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Improving Academic Journal Editors' Competence in the Era of Artificial Intelligence

Yongping Zhou, Rong Zheng, and Yiwen Luo

Affiliations were not provided in the source text.
Corresponding author: Yongping Zhou (e-mail: not provided in the source text).

ABSTRACT Academic journal editors are the gatekeepers of academic journal publishing, and editorial capacity is their core competitiveness. In the era of artificial intelligence, the competence structure of academic journal editors includes firm political competence, professional academic competence, solid language competence, sound media competence, and innovative digital competence. The improvement of editorial competence should follow the principle of knowing what to do and what not to do. Knowing what to do requires editors to use AI technologies appropriately to innovate topic planning, optimize editing and proofreading, and integrate communication more precisely. Knowing what not to do requires editors to treat AI-generated content with caution and avoid content homogenization. Editors should embrace new AI technologies while maintaining bottom-line thinking. By strengthening fundamentals and consolidating content control, they can optimize and reshape editorial competence in the AI era and promote high-quality development in academic journal publishing.

INDEX TERMS Academic journals, editorial competence, knowing what to do, knowing what not to do, artificial intelligence.

I. INTRODUCTION

Editorial communication cannot be separated from media. Although scholars emphasize different aspects when discussing editors' comprehensive competence, gatekeeping remains the leading concern. The high-quality development of academic journals depends on rigorous, professional, and efficient editorial work. In the era of artificial intelligence, editors' role positioning and digital competence are being reconstructed and reshaped [1].

Since the release of ChatGPT by OpenAI at the end of 2022, and with the continuing progress of large-language-model-based generative AI technologies since 2023, AI tools such as DeepSeek, Gemini, ERNIE Bot, Tongyi Qianwen, and Doubao have brought great convenience to everyday life, work, and research. Massive information is now readily available. Yet technology has always been a double-edged sword. The unlimited feeding of information through big data and algorithms has polluted the information blue ocean, producing AI pollution, AI junk, and AI hallucinations. These phenomena have made users more alert to the risks of AI.

In the AI era, editing and publishing face new transformations and challenges. These transformations are mainly reflected in intelligent workflow reform, changes in content creation and review, and the personalization of reader services [2]. In academic journal publishing, the gatekeeping responsibility of editors has not been weakened. It needs to be strengthened in a more comprehensive way. AI empowerment and editorial gatekeeping together form a practical path for the high-quality development of academic journals.

II. THE COMPETENCE STRUCTURE OF ACADEMIC JOURNAL EDITORS

Competence is a form of cultivation or capability developed through repeated learning and practice. It is dynamic and emphasizes continuous learning, innovation, and improvement. Editorial competence is the core force that enables editing and publishing activities to operate efficiently. The core competitiveness of the editorial profession lies in the screening and processing of information and in the operation and management of information products [3].

Editorial competence is evolving from traditional abilities toward a composite system driven by data, technological integration, interdisciplinary synthesis, and innovation leadership. Digital-intelligent development is pushing editors to move from content gatekeepers to constructors of knowledge ecosystems [4]. The information technology

revolution has transformed, reshaped, and reconstructed editorial roles, thereby enriching the connotation of editorial competence.

Academic journal editors serve as intermediaries and gatekeepers between authors and readers, and between academic research and the publication of research outcomes. They are not only knowledge-service providers who promote scholarship, disseminate academic work, and support research, but also responsible actors who bear the mission of maintaining orientation, building consensus, educating new generations, and presenting a public image. Editorial competence mainly includes political competence, academic competence, language competence, media competence, and digital competence.

A. Firm Political Competence

Political competence is the first competence that editors must possess. It includes policy understanding and implementation, value guidance, social responsibility, and cultural sensitivity. Academic journal editors are gatekeepers of academic publishing. They must take responsibility for their publishing territory, insist on correct orientation, understand national policies and mainstream social values, and avoid disseminating incorrect political views, sensitive information, and false information. In daily work, editors should strengthen political-theory learning, pay attention to authoritative expressions related to major national policies, politics, ethnic affairs, religion, and territorial integrity, and understand and implement requirements and regulations for academic journal publishing management.

B. Professional Academic Competence

Academic competence is the core competence of editors. A weak academic voice in Chinese academic and professional publishing is related to impatience among both authors and editors. In some cases, these two forms of impatience reinforce each other. The root problem is an insufficiency of academic and theoretical competence. Qualified editors must first strengthen their professional knowledge and editorial theory through independent learning and self-improvement.

Academic competence includes three core elements: professional knowledge, topic planning, and professional sensitivity [5]. Academic expertise is the foundational skill of academic journal editors. Editors should have specialized knowledge while also maintaining broad vision and self-reflection. They should first possess sound professional competence in a specific disciplinary field. Topic planning is the means through which a journal breaks through and innovates after comprehensively evaluating its characteristics and the support and constraints of internal and external publishing environments. Its implementation often depends on precise column design. Topic planning is neither closed-door speculation nor groundless imagination. It must be both well grounded and accurately targeted [6]. Professional knowledge, topic planning, and professional sensitivity complement one another and promote academic innovation by editors.

C. Solid Language Competence

Language competence is a key competence for editors. Editing is a profession accompanied by language and text. Language competence mainly includes linguistic standardization, logical clarity, content accuracy, and stylistic adaptation. It emphasizes textual accuracy, richness, elegance, and fluency. Excellent command of language is an editor's decisive skill. In the editorial community, the metaphor of two pens has long been recognized: a red pen for editing and proofreading manuscripts, and a blue pen for writing and conducting research. Editing and research should reinforce each other.

D. Sound Media Competence

Media competence is an important competence for editors. In journalism and communication studies, media literacy refers to people's ability to use mass media. It includes motivation, methods, attitudes, effectiveness, and critical thinking about media use. For academic journal editors, media competence mainly refers to the ability to recognize, distinguish, and use different information communication, publishing, and distribution carriers. Editors should understand, and preferably know well, the communication features, advantages, and limitations of newspapers, print journals, radio and television, electronic journals, databases, and online media.

E. Innovative Digital Competence

Digital competence is the innovative competence of editors. In 2021, the Central Cyberspace Affairs Commission issued the Action Outline for Improving National Digital Literacy and Skills. It stated that digital literacy and skills comprise a set of qualities and abilities required by citizens in a digital society for digital acquisition, production, use, evaluation, interaction, sharing, innovation, security, and ethics. In the AI era, editors' digital competence covers technological, cognitive, and social-emotional dimensions.

The technological dimension refers to editors' operational ability to apply AI technologies for data collection, data mining and organization, and knowledge classification. The cognitive dimension concerns editors' ability to understand, distinguish, and evaluate digital information and their awareness of digital ethical norms. The social-emotional dimension emphasizes editors' cultural positioning and social responsibility. It includes cultural inheritance and innovation in intelligent academic production and the social responsibility editors bear in digital publishing innovation, such as guiding academic value, criticizing academic misconduct and pseudo-scholarship, identifying and correcting AI hallucinations, and expanding AI data knowledge bases.

III. PRINCIPLES FOR IMPROVING ACADEMIC JOURNAL EDITORS' COMPETENCE

The high-quality development of academic journals in the AI era requires technological humanism, the strengthening of editorial subject functions [7], and the continuous improvement of editorial competence. AI technology is a double-edged sword. Editors' competence development should follow the principle of knowing what to do and what not to do. These two dimensions are dialectically unified. Upholding both is a guarantee for guiding academic journals toward people-centered development, technology for good, knowledge for good, academic prosperity, and high-quality publishing. The principle requires editors to judge situations carefully according to a journal's mission and editorial responsibility.

A. The Principle of Knowing What to Do

The principle of knowing what to do means that editorial subjects should explore the advantages and potential of applying GenAI technologies to editorial work in line with the mission and development plan of an academic journal.

1) INNOVATING TOPIC PLANNING

The iterative development of GenAI has changed the speed and breadth of knowledge acquisition by audiences, reshaped writing and knowledge reception, and reconstructed editorial content production and communication. Targeted topic planning helps achieve four goals: specialization, distinctiveness, thematic concentration, and precision. As leaders, planners, and gatekeepers of academic publishing, editors should pay attention to the new academic fields and challenges brought by AI. Guided by topic planning, they should explore AI's applications, value implications, frontier issues, and challenges in academic fields.

For example, in 2025, the editorial department of Foreign Language Teaching opened a special column on "Translation Studies in the GenAI Era" through topic planning. It published articles such as "Intelligent Translation Literacy in the GenAI Era: Practical Foundations, Academic Rationale, and Conceptual Framework" [8], which discussed foreign-language education, language services, and machine translation research in the AI era. Editors can also innovate topic planning in new ways by learning and applying GenAI technologies. Big data, language models, and machine translation can optimize early-stage research for topic planning; knowledge graphs can accelerate topic screening; automated text polishing can support middle-stage writing; and later-stage risk monitoring and evaluation can improve publication control.

2) OPTIMIZING EDITING AND PROOFREADING

Editing and publishing in China follow a strict system of three rounds of review and three rounds of proofreading to ensure the quality of books, journals, and other publications. Before the spread of GenAI, editing and proofreading usually relied on repeated manual proofreading, cross-checking, and software-assisted proofreading tools such as Heima Proofreading. GenAI has made human-machine collaboration more convenient. Tools such as ChatGPT, DeepSeek, ERNIE Bot, Tongyi Qianwen, and Doubao can all serve as intelligent editing and proofreading tools. They can identify grammar and punctuation errors, optimize language expression, improve writing norms, and check knowledge-based and logical errors.

3) INTEGRATING COMMUNICATION PRECISELY

In the AI era, the publication and communication of academic journals are shifting from simple media convergence toward deep intelligent-media convergence. Many academic journals conduct multi-channel and multimodal academic communication through print journals, online publishing, pre-publication, enhanced publishing, WeChat official accounts, and video accounts. Editors can use AI-based data analysis and recommendation systems to push and communicate journal content either separately or in an integrated manner, thereby aligning precise communication with target scholars and readers.

B. The Principle of Knowing What Not to Do

The principle of knowing what not to do means that editors should maintain respect for academic editing and publishing and avoid the risks of academic misconduct, academic bubbles, and academic ethics problems caused by the application of AI technologies.

1) AVOIDING UNCRITICAL APPROPRIATION

In the AI era, AI technology comprehensively empowers editing and publishing, covering topic planning, editing and proofreading, typesetting and printing, and precise communication. At the same time, it can weaken editorial subjectivity and reduce editors' innovative thinking and gatekeeping awareness. For applications such as AI review, AI editing, AI writing, AI reference checking, and AI translation, editors must retain awareness of review, verification, and post-editing. For English abstracts, keywords, and titles of Chinese articles, terminology translation and expression must be rigorously verified.

2) AVOIDING HOMOGENIZATION OF THOUGHT

AI is an averaging technology. In the name of efficiency, it may sacrifice originality. In the name of intelligence, it may unify expressive style and content. In the name of comprehensiveness, it may transmit academic junk and academic bubbles. Research has shown that the information cocoon effect can restrict and damage editors' capacity for innovative thinking, while problems such as misplaced content and homogenized thought brought by AI have already appeared. Editors should also remain alert to cultural hegemony reinforced by AI. Their gatekeeping must extend from the content layer to the technological layer. How to use technology well and innovate technology has become a new component of editorial gatekeeping.

IV. PATHWAYS FOR IMPROVING ACADEMIC JOURNAL EDITORS' COMPETENCE

A. Embracing AI Technology and Strengthening Editorial Competence

The AI era raises new questions for existing editorial competence and brings new insights for improving professional editorial competence [9]. Editors will have much to do. They should firmly serve as cultural gatekeepers and data gatekeepers [10]. Academic editors need to transform from academic gatekeepers into architects of knowledge reproduction. In balancing technological empowerment and academic dignity, they should reconstruct five core capabilities: the capacity to deeply integrate and control technological tools, the capacity for interdisciplinary knowledge integration, the capacity for academic ethical judgment, communication capacity within academic circles, and knowledge-service capacity [11].

Editorial capacity is the core competitiveness of editors. The essence of publishing is selection. What content to select is a value judgment that must be made by editors themselves and cannot be decided by AI tools. Distinctive innovation in topic selection and column construction is the core of editorial capacity. The implementation of these effective measures depends on the improvement of editorial subject competence. Learning that keeps pace with the times is the internal driving force for editorial improvement.

B. Establishing Bottom-Line Thinking and Strengthening Digital Ethics

Bottom-line thinking is a fundamental requirement of editors' political competence. Editors must establish such thinking when improving their competence. In the AI era, AI technology empowers academic publishing and improves the efficiency of academic journal content production and publishing innovation. At the same time, it can negatively affect the academic ecology and bring political and ethical risks that cannot be ignored. Some AI-generated materials and reference content may contain ambiguous positions, distorted facts, or misplaced values, easily leading to orientation deviations and academic irregularities [12].

Editors should learn to prioritize authoritative systems. For example, CNKI's CNKIZ intelligent review service platform can improve the efficiency of the three-review and three-proofreading process through multidimensional review, including 29 categories of problem checking, intelligent processing, and effective early warning, while maintaining accurate proofreading. Learning to use such AI tools well can help avoid grammar and spelling errors, improve readability, and even identify omissions in references and serious errors in political expression.

AI tools and continuing education should therefore strengthen learning and response mechanisms for the identification and prevention of political risks in AI-generated content. Editors should consolidate their foundations, strengthen content control, study academic ethics, digital ethics, and publishing laws and regulations, and strictly guard political orientation, value orientation, and academic quality.

V. CONCLUSION

AI-enabled academic journal publishing brings new opportunities for cultivating editorial talent. Editors' political competence, academic competence, language competence, media competence, and digital competence are both independent and integrated in editorial work. In the AI era, editorial subjects should follow the principle of knowing what to do and what not to do in the process of improving and developing their competence. In a dialectically unified way, they should value human-machine collaborative knowledge transformation and production in AI-assisted editing and proofreading, while also facing the potential risks brought by AI applications.

Editors need to avoid academic data pollution caused by excessive patchwork, information torrents, and other AI-related problems. In the AI era, editors should use AI as wings to improve comprehensive competence in data, technology, interdisciplinarity, and innovation. They should also establish bottom-line thinking, strengthen digital ethics, promote academic progress, optimize cultural communication, and contribute to the high-quality development of academic journals.

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