhancing students' aesthetic literacy. Through pre- and post-survey comparisons and comparisons of students' practical assessment scores across two rounds, it was found that students achieved improvements in all four dimensions: aesthetic knowledge, aesthetic ability, aesthetic awareness, and moral cultivation.

### *Research Prospects*

This paper validates the teaching effectiveness of situational teaching in cultivating students' aesthetic literacy, but there are still areas for further research.

First, the study only used one class as the research subject, resulting in a small sample size. In future research, it is necessary to conduct teaching practices in multiple classes across several vocational schools. Second, teaching outcomes do not show significant changes in the short term. In future research, it is essential to increase the duration of teaching practices, with at least half a semester dedicated to teaching design and implementation. Third, the scale development methodology requires refinement. In the preliminary phase of this study, NVIVO was used to conduct three-level coding of aesthetic education policy texts and teacher interview texts, resulting in the preliminary construction of four dimensions of the aesthetic literacy scale. However, the singularity of qualitative coding may limit the validity of dimension construction. Future research could employ the Delphi method to conduct three rounds of expert consultations to refine the indicator system, ultimately developing an assessment tool that combines theoretical depth with statistical reliability.

## Declaration of competing interest

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

## Reference

Acer, D., & Ömeroðlu, E. (2008). A Study on the Effect of Aesthetic Education on the Development of Aesthetic Judgment of Six-year-old Children. *Early Childhood Education Journal*, 35, 335-342.

Chen, H. (2012). Discussion on the Application of Situational Teaching Method in Hotel Management Teaching Practice. *Mechanical Vocational Education*, (10), 60-61.

Clancey, W. J. (1995). A tutorial on situated learning. *In Proceedings of the international conference on computers and education (Taiwan)* (pp. 49-70).

Chen, B. K. (2017). Application of Modern Educational Technology in Situational Teaching of Tourism English in Secondary Vocational Schools. *Western Quality Education*, 3(16), 153-154.

Dewey, J. (2015). *How We Think*. Xinhua Publishing House, 262.

Du, W. (2014). A Study on Aesthetic Literacy and Its Cultivation. *Educational Research*, 35(11), 24-31.

Frois, J. P., & Eysenck, H. J. (1995). The visual aesthetic sensitivity test applied to Portuguese children and fine arts students. *Creativity Research Journal*, 8(3), 277-284.

Gong, W., Jia, J. L., & Liu, H. G. (2018). A New Interpretation of Vocational Education Course Learning Situation Design Based on Embodied Cognition. *Chinese Vocational and Technical Education*, (20), 80-83.

Guo, L. (2020). A Brief Analysis of the Dilemmas and Countermeasures of Aesthetic Education in Secondary Vocational Schools in the New Era and Current Stage. *Education and Teaching Forum*, (48), 370-372.

He, S. F. (2004). Exploration of Situational Teaching Models in Pedagogy. *Education Exploration*, (9), 53-54.

Jonassen, D. H., & Land, S. M. (2000). Learning Environment. *Lawrence Erlbaum Associates*.

Jin, X., & Li, R. M. (2024). Theoretical Explanation and Educational Practice of Beauty-Integrated Teaching. *Journal of Educational Studies*, 20(5), 65-74.

Li, J. L. (1987). A Brief Discussion on the Characteristics of Situational Teaching. Curriculum, *Teaching Material and Method*, (4), 15-18.

Li, J. L. (1995). Using Situational Teaching to Develop Children's Language. *Journal of the Chinese Society of Education*, (6), 44-47.

Li, J. L. (1997). The Operational System of "Situational Teaching". *Curriculum, Teaching Material and Method*, (3), 10-15.

Li, J. L. (2010). Teachers Should Be Thinkers. *Educational Research and Review (Elementary Education Teaching and Research)*, (5), 4-12.

Li, J. L. (2016). Beauty is the Supreme Realm of Situational Education. *Educator*, (16), 10-12.

Li, Z. L. (2017). Cultivation of College Students' Aesthetic Literacy in the Context of Pan-Entertainment of Mass Media. *Modern Education Science*, (10), 39-44.

Li, R. M., & Wang, X. T. (2018). Enhancing Teachers' Aesthetic Literacy in the Context of Core Competencies. *Teacher Education Forum*, 31(10), 21-24.

Luo, X. (2018). Exploring Pathways for "Three Beauty Education" to Lead the Enhancement of Teachers' Aesthetic Literacy. *Education Science Forum*, (17), 71-73.

Liang, X., Li, X. D., & Yang, D. D. (2020). Interpretation of Extreme Phenomena in Classical Aesthetics during Cultural Revival: An Analysis of New Changes in National Aesthetic Literacy. *Youth Development Forum*, 30(5), 54-63.

Marković, S. (2012). Components of aesthetic experience: Aesthetic fascination, aesthetic appraisal, and aesthetic emotion. *i-Perception*, 3(1), 1-17.

Ministry of Education of the People's Republic of China. (2019). *Opinions on Effectively Strengthening Aesthetic Education in Higher Education Institutions in the New Era*. Ministry

of Education of the People's Republic of China. (2019). *Notice on Carrying Out the Sports and Aesthetic Education Immersion Action Plan*.

Ministry of Education of the People's Republic of China. (2023). *Notice on the Comprehensive Implementation of the School Aesthetic Education Immersion Action*.

Ning, W. (2004). On Aesthetic Quality and Personality Perfection. *Morality and Civilization*, (3), 72-74.

Ran, X. H. (2008). The Design and Implementation of University Aesthetic Education Courses. *Heilongjiang Researches on Higher Education*, (9), 177-179.

Schiller, F. (1984). *Letters on the Aesthetic Education of Man* (H. C. Xu, Trans.). Beijing: China Federation of Literary and Art Circles Publishing Company.

State Council of the People's Republic of China. (1999). *The Decision on Deepening Educational Reform and Comprehensively Promoting Quality-oriented Education*.

Su, H. P. (2004). A Study on the Origin of Aesthetic Education. *Journal of Southwest Minzu University (Humanities and Social Science Edition)*, (11), 294-296.

Sun, L., & Wang, X. M. (2014). On the Connotation and Enhancement Strategies of College Students' Aesthetic Literacy. *Border Economy and Culture*, (9), 101-102.

State Council of the People's Republic of China. (2015). *Opinions on Comprehensively Strengthening and Improving School Aesthetic Education*

State Council of the People's Republic of China. (2019). *Notice of the State Council on Issuing the National Vocational Education Reform Implementation Plan*.

State Council of the People's Republic of China. (2020). *Opinions on Comprehensively Strengthening and Improving Aesthetic Education in Schools in the New Era*. Tang, B., Lou, B. J., & Wang, J. X. (2016). School Aesthetic Education for Cultivating Life. *Contemporary Educational Science*, (19), 26-29.

Tang, X. L. (2021). A Study on Teacher Candidates' Satisfaction with Aesthetic Education and Its Influencing Factors. *Journal of Teacher Education*, 8(4), 56-64.

Xu, L. Y. (2021). A Brief Discussion on the Development of Western Aesthetic Education Thought. *Data of Culture and Education*, (6), 68-70.

Yi, X. M., & Du, L. J. (2015). The Current Status, Influencing Factors, and Educational Recommendations for National Aesthetic Literacy in China. *Journal of Aesthetic Education*, 6(4), 54-62.

Yi, X. M., Xu, S., & Du, L. J. (2023). Factors and Mechanisms Influencing the Development of Children's Aesthetic Literacy: An Empirical Analysis Based on Survey Data of Over 70,000 Children Nationwide. *Educational Research*, 44(6), 78-94.

Zhu, L. Y. (2017). Reflections on the Writing of The History of Western Aesthetic Education Thought. *Journal of Aesthetic Education*, 8(5), 1-7.

## Authors' Bibliography

**Hua Guo,** PhD, is an associate professor in School of Tourism Management, South China Normal University, China. Her research interests include tourism marketing, community-based tourism management, and rural tourism. She has published papers in management field.

**Nuan Zhao** is a master in School of Tourism Management, South China Normal University, China. The major is vocational and technical education.

**Jiajia Pan** holds a Doctor of Education degree from The Education University of Hong Kong. He is currently the director of Innovation Institute for Industry-Education (IIIE). He also serves as a part-time master's supervisor for the Master of Vocational and Technical Education in Tourism Management at South China Normal University. His research areas span a diverse range, including dual professional identity recognition of vocational college teachers, leadership in vocational education, wine tasting and sommelier services, as well as international trade and marketing of wine.

**Submission**
**投稿**

**submission@gcpve.com**
**或扫描以下二维码添加编辑微信**

**Read Online**
**在线阅读和下载**

**www.gcpve.com**

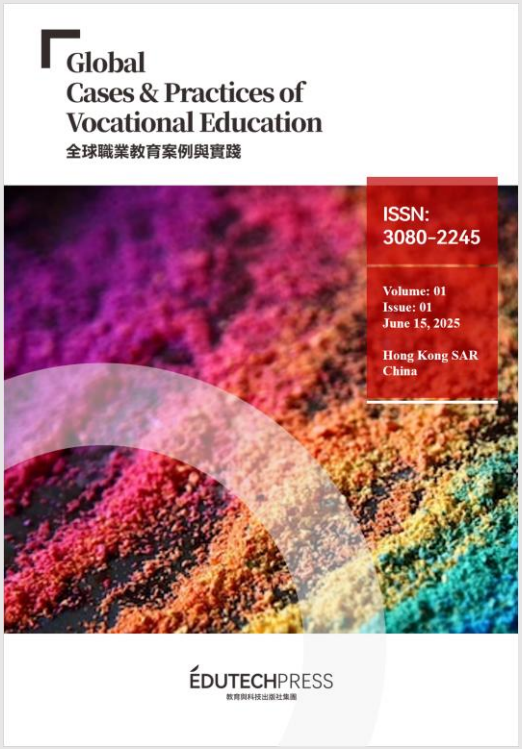
**Follow Us on WeChat**

**Events | Sharing | Training**

**Contact Us on WeChat**

**Consulting | Pre-assessment | Submission**

# 香港出版
# PUBLISHED IN HONG KONG




EDUTECHPRESS
教育與科技出版社集團

**Price:** HKD 480.00

ISSN 3080-2245

9 773080 224000 >

EduTech Press Group Co., Limited
教育與科技出版社集團有限公司

RM 2914 29/F, HO KING COMMERCIAL CENTRE,
2-16 FA YUEN STREET, MONGKOK,
KOWLOON, HONG KONG