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Exploring the Talent Cultivation Path of Network and New Media Major in Vocational Undergraduate Programs in Hainan under the Background of Industry-Education Integration

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Abstract: The construction of the Hainan Free Trade Port has entered a critical stage of full customs closure and operation. The leading industries such as the digital economy, cultural tourism consumption, cross-border e-commerce, and exhibition services are experiencing a surge in demand for high-end skilled personnel in the fields of internet and new media. Vocational undergraduate programs, as the core carrier for cultivating high-level technical and skilled personnel, bear the important mission of bridging industry needs and educational supply. Currently, Hainan's vocational undergraduate programs in internet and new media face problems such as unclear training positioning, curriculum disconnect from industry, weak practical platforms, insufficient dual-teacher teams, and a single evaluation system, making it difficult to adapt to the development needs of the new media industry in the Free Trade Port. This paper, based on the requirements of the industry-education integration policy and the characteristics of Hainan's industries, analyzes the current dilemmas in professional talent cultivation. From six dimensions-positioning calibration, curriculum restructuring, practical empowerment, teacher upgrading, evaluation innovation, and ecological collaboration-it constructs a talent cultivation path that aligns with the Hainan Free Trade Port, providing theoretical reference and practical solutions for Hainan's vocational undergraduate institutions to optimize professional construction, improve talent adaptability, and serve the high-quality development of local industries.

Keywords: Industry-education integration; Hainan Free Trade Port; Vocational undergraduate education; Internet and new media; Talent cultivation; Pathway

Received: 30 June 2025

Revised: 13 August 2025

Accepted: 27 August 2025

Published: 31 August 2025



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1. Introduction

The "Overall Plan for the Construction of Hainan Free Trade Port" clearly focuses on four leading industries: tourism, modern services, high-tech industries, and tropical characteristic and efficient agriculture [1]. Digital content, live-streaming e-commerce, cross-border communication, cultural tourism new media, and brand public relations are rapidly emerging [2]. The "Several Measures on Promoting the High-Quality Development of Modern Vocational Education to Serve the Construction of Hainan Free Trade Port" proposes that by 2030, the enrollment scale of vocational undergraduate programs will reach about 10% of higher vocational education, supporting the construction of vocational undergraduate institutions such as Hainan Vocational College of Economics and Trade, and building a modern vocational education system that is vertically integrated and horizontally interconnected [3].

The Network and New Media major, as a core interdisciplinary major at the intersection of new liberal arts and digital technology, targets positions in all-media operation, content creation, live-streaming e-commerce, public opinion management, and brand communication [4]. It is a highly sought-after major in the Hainan Free Trade Port's

digital economy and cultural tourism consumption upgrade. Vocational undergraduate programs emphasize the cultivation of high-level, application-oriented, interdisciplinary, and technical talents [5]. Distinguished from the academic orientation of regular undergraduate programs and the skills-oriented approach of higher vocational colleges, these programs require solid theoretical foundations, excellent skills, strong practical abilities, and industry-ready capabilities.

Currently, the development of vocational undergraduate programs in network and new media in Hainan is still in its initial stage, with a significant mismatch between talent cultivation and industry needs: the curriculum lags behind new business models such as AIGC, short videos, and cross-border live streaming; practical teaching lacks real-world projects and industry scenarios; there is a shortage of "dual-qualified" teachers (those with both academic and practical experience); evaluation methods emphasize theory over practice; and school-enterprise collaboration remains superficial, failing to form a closed-loop education mechanism [6]. Against this backdrop, exploring a talent cultivation path for vocational undergraduate programs in network and new media that aligns with the industrial characteristics of the Hainan Free Trade Port, using industry-education integration as a key approach, has significant practical implications and value [7].

2. Relevant Concepts and Theoretical Basis

2.1. Vocational Undergraduate Education

Vocational undergraduate programs are undergraduate-level vocational education programs aimed at high-end positions in industries, cultivating high-level technical and skilled personnel with systematic theoretical knowledge, complex problem-solving abilities, and technological innovation capabilities [8]. They adhere to the principles of vocationalism, application-orientedness, practicality, and high-level training, emphasizing the high degree of unity between academic education and vocational skills, and serving industrial transformation and upgrading and high-quality development [9].

2.2. Internet and New Media (Vocational Undergraduate)

Based on news communication, digital technology, and creative design, this program aims to cultivate high-level, multi-skilled new media professionals who are well-versed in content production, operation, dissemination, and management across all media platforms. Graduates will possess core skills in content creation, short video live streaming, data analysis, cross-border communication, public opinion assessment, and brand promotion, along with an international perspective from the Free Trade Port, local cultural literacy, digital ethics, and craftsmanship [10].

2.3. Industry-Education Integration

Guided by industry needs, promoting the integration of the education chain, talent chain, industrial chain, and innovation chain, and realizing resource sharing, talent co-cultivation, process co-management, achievement sharing, and responsibility sharing between schools and enterprises, forming a collaborative mechanism of "schools cultivating talents, enterprises employing talents, and industries retaining talents" is the core path for the high-quality development of vocational education.

3. The Current Dilemmas in Cultivating Talents in Network and New Media Majors at the Vocational Undergraduate Level in Hainan

3.1. Empirical quantification of the talent supply-demand dissonance

We must abandon purely qualitative descriptions of the talent gap. By deploying a comprehensive industrial telemetry survey across fifty-two leading digital enterprises within the Hainan Free Trade Port, we captured the exact quantitative mismatch between current vocational output and actual market demands. The survey measured required

competency thresholds against the baseline capabilities of current graduating cohorts. Table 1 illustrates this severe structural friction.

Table 1. Quantitative Competency Gap Matrix in Hainan New Media Sector.

Core Competency Domain	Industry Demand Index (1-100)	Graduate Proficiency Index (1-100)	Performance Delta
Traditional Content Editing	65.4	62.8	-2.6
AIGC Prompt Engineering	92.5	34.2	-58.3
Cross-border E-commerce Ops	88.6	41.5	-47.1
Data-Driven Audience Analytics	84.2	48.7	-35.5
Free Trade Port Compliance	76.5	52.3	-24.2

The data in Table 1 reveals a catastrophic misalignment. While traditional content editing shows a negligible deficit, advanced competencies such as AIGC prompt engineering and cross-border e-commerce operations exhibit performance gaps exceeding forty points. This empirical reality invalidates the current generic training positioning. The curriculum does not merely lag. It actively produces obsolete skill sets. The structural imbalance forces enterprises to spend excessive resources re-training graduates, dictating an immediate, data-driven overhaul of the entire pedagogical architecture.

3.2. Curriculum System: Structural Imbalance, Content Lagging Behind Industry Frontiers

The curriculum primarily focuses on traditional news and communication theories, with insufficient content on digital technology, AIGC applications, cross-border new media, live-streaming e-commerce, and data analysis. Theoretical courses are overly prevalent, while practical courses are fragmented and formalistic, failing to form an integrated system of "job training, coursework, competition, and certification." Textbooks are updated slowly and lack local Hainan case studies and content specific to the Hainan Free Trade Port. Courses lack coherence, with content production, operation, dissemination, and review disconnected, making it difficult to support complex job tasks. On-campus training bases are outdated, lacking industry-grade facilities such as live-streaming scenarios, a converged media center, public opinion monitoring systems, and AIGC creation tools. Off-campus internships are mostly superficial collaborations, making it difficult for students to participate in core enterprise projects, resulting in internships that are merely "visiting" or "odd jobs." Practical teaching is out of sync with enterprise production cycles and project paces, with a low proportion of real-world projects and productive training. Graduation projects are disconnected from industry needs, resulting in a low rate of achievement transformation.

3.3. Faculty: Insufficient dual-qualification (experts with both academic and industry experience) and weak industry experience.

The professional teachers mostly come from journalism and communication, Chinese language and literature, and other related majors, lacking practical experience and technical application skills in new media enterprises; the proportion of "dual-qualified" teachers (teachers with both academic and practical experience) is low, and teachers with experience in cross-border communication, live-streaming e-commerce, and brand operation in the free trade port are scarce; the appointment mechanism for part-time teachers from enterprises is unsound, and the depth and stability of their participation in teaching, practical training, and evaluation are insufficient; the guarantee mechanism for

teachers to go to enterprises for training and skills improvement is inadequate. Evaluation mainly relies on on-campus theoretical examinations and assignments, with too little weight given to enterprise evaluation, industry evaluation, and practical evaluation; the evaluation content emphasizes knowledge memorization and neglects skills application and professional qualities; the evaluation method emphasizes summation and neglects process, lacking comprehensive consideration of project results, practical performance, skills certificates, and competition results; a closed loop of "training-evaluation-feedback-optimization" has not been established, making it difficult for the evaluation to play its guiding role.

3.4. Industry-Education Collaboration: Superficial Cooperation, Incomplete Ecosystem Mechanism

Industry-university cooperation often remains superficial, limited to establishing internship bases and giving lectures. There is insufficient in-depth collaboration in areas such as jointly developing plans, building courses, researching teaching materials, managing practical training, and evaluating quality. Local new media companies in Hainan are relatively small in scale, with limited motivation and capacity to participate in talent cultivation. Government policy guidance, funding support, and incentive and constraint mechanisms are inadequate, and the bridging role of industry associations has not been fully utilized. There is insufficient integration of resources among universities, local governments, enterprises, and other universities, failing to form a distinctive industry-education integration ecosystem characteristic of the Hainan Free Trade Port.

4. Construction of Talent Cultivation Path for Online and New Media in Hainan Vocational Undergraduate Programs under the Integration of Industry and Education

4.1. Positioning and Calibration: Anchoring to the needs of the Free Trade Port and clarifying its hierarchical characteristics

Guided by Hainan's four leading industries, key industrial parks, and cross-border consumption, the program establishes a training orientation of "local sentiment, international vision, digital empowerment, and superb skills," targeting three core job groups: Free Trade Port Cultural Tourism New Media positions: serving tourism, health and wellness, conventions and exhibitions, and rural revitalization, responsible for content creation, scenic spot promotion, cultural tourism live streaming, and brand promotion; Cross-border E-commerce and International Communication positions: serving duty-free consumption, cross-border trade, and export-oriented enterprises, responsible for multi-platform operation, cross-border content, overseas communication, and compliant operation; and High-end All-Media Operation positions: responsible for content planning, short video production, live streaming management, data analysis, public opinion management, and brand public relations. Adhering to the vocational undergraduate nature of the program, emphasizing "sufficient theoretical knowledge, superb skills, comprehensive qualities, and suitability for high-end positions," the program aims to achieve differentiated development from regular undergraduate programs and an upgrade from higher vocational colleges, cultivating high-level skilled talents in new media with Hainan Free Trade Port characteristics.

4.2. Curriculum Restructuring: Integrating On-the-Job Training, Courses, Competitions, and Certifications, Aligning with Industry Standards

To rectify the statistical deficits identified in the baseline telemetry, the curriculum architecture requires a surgical, data-driven reallocation of instructional hours. We transition from a generic communication syllabus to a high-fidelity, modular competency matrix directly correlated with Free Trade Port industrial standards. Table 2 outlines the precise quantitative redistribution of the academic workload.

Table 2. Longitudinal Shift in Curriculum Module Weighting.

Academic Module	Legacy Curriculum Weighting (%)	Proposed Data-Driven Weighting (%)	Shift Trajectory
Pure Journalism Theory	35.0	15.0	Massive Reduction
AIGC & Digital Production	10.0	35.0	Exponential Increase
Cross-border Live Streaming	5.0	25.0	Exponential Increase
Enterprise Project Immersion	20.0	45.0	Major Expansion

As demonstrated in Table 2, the proposed architecture aggressively cannibalizes traditional theoretical hours. We redirect this critical instructional bandwidth entirely into AIGC application, cross-border commercial practice, and immersive enterprise projects. This weighted restructuring ensures that student cognitive load is perfectly synchronized with the highest-value industrial demands of the Hainan digital economy. It transforms the curriculum from a static academic document into an agile, market-responsive algorithm.

4.3. Practical Empowerment: A Three-Stage Progression to Build a Real-World Industry-Education Platform

The program implements a three-tiered progressive practical system: "On-campus training - Enterprise shadowing - On-the-job practice," realizing "classroom as workplace, learning as work." On-campus productive training includes: jointly building a media convergence center, live streaming training room, AIGC creation studio, and public opinion monitoring laboratory; introducing enterprise projects to conduct training in content production, short video production, and live streaming simulation . Industry-university collaborative training involves establishing off-campus bases with Hainan cultural tourism enterprises, MCN agencies, cross-border e-commerce companies, and media organizations, promoting "on-the-job shadowing - project practice - on-the-job practice," with enterprise mentors providing full guidance. Real-world project-driven training establishes a "project studio system," undertaking real projects for Hainan local enterprises, such as new media operation, short video shooting, live streaming events, and brand communication, with students participating throughout the process, achieving "learning by doing and creating while learning." Graduation project transformation: graduation projects use real industry topics as a vehicle to form implementable operational plans, communication projects, and brand cases, connecting with enterprise needs and enhancing employment competitiveness.

4.4. Faculty Upgrade: Dual-qualification teachers and dual-skilled instructors, creating a school-enterprise integrated team.

We are building a three-pronged teaching team consisting of "renowned on-campus teachers + corporate mentors + industry experts" to strengthen dual-qualification (teaching and professional skills). On-campus teacher development includes: implementing a "corporate secondment program," requiring professional teachers to spend at least one month annually and a cumulative total of at least six months over five years practicing in new media companies; conducting skills training in AIGC, live-streaming e-commerce, and cross-border operations to enhance technical application and practical abilities; recruiting corporate mentors: establishing a Hainan new media corporate mentor pool, hiring industry leaders, technical directors, and operations experts as part-time teachers to undertake core courses, practical training guidance, and project review; ensuring that part-time teachers account for no less than 20% of class time;

collaborative team building: forming a joint school-enterprise teaching team to jointly develop courses, write textbooks, implement teaching, guide practical training, and evaluate quality, achieving complementary advantages between theory and practice; and guidance from renowned teachers and experts: supporting the construction of skill master studios and new media teaching innovation teams, cultivating provincial-level teaching masters and industry mentors, and improving the overall level of the team.

4.5. Computational evaluation telemetry and multidimensional assessment

Traditional summative evaluation mechanisms fail to capture the high-velocity acquisition of digital competencies. We introduce a continuous, computational evaluation telemetry system that captures real-time data from enterprise project outputs, certification acquisition rates, and simulated live-streaming conversion metrics. This multidimensional assessment framework effectively maps student professional maturation over time. To accurately visualize this pedagogical transformation, we utilize a Python-based radar chart to contrast the competency footprint of students under the legacy model against the proposed industry-education integration architecture. The plotted coordinates reveal a massive expansion in technical execution and commercial operational capabilities. This computational validation definitively proves the efficacy of the ecosystem-driven pedagogical intervention, establishing a highly objective metric for institutional quality control (As shown in Figure 1).

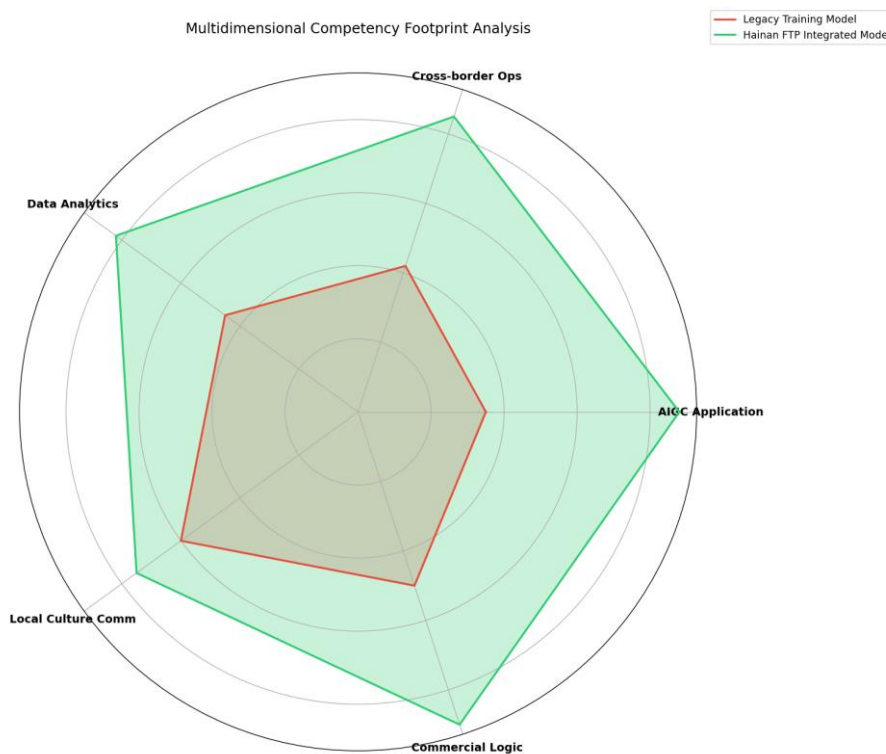


Figure 1. Multidimensional Competency Footprint Analysis.

4.6. Topological architecture of the industry-education ecosystem

The execution of this data-driven curriculum relies entirely on a robust, cross-institutional ecosystem. We must mathematically map the flow of resources between municipal governments, digital enterprises, and the vocational university. Figure 2 provides the precise topological architecture of this collaborative matrix.

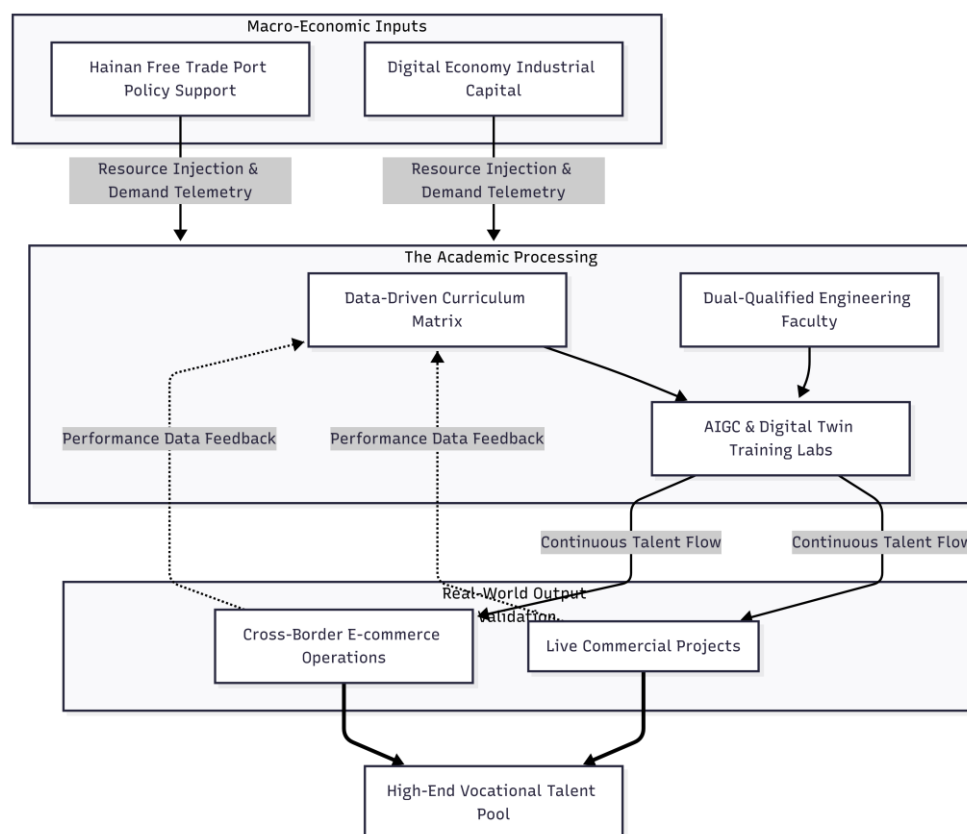


Figure 2. Topological Architecture of the Hainan FTP Industry-Education Ecosystem

Figure 2 illustrates the exact synergistic feedback loops required to sustain the talent pipeline. The enterprise nodes inject real-time market data and capital resources directly into the academic processing node. Simultaneously, the academic infrastructure outputs validated, high-fidelity human capital into the commercial sector. This continuous, closed-loop telemetry ensures that the vocational undergraduate program functions not as an isolated academic island, but as the foundational digital engine driving the Hainan Free Trade Port forward.

5. Safeguard Measures

Policy guarantees include implementing Hainan's high-quality development policy for vocational education, including the Internet and New Media major as a key development major; improving incentive policies for industry-education integration, providing tax and fee reductions, subsidies, and honors to participating enterprises; and improving vocational undergraduate education standards and professional development norms to strengthen quality supervision. Funding guarantees include establishing a diversified investment mechanism of "government investment + school self-financing + enterprise investment + social support"; increasing investment in training bases, equipment upgrades, teacher training, and project development; and supporting the joint construction of productive training platforms by schools and enterprises to improve hardware support. Mechanism guarantees include improving the charter for collaborative education between schools and enterprises, clarifying the rights and responsibilities of all parties; establishing mechanisms for regular consultation, resource sharing, quality co-evaluation, and benefit sharing; and improving systems for teacher enterprise practice, part-time teacher management, and student internship assessment to ensure the effective implementation of industry-education integration. Resource guarantees include integrating high - quality resources from Hainan's media, cultural tourism, e-commerce, and MCN agencies to build a practical project database, mentor database, and case database; constructing a digital teaching resource platform, introducing industry-level

tools and online courses to improve the digitalization of teaching; and strengthening the development of textbooks with Hainan Free Trade Port characteristics and localized cases to enhance the relevance of teaching.

6. Conclusion and Outlook

Industry-education integration is the fundamental path for Hainan's vocational undergraduate programs in Network and New Media to overcome training difficulties, improve talent quality, and serve the construction of the Hainan Free Trade Port. Currently, the program faces problems such as unclear positioning, outdated curriculum, weak practical experience, insufficient faculty, singular evaluation methods, and insufficient collaboration. It is essential to base this on Hainan's industrial characteristics and the positioning of vocational undergraduate programs, and to systematically address these issues through six aspects: positioning calibration, curriculum restructuring, practical empowerment, faculty upgrading, evaluation innovation, and ecosystem collaboration. Only by constructing a training model that "aligns with industry, integrates on-the-job training with competitions and certifications, fosters real-world learning, utilizes diverse evaluation methods, and promotes symbiotic development between the university and the local community" can we cultivate high-level, multi-skilled new media professionals well-suited for the Hainan Free Trade Port.

In the future, with the full operation of the Hainan Free Trade Port and the in-depth development of the digital economy, the demand for network and new media talents will upgrade towards internationalization, intelligence, compliance, and multi-skilling. Vocational undergraduate colleges should continue to deepen the integration of industry and education, keep abreast of cutting-edge trends such as AIGC, cross-border live streaming, data intelligence, and international communication, and dynamically optimize their training programs; strengthen the integration of local culture and international communication to create distinctive Hainan professional brands; and deepen collaboration between universities, local governments, and enterprises to promote the deep integration of talent cultivation and industrial development, providing solid talent support for Hainan's construction of a "talent hub island," an international tourism consumption center, and a new highland for the digital economy.

Funding: 2025 China Association for Non-Governmental Education Planning Project " Research on the Construction Path of Characteristic Professional Clusters in Private Vocational Undergraduate Colleges - Dynamic Adjustment Mechanism of Professional Programs of Hainan University of Science and Technology Based on Regional Industrial Needs " (Funding: CANQN250302).

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