

Research on the Modular Curriculum Reconstruction of Journalism and Communication Majors in the Age of Artificial Intelligence

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Abstract

Driven by iterative updates of artificial intelligence technology, the media industry has undergone comprehensive operational transformations, putting forward brand-new competency standards for journalism and communication graduates. Traditional teaching modes of journalism and communication can no longer adapt to the industrial changes, which makes systematic teaching reform an urgent task. Rooted in the New Liberal Arts construction initiative, this research integrates modular curriculum design, constructivist learning theory and competency-oriented education, and constructs a three-stage progressive modular teaching system suitable for journalism and communication teaching in the intelligent media era.

Keywords

Artificial intelligence, journalism and communication education, curriculum system reform, modular teaching, New Liberal Arts.

1. Introduction

1.1. Research Background

Generative AI, large language models and multi-modal content generation tools have penetrated every link of news communication, covering content creation, distribution and audience interaction. Automated news writing, data visualization journalism, algorithmic recommendation and virtual anchors have reshaped daily media workflows, and raised new requirements for journalists' knowledge reserve, practical operation ability and critical thinking.

The New Liberal Arts Construction Declaration issued by the Ministry of Education of China requires liberal arts disciplines to realize digital transformation through technology integration. Meanwhile, the AI Education White Paper takes comprehensive artificial intelligence literacy as a key evaluation indicator of university talent training. As an interdisciplinary discipline combining humanities and digital technology, journalism and communication faces prominent pressure to adjust its curriculum system to match intelligent media development, which has become a common practical problem for domestic universities. For application-oriented undergraduate colleges, curriculum upgrading against the intelligent background faces more severe difficulties due to limited teaching resources. Blindly adding various technical courses will lead to superficial and repetitive teaching content, while sticking to traditional teaching modes will make students lack competitiveness in media posts. Therefore, it is necessary to explore feasible curriculum restructuring paths targeted at the actual conditions of such colleges.

1.2. Research Value

Theoretically, this study combines three mature educational theories to build an analysis framework for journalism and communication curriculum reform under intelligent media, enriching the research system of New Liberal Arts cross-integration between humanities and digital technology.

Practically, the three-stage progressive modular curriculum model proposed in this paper provides operable reform ideas for application-oriented undergraduate colleges. It can also serve as reference material for differentiated major construction planning of local and private universities with insufficient teaching resources.

2. Theoretical Basis and Integrated Analysis Framework

2.1. Modular Curriculum Theory

Modular curriculum design originated from European vocational education reforms in the 1970s. Its core logic is to split the whole teaching content into independent, clear learning units with unified standards. Each module corresponds to specific knowledge points or competency training goals, allowing students to learn step by step or select modules matching their personal development directions.

When applied to university teaching, this theory has three obvious advantages. First, the curriculum system gains higher flexibility; module content can be timely adjusted according to technological upgrades and industrial demand changes. Second, it lowers the trial-and-error cost of teaching reform. Colleges can carry out pilot tests on single modules and optimize them gradually without overhauling the entire teaching system. Third, it helps realize resource sharing among different specialty directions: new media, advertising, radio and television majors can share basic modules, while setting exclusive practical training modules based on their respective training objectives.[1]

2.2. Competency-Based Education (CBE)

Competency-based education centers on cultivating students' transferable practical abilities that can be quantified through assessment. Following the reverse design logic focusing on training outcomes, it designs curriculum systems based on the practical abilities required by media posts. This teaching concept demands that curriculum objectives align with industrial employment standards, all teaching content serves competency cultivation, and teaching evaluation attaches more importance to practical performance rather than mechanical memorization of theoretical knowledge.

With the wide application of AI in media, the ability framework of communication practitioners has changed greatly. Data analysis thinking, basic algorithm cognition, human-machine collaborative creation and judgment capacity over AIGC ethical risks have become essential literacy for industry practitioners. CBE theory helps educators accurately capture emerging competency demands of the industry and translate them into executable teaching objectives.

2.3. Integrated Analysis Framework

This research fuses the above three educational theories to form a complete logical path for curriculum reconstruction. Competency-based education defines the core orientation of talent training; modular curriculum theory provides hierarchical structural support for organizing teaching content; constructivist learning theory guides the design of classroom teaching and offline practical training links. The three theories jointly form a closed logical chain covering training objectives, curriculum content and teaching implementation, laying a theoretical

foundation for innovative adjustment of journalism and communication teaching systems adapting to the AI era.

3. Internal Logic of Journalism and Communication Teaching Reform Under AI

3.1. Industrial Transformation and Updated Talent Competency Standards

AI technology has covered all links of media operation. In content production, intelligent writing tools can automatically generate standardized news texts for sports, finance and other fields; AIGC tools quickly produce pictures, short videos and audio materials, greatly shortening production cycles. Against this background, media practitioners need to cultivate unique core competitiveness that algorithms cannot replace, including innovative narrative thinking, value discrimination ability, in-depth investigation capacity and humanistic care awareness.[2]

In terms of content consumption, immersive experience and personalized push have become mainstream development trends, requiring communication practitioners to master cross-media narrative logic and establish product-oriented thinking mode.

3.2. Defects of Traditional Curriculum Systems

Faced with the intelligent transformation of media industry, traditional journalism and communication curriculum systems have exposed three prominent drawbacks:

First, the overall curriculum layout is fragmented. Various courses are isolated from each other, resulting in disconnection between theoretical teaching, skill training and off-campus internship. Theoretical knowledge lags far behind industrial practice; skill courses only teach single software operation while updating speed of technical tools far outpaces curriculum iteration. During internships, students lack pre-job training of core professional abilities and are mostly assigned auxiliary trivial work instead of participating in complete project creation. Second, AI-related teaching content is scattered without systematic arrangement. Most intelligent technology courses are set as independent elective courses, separated from core courses such as news editing and new media operation, creating a gap between professional learning and AI ability training. Some colleges only offer short-term lectures and workshops about AI, enabling students to simply operate several tools but failing to help them master the application logic of intelligent technology in complete communication projects.

3.3. Three Core Design Principles of Curriculum Restructuring

Combined with industrial changes and existing curriculum defects, this study puts forward three guiding principles for curriculum reform:

Deep Integration Principle

Colleges should break the long-term separation of humanities and digital technology. AI literacy training needs to be embedded into all professional teaching links, realizing deep fusion between intelligent technology and core major courses instead of simply adding scattered technical electives. Digital intelligence technology is not merely an auxiliary skill, but a new operation logic reshaping media industry practice.

Dynamic Iteration Principle

Colleges need to build a regular curriculum updating mechanism. Taking advantage of modular curriculum's flexible structure, teaching content inside each module can be timely revised according to technological development and post demand changes, avoiding rigid and outdated curriculum systems disconnected from industrial reality.

4. Construction of Three-Stage Progressive Modular Curriculum System

4.1. Overall Structural Design

Based on the above theoretical sorting and industrial transformation analysis, this study constructs a three-stage progressive modular curriculum restructuring model guided by competency-based education. Following students' cognitive development rules, the system is divided into cognitive enlightenment, tool practice and integrated innovation stages. Though the three stages can be split and matched flexibly according to different teaching demands, they present a progressive learning sequence, covering the whole cultivation process of students' AI literacy from basic cognition to advanced composite application.

4.2. Stage One: Cognitive Enlightenment Stage

Training Goals

This stage helps students form systematic cognition of artificial intelligence, clarify the application scenarios and ethical boundaries of AI in media industry, and eliminate extreme attitudes of blind rejection or blind worship toward technology, so as to shape rational technological values.[3]

Curriculum Modules

Basic Technology Cognition Module: Using easy-to-understand teaching methods to introduce machine learning, natural language processing, computer vision and other basic concepts, without involving complex coding principles, focusing on building students' complete technical cognitive framework.

Industrial Scenario Cognition Module: Combining massive real media cases to sort out AI application modes in news interview, writing, post-production, content distribution and audience feedback links, helping students connect technical knowledge with professional practice.

Media Ethics Cognition Module: Launching thematic seminars around hot industry disputes such as algorithm bias, deep forgery, content copyright and user privacy protection, cultivating students' critical media thinking and independent value judgment ability.

Target Competency

Matching the cognitive level of Bloom's Taxonomy, this stage mainly consolidates students' basic AI theoretical knowledge and media ethical discrimination literacy.

4.3. Stage Two: Tool Practice Stage

Training Goals

This stage enables students to proficiently operate mainstream intelligent content creation and data analysis tools, and independently complete basic journalism and communication professional tasks with AI assistance, realizing the transformation from theoretical cognition to skilled tool operation.

Curriculum Modules

Each module sets targeted practical training content according to different specialty directions:

Intelligent Content Creation Module: Conduct hands-on teaching of AI auxiliary writing, intelligent image generation, automatic video editing and audio processing tools.

Data Analysis Module: Systematic training covering data collection, cleaning and visual chart production.

Public Opinion Monitoring Module: Teach students to operate public opinion analysis platforms, sort out hot topic development trends and write standard public opinion analysis reports.

All tool teaching is combined with professional news norms. Besides software operation guidance, teachers guide students to identify defects of AIGC content and establish awareness of communication quality control.

Target Competency

Matching the application and analysis levels of Bloom's Taxonomy, this stage focuses on training students' practical tool operation ability and human-machine collaborative creation capacity.

4.4. Stage Three: Integrated Innovation Stage

Training Goals

On the basis of mastering basic AI knowledge and tool skills, students can independently plan, design and operate innovative communication products under complex real media project backgrounds, realizing the upgrading from simple tool operation to AI-driven communication project innovation.

Curriculum Modules

This stage focuses on cross-module knowledge integration and all-round practical training under real scenarios, setting comprehensive project courses including intelligent communication product planning, data journalism innovation and AI brand communication design. Students integrate knowledge and abilities acquired in the first two stages, and combine core professional literacy such as news sensitivity, narrative creation, user operation and project coordination to finish full-cycle work including demand research, scheme design, product launch and communication effect evaluation.[4]

Teaching Implementation Methods

Courses are carried out through school-enterprise co-built practical projects, discipline competitions and undergraduate graduation design, introducing real enterprise demands and industrial evaluation standards. Double tutors (on-campus professional teachers and front-line media practitioners) track the whole project process. The evaluation system combines process assessment and result assessment, focusing on students' teamwork, problem solving and innovative design performance.

Target Competency

Matching the evaluation and creation levels of Bloom's Taxonomy, this stage cultivates advanced abilities including interdisciplinary integrated innovation, media product thinking and project management coordination.

5. Supporting Guarantee System for Curriculum Restructuring

5.1. Construction of Interdisciplinary Compound Teaching Staff

The biggest bottleneck restricting curriculum reform lies in teachers' comprehensive literacy. Journalism and communication teachers need to break psychological resistance to digital technology and interdisciplinary knowledge barriers, transforming from single editing and reporting instructors to compound talents with both humanistic accomplishment and digital technical ability. Three paths can be adopted to realize teacher team upgrading.

5.2. Upgrade Intelligent Teaching and Practical Training Platforms

The new modular curriculum system requires complete supporting software and hardware teaching environment. On one hand, colleges need to build intelligent media professional laboratories equipped with public opinion analysis systems, data visualization platforms and multi-modal AIGC creation tools, providing practical venues for tool practice and integrated innovation stages. On the other hand, smart teaching platforms should be fully utilized to

record students' classroom operation and project completion data through learning analysis technology, supporting personalized teaching guidance and precise competency evaluation.

When building practical training platforms, colleges should avoid excessive investment in hardware without matching curriculum content, or prioritizing equipment procurement over daily practical training effect. The core goal is to realize the matching of software and hardware resources with modular teaching content.[5]

5.3. Establish Long-Term School-Enterprise Cooperation Mechanism

Curriculum reform of application-oriented undergraduate colleges must be closely linked to real industrial post demands, which makes long-term school-enterprise cooperation an indispensable guarantee.

Demand Research: Regularly organize industry visits, in-depth enterprise interviews and long-term graduate tracking surveys to grasp the changing trend of media talent competency standards.

Curriculum Co-construction: Invite front-line industrial practitioners to participate in curriculum standard formulation and module content compilation, ensuring teaching content keeps pace with industrial practice.

Practical Training Implementation: Jointly build off-campus training bases and develop real communication projects, introduce complete media production processes into classrooms through the double tutor system.

Achievement Evaluation: Incorporate enterprise post assessment standards into students' comprehensive evaluation system, focusing on inspecting students' post adaptability and long-term career development potential.

5.4. Optimize Diversified Curriculum Evaluation System

Traditional single final exam cannot comprehensively assess the advanced comprehensive abilities required by the AI era, so the existing evaluation mechanism needs overall optimization.

First, integrate process evaluation and result evaluation. Record students' performance in team cooperation, scheme adjustment and problem solving during the whole project practice, instead of only scoring according to final works.

Second, balance theoretical knowledge assessment and practical competency assessment. Add diversified evaluation forms such as work exhibitions, project defense and simulated media practice, prioritizing the inspection of students' practical operation and innovative problem-solving abilities.

Third, combine manual evaluation and AI auxiliary assessment. Intelligent tools can assist teachers in correcting homework and drawing student competency portraits to improve evaluation efficiency; teachers retain the independent scoring right over dimensions such as media value judgment and creative innovation.

6. Conclusion

Against the backdrop of comprehensive AI penetration in media industry, the reconstruction of journalism and communication curriculum is far more than adding several digital technical courses; it refers to systematic re-planning of the whole talent training model. Based on three classic educational theories, this paper constructs a three-stage progressive modular curriculum system, enriches theoretical research on cross-integration teaching of technology and humanities under the New Liberal Arts framework, and puts forward operable curriculum reform plans for application-oriented undergraduate colleges.

This research still has certain limitations. The three-stage modular curriculum model is formed based on theoretical deduction and industrial observation, and its actual teaching effect needs long-term teaching practice verification in multiple colleges. Subsequent research can further optimize and adjust the model combined with real teaching data.

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