Academic Journal of Management and Social Sciences
ISSN: 2958-4396 | Vol. 14, No. 3, 2026

Challenges and Optimization Pathways for the Cultivation of Editing and Publishing Talents in the Era of Digital Intelligence

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Abstract: With the rapid advancement of technologies such as artificial intelligence and big data, the era of digital intelligence has arrived. China's publishing industry is accelerating its transformation toward digital publishing, integrated publishing, and intelligent publishing, giving rise to new business formats and job roles. This evolution demands that editing and publishing professionals possess interdisciplinary, innovative, and cross-functional competencies. However, the current talent cultivation system in higher education institutions faces multiple challenges, resulting in a significant disconnect between talent supply and industry demand—a central concern driving this study. Against the backdrop of industrial transformation in the digital intelligence era, this study systematically examines the core dilemmas in the cultivation of editing and publishing professionals in higher education, focusing on three key misalignments: between educational objectives and market demand, between practical competencies and industry experience requirements, and between training cycles and technological iteration. In response to these challenges, this paper proposes optimization pathways from three core dimensions: redefining educational objectives, enhancing practical teaching content, and reforming teaching methods. Specific strategies include precisely aligning educational goals with emerging job requirements, constructing a multi-tiered practical training system, and integrating industry-education collaboration with project-based learning. The study identifies the key pain points and offers targeted solutions, forming a complete research logic from dilemma diagnosis to pathway optimization, with strong practical applicability. The innovative value of this study lies in the fact that it is based on the frontier of AIGC and other digital intelligence technologies, focusing on the precise adaptation of job segmentation needs and talent training, providing a practical reference for the training reform of editing and publishing professionals in colleges and universities, helping to solve the contradiction between supply and demand of talents in the industry, and promoting the high-quality development of the publishing industry and the construction of talent teams.

Keywords: Digital Intelligence Era; Editing and Publishing; Talent Cultivation.

1. Introduction

Since OpenAI launched the GPT-4 model, various AI models have emerged, including Baidu's "Ernie Bot," Alibaba Cloud's "Tongyi Qianwen," the AI video generation model Sora, and ByteDance's "Doubao" [1]. Artificial intelligence has permeated all aspects of work, life, and learning, becoming a significant force driving social development. With the advancement of AI, big data, cloud computing, and other technologies, the era of digital intelligence has arrived.

China's publishing industry is undergoing profound transformation. Traditional publishing is rapidly shifting toward digital, integrated, and intelligent publishing. The industry is increasingly diversified, with emerging business areas such as knowledge services, online education publishing, digital publishing, and IP operations continuously emerging, reshaping traditional publishing workflows. This transformation imposes new demands on editing and publishing professionals. Beyond traditional skills such as editing and proofreading, practitioners must now possess data literacy, digital technology application skills, data analysis capabilities, new media operations expertise, and cross-media planning abilities. The market demands compound, interdisciplinary, and innovative talent. However, as the primary base for talent cultivation, higher education institutions still adhere to traditional training models: specialized curricula remain conventional, curriculum systems lag behind technological advancements, the integration of cutting-edge technologies such as AIGC and data mining remains insufficient, students' skill development is misaligned with job requirements, and there is a time lag between talent cultivation cycles and technological iterations, resulting in a disconnect between talent supply and industry demand. This leads to employment difficulties for graduates and recruitment challenges for enterprises, as the editing and publishing industry continues to lack new, compound talents with digital thinking and interdisciplinary capabilities. The lag in higher education talent cultivation relative to the digital intelligence era has become a critical practical driver for this study [2].

Research on publishing talent cultivation has evolved over time. In the traditional publishing environment, scholars focused on continuing education for publishing professionals and cross-generational talent development. In the 21st century, digital technology began disrupting traditional publishing, shifting research focus to modern publishing talent cultivation. For instance, Xiao Dongfa analyzed the actual talent needs of publishing organizations and called for reform in publishing higher education [3]. From 2010 to 2020, as digital technology continued to develop, academic discussions increasingly centered on digital publishing talent needs, revealing a mismatch between the knowledge structures of digital publishing talents and industrial demand trends [4]. In recent years, with the advancement of digital transformation and AI technologies, research has increasingly emphasized talent cultivation in the context of integrated publishing, industry transformation, and interdisciplinary collaboration,

aiming to meet the practical needs of the publishing industry. For example, Li Yazheng proposed that in the era of generative AI, digital publishing talent cultivation should be advanced by integrating AIGC-related content into curricula to enhance graduates' proficiency in new technologies and meet evolving labor market demands [5]. Zhang Yao and Zhang Huimin explored the practical demands of talent cultivation in the context of deep integration, identifying the need for publishing professionals to possess digital publishing skills, political literacy, learning ability, and innovation capacity, while proposing optimization pathways at both the university and industry levels [6]. Yang Jin adopted a competency-based approach to construct a model for cultivating interdisciplinary publishing talents, advocating for a tiered training mechanism and curriculum system aligned with job market demands [7].

2. Challenges in Cultivating Editing and Publishing Talents in the Digital Intelligence Era

In response to the evolving trends in the publishing industry and publishing education in the digital intelligence era—particularly the reshaping and reconstruction of traditional publishing by artificial intelligence—the talent cultivation model for editing and publishing must adapt to meet the demands of the times and accelerate its transformation toward digital intelligence. However, current training systems for editing and publishing professionals face challenges in defining educational objectives, delivering practical teaching content, and managing curriculum iteration cycles, failing to meet the requirements of building a publishing workforce suited to the digital intelligence era.

2.1. Misalignment Between Educational Objectives and Market Demand in the Digital Intelligence Era

An analysis of the educational objectives outlined in the talent cultivation programs of domestic universities reveals that some institutions still base their programs on the operational models of the digital-era publishing industry. Graduates are primarily directed toward traditional publishing, media-related roles, or digital-era positions such as copywriting, text editing, proofreading, digital product production, publishing distribution, and new media operations. These roles span traditional print publishing, new media, cultural creativity, integrated publishing, and other emerging sectors. While universities' training objectives for traditional publishing roles generally align with stable market demand, their broader goals of cultivating "compound" and "applied" talents only align with the market at a macro level. However, they lack precision in addressing the emerging job roles specific to the digital intelligence era. University curricula often describe roles broadly—such as "new media operations" or "digital publishing"—whereas the publishing market has become more segmented, giving rise to specific roles such as "short video director," "AI video production," "content operations," "user product manager," "growth marketing manager," "AI product manager," and "AIGC product operations." Most universities' educational objectives fail to precisely align with these emerging job roles, lagging behind the deep integration of intelligent technologies with the publishing industry. As a result, the talent cultivated by universities struggles to adapt to the evolving structure of industry roles.

The direction of publishing talent cultivation must adapt to the rapidly changing demands of the publishing market and should be shaped by the needs of the times.

2.2. Misalignment Between Practical Competence and Industry Experience Requirements in the Digital Intelligence Era

In the digital intelligence era, nearly 70% of employers require job applicants to have relevant practical experience or market insights in specific vertical domains, typically preferring candidates with 1–3 years of experience. This highlights the significant emphasis that enterprises place on practical work experience. In contrast, practical teaching in most universities remains limited in content and form. On-campus practical training primarily consists of experimental courses, theory-based practical components, independent comprehensive creative projects, special publishing surveys, and graduation internships. Off-campus practical training relies solely on short-term graduation internships [8–9]. Under such a practical training system, students can only master theoretical knowledge without adequate opportunities for industry exposure. This results in an incomplete understanding of the industry and underdeveloped professional skills, making it difficult for graduates to meet the requirements of publishing roles. Furthermore, more than 90% of training programs do not require students to participate in industry activities such as publishing-related lectures or professional exchange events as a prerequisite for graduation; students can graduate simply by completing required credits and successfully defending their theses. This indicates that universities place insufficient emphasis on industry-academia engagement and fail to recognize market sensitivity and practical experience as critical dimensions in corporate talent evaluation systems. This gap between inadequate practical training and the industry's demand for experienced talent highlights a significant structural mismatch [9].

2.3. Misalignment Between Talent Cultivation Cycles and Technological Iteration

Universities typically operate on a four-year talent cultivation cycle. The process of formulating and revising professional talent cultivation programs involves multiple procedural steps, including collective discussions by teaching departments, reviews by faculties and schools, approvals by university leadership, and evaluations by teaching steering committees. A full revision cycle generally spans four years. Even when mid-cycle adjustments are made, the associated research, validation, and approval processes often require one year in advance. From the point when a curriculum update is proposed to its final implementation, the entire process can take two to three years—a common phenomenon in higher education curriculum development [10].

In contrast, technological iteration in the publishing industry follows a market-driven pace, dictated by technological innovation and market competition. Existing research indicates that traditional publishing education still prioritizes editing and proofreading skills, with curriculum updates lagging three to five years behind the publishing industry's development. There is also a significant gap in the integration of interdisciplinary knowledge and competencies,

making it difficult to meet the demands of cultivating compound talents in the intelligent publishing era—specifically, the need for professionals with a combination of technical application, content creation, and industry operations capabilities [10].

A time lag exists between university talent cultivation and technological iteration. Some universities mention in their training objectives that students should acquire relevant professional technologies such as generative AI, while others explicitly include AIGC-assisted content planning in their competency requirements. However, in both cases, these competencies have not been translated into concrete curriculum content, and the corresponding course infrastructure remains underdeveloped. In contrast, on the industry front, since 2023, leading publishing organizations such as China Publishing Group, CITIC Press Group, and People's Posts and Telecommunications Press have launched specialized training programs on AIGC technology applications. Some companies have even incorporated AIGC application skills into their core hiring criteria.

3. Optimization Pathways for Cultivating Editing and Publishing Talents in the Digital Intelligence Era

To cultivate editing and publishing talents suited to the digital intelligence era, this paper explores optimization pathways from three perspectives: redefining educational objectives, enhancing practical teaching content, and reforming teaching methods.

3.1. Redefining Educational Objectives

Educational objectives serve as the "master blueprint" for talent cultivation, directly influencing curriculum design and the development of student competencies. Currently, some universities' educational objectives tend to be vague, relying on broad terms such as "compound talent," "innovative talent," and "high-quality talent," without clearly defined, actionable, or assessable competency indicators. This vagueness is a root cause of the misalignment between editing and publishing talent cultivation and market demand. Redefining educational objectives is therefore a logical starting point and a critical step in addressing this disconnect. Universities must take coordinated action to transform their educational objectives from broadly defined concepts into precisely measurable frameworks.

First, educational objectives must precisely align with emerging job roles. The establishment of educational objectives should be grounded in a thorough understanding of the actual needs of the publishing market. In the digital intelligence era, the structure of publishing job roles has become increasingly diversified and digitized. Universities should systematically map emerging job roles in the publishing field, analyze the core competencies required for each, and translate these into specific educational goals. For instance, for the role of "AI video production," students should be expected to master the use of AI video generation tools, multimodal content editing skills, and short video platform operational strategies. For "content operations," students should demonstrate competencies in user profiling, content strategy formulation, and data-driven optimization. For "user product manager," students should understand the full process of user needs research, product prototyping, and user experience optimization. By establishing clear mappings between job roles and competencies, educational objectives can be made to directly reflect industry hiring needs.

Second, a tiered "foundation + specialization" model should be adopted. Given the growing diversity of job roles in the publishing market, a single training model cannot adequately address all needs. Universities should establish specialized modules such as content creation, technical application, operations management, and product innovation. The first two years of the program should focus on building a strong foundation, while the final two years allow students to choose a specialization based on their interests and market trends. Each module should have clearly defined competency goals and graduation requirements. For example, the content creation module aligns with roles such as text editor, planning editor, and copyright manager; the technical application module aligns with roles such as digital editor, AI content producer, and intelligent publishing specialist; the operations management module aligns with roles such as content operations, user operations, and growth marketing; and the product innovation module aligns with roles such as integrated publishing product manager and knowledge service product manager. Through this approach, students with diverse interests and aptitudes can find suitable pathways for professional growth.

Third, competency-based evaluation systems should be established to align with educational objectives. The effectiveness of educational objectives ultimately depends on their ability. Universities should develop evaluation systems that translate each educational objective into clear assessment methods and measurable indicators. For example, a competency standard might be "the ability to independently complete an AI-assisted content planning project and achieve expected data targets." Industry-recognized certifications, such as new media operator or data analyst credentials, should be integrated into competency assessment. Additionally, graduate tracking mechanisms should be implemented to regularly assess job market alignment and competency adaptability, incorporating employer feedback into the continuous refinement of educational objectives. Through this feedback loop—planning, implementation, evaluation, and refinement—educational objectives can be effectively realized.

3.2. Enhancing Practical Teaching Content

Optimizing practical teaching content is a critical entry point for addressing the misalignment between insufficient practical competence and the industry's demand for experienced talent. A multi-layered practical training system should be developed.

A single form of practical training is insufficient to meet the systematic needs of student competency development. A progressive training chain should be built, moving from basic to advanced, from single to integrated, and from simulation to real-world experience. The first level is curriculum-embedded practical training. Universities can integrate practical components into each core professional course, shifting away from a traditional model that emphasizes theory over practice. For example, in Editing Practice, students can use AIGC tools to simulate the full process of topic planning, manuscript solicitation, and review. In Publishing Marketing, students can manage a real or simulated new media account, publishing content and analyzing data. In Digital Publishing, students can use professional tools to create e-books or

multimodal content. Each course should include at least one or two practical projects, with practical hours accounting for no less than 30% of total course hours. This allows students to develop practical skills and accumulate experience within the classroom.

The second level is specialized skills training. This involves breaking through course boundaries to offer independent training modules focused on core publishing skills. For instance, topic planning training requires students to complete a comprehensive topic planning proposal, including market research, competitor analysis, topic validation, and marketing strategies. Content creation training involves using AI tools to produce and optimize multimodal content. Data analysis training requires students to analyze user profiles, evaluate content performance, and optimize marketing strategies based on real-world data. Copyright operations training can simulate the full process of copyright trading, IP development, and international copyright licensing. Each module can be delivered intensively over two to three weeks, with industry experts invited to guide and evaluate.

The third level is integrated creative practice, involving interdisciplinary and cross-competency projects that simulate real publishing scenarios. An integrated publishing workshop can be established where student teams complete the entire process of integrated publishing—from topic planning and content production to technical application and marketing. Additionally, a publishing innovation lab can be set up, allowing students to engage in innovative projects and product development around cutting-edge topics such as AIGC, metaverse publishing, and knowledge services. The fourth level is industry-based practice, extending practical training to the industry front line, allowing students to test and enhance their abilities in real-world contexts. Short-term project-based internships can be established through partnerships with enterprises, where students take on real projects such as account operations, topic planning, and content production, guided by industry mentors over two to four weeks. For final-year capstone projects, students should be encouraged to align their work with industry needs, selecting real-world problems—such as product development, operational strategies, or research reports—as their graduation project. Through this four-tiered practical training system, students can receive comprehensive hands-on training, progressing from foundational skills to integrated capabilities, and from simulated environments to real-world professional settings.

3.3. Reforming Teaching Methods

To enhance students' practical skills and job readiness, traditional teaching methods must be reformed in favor of innovative approaches. Industry-education integration and project-based learning are two core methodologies that complement each other in cultivating interdisciplinary, practice-oriented publishing talent and serve as key pathways to bridging the gap between university education and industry employment needs.

First, platforms for industry-education integration should be established. Industry-education integration refers to deep collaboration between educational institutions and industries, aligning teaching content with industrial needs to cultivate market-ready talent. It breaks down barriers between academia and industry, injecting industrial resources, technologies, and demands into university education, while universities contribute their research expertise and talent pools to support industrial development. This creates a mutually beneficial relationship through resource sharing and complementary strengths. In the digital intelligence era, university teaching and industry practice have become disconnected, requiring a path of co-evolution in publishing talent cultivation. Teaching processes and industrial production, as well as curriculum content and professional standards, must be deeply aligned. Universities can partner with publishing enterprises to invite experts, senior editors, and planners into the classroom to share the latest industry cases, technology applications, and job standards, helping students stay abreast of industry developments. While university curriculum and teaching materials often lag behind technological advances, enterprises can bring cutting-edge technologies into the classroom. For example, publishing companies using AI-assisted creation tools, intelligent proofreading systems such as Heima Proofreading, data analytics platforms, and digital asset management tools can provide access to these technologies for university training courses, allowing students to become familiar with mainstream industry tools while still on campus. For more technically demanding areas—such as large model–based topic planning support systems or multimodal content review tools—enterprises can offer technical platforms and algorithms, while universities engage faculty and students in testing, optimization, and scenario development. This approach not only develops students' technical skills but also supports enterprise R&D. Additionally, universities and enterprises can jointly build practice bases to identify and nurture talent, co-recruit dual-qualified faculty, co-develop curricula, and co-establish industry-academia research teams. Building such integrated platforms is a key pathway to cultivating publishing talent that is well-aligned with industry needs.

Second, project-based learning (PBL) should be implemented. Unlike traditional classroom instruction, project-based learning is a teaching method centered around projects, where students complete specific project tasks under the guidance of instructors. For students, it is a new learning model emphasizing hands-on experience. For instructors, it represents a pedagogical shift from knowledge transmission to guidance and support, with students taking the lead in the classroom [11]. PBL is practice-oriented and uses real-world projects as vehicles, assigning complex tasks that help students translate theoretical knowledge into practical skills, thereby integrating theoretical and practical instruction. In the context of publishing talent cultivation, PBL focuses on authentic publishing projects. Instructors guide students through the completion of real-world projects, enabling them to master professional knowledge and enhance job-relevant skills. For example, in a teaching context, instructors may center instruction around publishing industry projects—such as topic planning, digital publishing production, or AIGC-assisted content creation—and facilitate collaborative group work to help students enhance their job readiness through practice. The AIGC industry research project conducted by East China Normal University's Shanghai Publishing Research Institute is an example, where students participated in questionnaire testing, data collection, and in-depth interviews, developing research design, industry analysis, and interdisciplinary communication skills [12]. In implementing PBL, universities can partner with publishing enterprises to co-build practice bases, enabling students to transform theoretical knowledge into skills through hands-on work.

PBL essentially translates abstract professional knowledge into concrete operational competencies, helping students familiarize themselves with workflows and acquire core job skills, thereby ensuring precise alignment with industry and job requirements [13].

4. Conclusion

In the era of digital intelligence, the publishing industry is undergoing profound transformation, with business models evolving and market demands shifting. The publishing industry must proactively embrace these changes, and universities must align their educational objectives with market needs, optimize practical teaching content, and reform teaching methods to cultivate editing and publishing talents who are interdisciplinary, practice-oriented, and innovative in the digital intelligence era.

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