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Research on the Direction and Strategies of Educational Reform for New Media Professional Courses in Colleges and Universities under the Background of AI Intelligence

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Abstract: The rapid advancement of artificial intelligence technology is fundamentally reshaping the landscape of the new media industry. From the intelligent transformation of content creation to the algorithmic restructuring of communication models, the industry has imposed new demands on the knowledge structure and skill sets required of professionals. Based on an analysis of the current integration of AI technology and the new media industry, this paper systematically examines the existing compatibility issues within the curriculum system of new media majors in higher education, particularly in terms of training objectives, teaching content, and practical components. It then proposes a reform direction centered on cultivating "human-machine collaborative literacy," including specific strategies such as reconstructing course modules, innovating pedagogical paradigms, and strengthening the integration of academia and industry. The study aims to provide theoretical references and practical frameworks for universities to cultivate compound talents who possess both expertise in new media communication and proficiency in intelligent technologies, thereby promoting a dynamic alignment between professional education and industrial needs.

Keywords: Artificial Intelligence; New Media Education; Curriculum Reform; Human-Machine Collaboration; Industry-Academia Integration

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1. Introduction

As ChatGPT enables instant news generation, AIGC tools support mass production of short videos, and algorithmic recommendations dominate information distribution logic, the new media industry is undergoing a comprehensive transformation involving technology, business models, and talent requirements. This shift not only involves tool updates but also triggers profound changes in communication ethics, professional boundaries, and competency expectations. As primary talent suppliers, institutions of higher education face significant challenges in their new media curricula, including outdated course content, rigid traditional teaching methods, and a disconnect between academic practice and real-world industry scenarios. Many textbooks still emphasize Web2.0-era content operations, while most classrooms follow a one-

way instructional model of "theoretical explanation + software operation." Limited practical projects fail to engage students with AI-driven business processes, resulting in graduates facing dual challenges: rapidly depreciating skills and difficulty adapting to job roles[1]. Therefore, exploring feasible pathways for curriculum reform in new media majors under the backdrop of AI intelligence has become an imperative task for higher education to respond effectively to industrial evolution.

2. Transformation of Competency Requirements in the New Media Industry Driven by AI Technology

2.1. Reconfiguration of "Intelligent Collaboration" Capabilities in Content Production

Traditional new media content creation emphasizes individual capabilities in reporting, writing, editing, and evaluation. However, the integration of AI technology has given rise to a new creative ecosystem based on human-machine division of labor. Intelligent writing systems can generate structured content such as financial reports and event summaries—for example, ByteDance's "Lingquan" system instantly converts financial data into narratives. AI image tools like Midjourney can produce visual materials tailored to communication contexts based on textual prompts. Intelligent video editing platforms such as Kinemaster can automatically assemble footage and add subtitles. These developments necessitate practitioners transitioning from "content creators" to "intelligent production coordinators," requiring not only technical proficiency in operating AI tools (e.g., Prompt Engineering), but also critical judgment and ethical calibration of machine-generated outputs—such as preventing AI from exaggerating tragic scenes in disaster reporting through human intervention.

2.2. Enhancement of "Algorithm Mastery" Capabilities in Communication and Operations

Algorithmic recommendation has become the core mechanism for mainstream platform content distribution. From Toutiao's information flow sorting to Douyin's traffic allocation, data-driven dissemination logic has transformed operational priorities. Traditional "content-centric" thinking is evolving into a collaborative approach combining "content + algorithms." New media operators must understand fundamental principles of algorithmic models such as collaborative filtering and deep learning, and be capable of analyzing user profile tag systems using tools like Baidu Index and Chanmama. They should formulate algorithm-adapted strategies such as keyword optimization and interactive guidance. For instance, in e-commerce live streaming, practitioners need to use AI analytics to identify high-conversion user behaviors and adjust scripts and product presentation accordingly. This closed-loop capability of "data interpretation → strategy optimization → performance feedback" has become a key competitive advantage surpassing traditional operational skills[2].

2.3. Strengthening Awareness of "Technological Criticism" in Ethical Practice

The misuse of AI technology has triggered numerous ethical debates: deepfake techniques have led to misinformation proliferation, algorithmic bias reinforces information bubbles, and data scraping infringes upon user privacy. This necessitates that new media professionals develop a balanced mindset integrating "technological instrumental rationality" and "communication value rationality"—neither ignoring risks due to technological overconfidence nor rejecting innovation out of fear. For example, in government new media operations, how can AI-powered response systems enhance service efficiency without appearing impersonal? In algorithmic recommendation systems, how can diverse perspectives be preserved through human oversight? These scenarios demand that practitioners possess strong ethical judgment and risk mitigation capabilities regarding technology application[3].

3. Diagnosis of Existing Problems in the Curriculum System of New Media Majors in Higher Education

3.1. Obvious "Technical Lag" in Course Content

Current curriculum designs for new media majors often exhibit a "three-light" phenomenon: emphasizing traditional media transformation over intelligent technology applications, focusing on tool usage rather than algorithmic understanding, and prioritizing isolated skill training over systemic thinking development. Core courses remain dominated by traditional modules such as "Introduction to New Media" and "Online Editing Practice," while AI-related content is typically addressed superficially through occasional lectures. Data analysis instruction remains at basic Excel charting levels, lacking systematic coverage of advanced tools like Python or Tableau. Ethics courses focus on traditional media norms, neglecting emerging issues such as algorithmic discrimination and deepfake ethics. Such structures fail to meet industry demands for integrated competencies in technical understanding and humanistic critique[4].

3.2. Prominent "Practical Disconnection" in Teaching Models

There is a significant gap between current teaching practices and real-world industry scenarios: First, theoretical instruction largely follows a closed-loop model of "textbook → lecture → exam," with instructors' understanding of AI remaining at a popular science level, limiting their ability to analyze AIGC tools' iterative logic and application boundaries. Second, practical components mostly revolve around campus activities and simulated account management, offering little exposure to actual platform algorithm environments. Students rarely experience the dynamics of "viral content triggering algorithmic recommendations." Third, school-enterprise collaborations are often symbolic, with internships limited to basic tasks and minimal access to core functions like AI content moderation or algorithm optimization. This "virtual practice" leaves students needing retraining after graduation.

3.3. Significant "One-Sidedness" in Evaluation Systems

Assessment mechanisms have yet to move beyond traditional knowledge-memory paradigms. Theoretical courses rely heavily on closed-book exams focused on definitions and theories, neglecting scenario-based AI application analysis. Practical assessments mainly involve submitting final works, overlooking the thought processes behind technical choices and ethical considerations. Interdisciplinary evaluations are scarce, failing to measure students' abilities to solve communication problems using data or integrate humanistic insights into technology calibration. This exam-oriented approach leads to utilitarian learning behaviors, hindering sustainable career development.

4. Framework for Curriculum Reform in New Media Majors

4.1. Establish a Talent Cultivation Orientation of "Human-Machine Collaboration"

Amidst AI replacing repetitive tasks, universities should focus on integrating "irreplaceable human traits" with "AI application capabilities," forming a "three-dimensional competence matrix":

- Foundational dimension: Emphasize combined knowledge of new media theory and AI principles (e.g., agenda-setting variants in the algorithmic era).
- Tool dimension: Highlight practical skills in intelligent creation and data analysis (e.g., using GPT-4 for draft generation followed by human refinement).
- Thinking dimension: Foster critical and innovative capacities (e.g., identifying algorithm-induced information narrowing and designing cocoon-breaking strategies).

This positioning distinguishes new media education from both computer science and traditional journalism, establishing its unique value.

4.2. Construct a "Cross-Disciplinary Integration" Curriculum Module System

Break disciplinary silos and design a pyramid-shaped structure:

- Basic Level: Offer courses like "Artificial Intelligence Fundamentals" and "Data Thinking Introduction" to build technical foundations (e.g., Python, SQL).
- Professional Level: Integrate AI into core subjects—e.g., adding "AI-Assisted Reporting" to journalism courses and "Algorithm Optimization Practice" to operations modules.
- Extension Level: Develop interdisciplinary offerings such as "Ethics of Intelligent Communication" and "Human-Computer Interaction Design," exploring technology's value boundaries and UX optimization.

Modules are interconnected via project-based integration—e.g., simulating "Intelligent Government New Media Operation" to synthesize data analysis, content generation, and ethical assessment.

4.3. Innovate the "Scenario-Based Immersion" Teaching Approach

Shift from "knowledge transmission" to "competence building":

- Adopt flipped classroom and project-based learning, reserving class time for case discussions and problem-solving (e.g., responding to AI-generated fake news).
- Build an "Intelligent Media Lab" with API interfaces and algorithm sandboxes to simulate real content distribution environments.
- Develop virtual simulations using metaverse technology to recreate AI-driven crisis communication scenarios, enhancing emergency response capabilities.

Such approaches bridge the gap between academic learning and industry practice.

5. Implementation Strategies for Curriculum Reform

5.1. Dynamically Update Course Content and Establish a "Technology Tracking" Mechanism

Form a curriculum committee comprising faculty, industry experts, and tech developers to update syllabi every semester, incorporating cutting-edge tools (e.g., Sora video generation) and algorithm features (e.g., Douyin's interest exploration). Use modular teaching materials organized by technical application scenarios (e.g., AI ethics in disaster reporting), supplemented with evolving case studies. Launch the "Intelligent Media Frontier Workshop" to invite industry leaders to share hands-on experiences.

5.2. Enhance Faculty Development and Cross-Disciplinary Guidance

Implement a "Dual-Instructor Co-Education" program, sending teachers to companies like ByteDance and Tencent for AI project immersion, while recruiting experienced algorithm engineers as adjuncts. Conduct joint training sessions with enterprises to improve educators' technical and interdisciplinary teaching capabilities. Establish cross-departmental collaboration with schools of computer science and data science to form complementary teaching teams.

5.3. Deepen Industry-Academia Integration and Build "Real-World" Training Platforms

Collaborate with major new media platforms to co-develop an "Intelligent Media Industry College," introducing enterprise-grade AI content management systems and data tools into teaching. Implement continuous internship programs where students complete full-cycle AI-assisted communication projects under industry mentorship. Host the "AI New Media Innovation Competition" with categories like "Intelligent Content Creation" and "Algorithm Feedback Strategy" to encourage innovation.

5.4. Reform the Evaluation System Toward "Competency-Oriented" Assessment

Adopt a three-dimensional evaluation model encompassing process, outcome, and reflection:

- Process evaluation focuses on students' reasoning when applying AI tools.
- Outcome evaluation measures the real-world impact of project deliverables.
- Reflection evaluation assesses depth of understanding regarding technology limitations.

Incorporate enterprise metrics (e.g., platform recommendation rates) and AI-assisted grading tools, while retaining teacher calibration to balance objectivity and humanistic insight.

6. Conclusion and Outlook

The deep integration of AI and the new media industry represents neither mere tool replacement nor technological determinism, but rather the emergence of a new professional ecosystem characterized by "technology empowerment + humanistic guidance." The essence of curriculum reform lies in breaking free from traditional educational paradigms and constructing a talent cultivation system aligned with the intelligent era—equipping students with both technical proficiency and humanistic insight.

Limitations include insufficient exploration of differentiated reform paths across university types and lack of longitudinal data on reform outcomes. Future research could involve empirical studies through inter-institutional cooperation, refining strategies based on institutional missions and establishing dynamic evaluation mechanisms informed by graduate career trajectories.Only through continuous openness and transformation can new media education nurture talents grounded in communication principles yet thriving in the age of intelligence, contributing sustainably to the healthy development of the new media industry.

Disclosure statement

The author declares no conflict of interest.

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