Competencies Required for Scientific Journal Editors in the Digital Era and Enhancement Strategies (Postprint)

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Abstract

【Objective】 Scientific journal editors constitute the backbone of scientific journal publishing, and their professional caliber is critical to journal development. With the advent of the digital era, the working philosophy and methodologies of scientific journal editors are undergoing transformation. 【Methods】 Based on this, the article explores two aspects: the essential qualities that contemporary scientific journal editors should possess and pathways for capability enhancement. 【Results】 The qualities that scientific journal editors should possess include political and professional literacy, specialized knowledge reserves and writing proficiency, capabilities in expression, communication, and coordination, foreign language communication skills, and competency in utilizing new media technologies. 【Conclusion】 To enhance these capabilities, editors should closely monitor industry hotspots and latest developments, actively participate in conferences, training programs, and exchange visits, earnestly complete professional editing and publishing training and obtain certification before assuming positions, cultivate perspective-taking empathy in their work, scientifically allocate time for extensive reading, reflection, and writing, and strive to become scholar-editors with comprehensive abilities.

Full Text

Preamble

ChinaXiv Partner Journal: Competencies and Enhancement Strategies for Science and Technology Journal Editors in the Digital Era
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Abstract

[**Objective**] Science and technology journal editors constitute the backbone of scholarly publishing, and their competency level critically impacts journal development. With the advent of the digital era, the working philosophy and methodologies of journal editors are undergoing significant transformation. [**Method**] This article examines two key dimensions: the essential qualities that contemporary science and technology journal editors should possess and the pathways for competency enhancement. [**Result**] The requisite qualities include political and professional ethics, solid professional knowledge and language proficiency, communication and coordination skills, foreign language competency, and the ability to utilize new media technologies. **Conclusion** To develop these capabilities, editors should actively monitor industry hotspots and emerging trends, participate in conferences, training programs, and exchange visits, complete professional editorial training and obtain certification, cultivate empathy through perspective-taking, and make scientific use of time for extensive reading, reflection, and writing to become well-rounded scholar-editors.

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Introduction

As vehicles for scientific and technological information, science and technology journals play a vital role in disseminating research achievements, facilitating academic exchange, and promoting scientific progress. Editors are the primary participants in journal operations, and a high-caliber editorial team is essential for producing high-quality academic journals—truly, only with "excellent people" can we have "excellent journals" [1]. With the rapid development of digital technology and its application across all stages of journal acquisition, editing, and distribution, the business workflows, layout methods, and dissemination models of editorial work have undergone substantial changes [2]. In light of this context, this paper focuses on how science and technology journal editors can enhance their professional qualities and operational capabilities to meet new era requirements and advance alongside their journals.

1. Essential Qualities for Science and Technology Journal Editors

For a long time, editing has been considered a profession of "making bridal clothes for others," a perception that can lead editors to lower their standards and simply follow manuscript processing routines without striving for excellence. This mindset hinders editors from exercising initiative and becoming proactive, self-motivated professionals. This section discusses the essential qualities and competencies required of science and technology journal editors, which are illustrated in Figure 1 [Figure 1: see original paper] as five key attributes.

1.1 High Political and Professional Ethics

Given their wide circulation and broad influence, science and technology journal editors must possess strong political and ideological awareness, thoroughly understanding and strictly adhering to relevant national policies, laws, and regulations. They must exercise particular caution when handling submissions involving national development strategies or issues related to ethnicity and religion, ensuring rigorous political vetting of manuscripts. Editors must also be well-versed in various publishing laws, regulations, policies, and technical standards, including the *Copyright Law*, *Regulations on Publishing Administration*, national standards such as GB/T 7714-2015 *Information and Documentation —Rules for Bibliographic References*, industry standards like CY/T 174-2019 *Academic Publishing Specification—Academic Misconduct in Journals*, and professional norms such as the *General Standard Chinese Character Table* [3] to ensure strict compliance in practice. On February 6, 2023, the Ministry of Natural Resources issued the *Specifications for Content Representation in Public Maps*, requiring that public maps or products containing map graphics comply with these specifications [4]. Since submissions occasionally include map-related images, editors must pay close attention to ensure full compliance.

Furthermore, editors should balance journals'social and economic benefits, avoiding the sole use of citation counts and download metrics—or popular appeal—as the only criteria for evaluating scientific papers'value [5]. Papers from less trendy but traditional research fields should be promptly published if they demonstrate strong theoretical innovation or practical value.

1.2 Solid Professional Knowledge and Strong Language Proficiency

Editorial work encompasses solicitation, initial review, peer review, final decision, revision requests, editing, proofreading, and issue assembly. The manuscript processing workflow is illustrated in Figure 2 [Figure 2: see original paper], with each stage requiring domain-specific expertise. After identifying industry hotspots and trends, editors solicit contributions from experts and organize special columns. Upon receiving submissions, they examine references, the journal' s own database, and external platforms to identify appropriate peer reviewers. During editing and proofreading, editors use their professional

knowledge to detect common-sense errors and guide authors in revision. When assembling issues, they arrange appropriate sections and sequencing based on paper content and research direction.

Given researchers' demanding schedules, authors sometimes focus solely on presenting their findings and insights while neglecting overall structure, language quality, and formatting standards. This requires editors to discern the theoretical or practical value beneath the surface and leverage their writing skills to identify formal issues, provide specific revision suggestions, and occasionally make direct edits—always with author consent. Regardless of scale, all modifications must be approved by the authors.

1.3 Good Communication and Coordination Skills

Science and technology journal editors interact with numerous stakeholders, including readers, authors, reviewers, editorial board members, and advisory committee scholars, making effective communication essential. In daily operations, editors regularly contact board members and reviewers for manuscript solicitation and special issue planning, and consult authors on academic questions or request expert recommendations, thereby continuously building professional knowledge while strengthening stakeholder engagement with the journal.

When readers question authors or disputes arise between authors and reviewers, editors must serve as "lubricants," filtering out emotional content while retaining objective, rational scientific discussion when conveying feedback. They must protect privacy, emphasize the principle of "criticize the work, not the person," and ensure that even rejected authors remain valued contributors.

1.4 Strong Foreign Language Proficiency

Currently, many Chinese science and technology journals feature bilingual titles, author affiliations, abstracts, keywords, and English overviews, requiring editors to master both general and specialized English to identify and suggest corrections for errors in English content. Moreover, over 70% of global science and technology journals are published in English, which is also the preferred language for international publishing in non-English-speaking countries and the official language of most academic conferences [6]. Therefore, to stay informed about international developments and research hotspots, editors must enhance their English listening, speaking, reading, and writing skills for seamless academic communication.

1.5 Proficiency in New Media Technologies

With advances in network and database technologies, many editorial offices use Browser/Server-based manuscript processing systems for submission, review, and issue assembly, while communicating with authors, reviewers, and readers through email, QQ, WeChat, and other platforms for "round-the-clock, seamless" interaction.

The widespread adoption of new media technologies enables editorial offices to develop comprehensive platforms including WeChat public accounts, academic live-streaming platforms, and video channels [7-8]. A survey of 79 science and technology journals by Xiao Xu, Zhu Yuping, and Jiang Zhirui found that 81.01%, 18.99%, and 5.06% of editors currently use WeChat public accounts, academic live lectures, and academic short videos for journal promotion, respectively, with 73.42%, 35.44%, and 22.78% rating these three methods as effective. The same study surveyed researchers' preferences for new media, revealing that 83.04%, 78.13%, and 54.83% were aware of WeChat service accounts, academic live lectures, and academic short videos, while 40.25%, 16.96%, and 19.65% frequently used these three formats, respectively [9]. These findings demonstrate that WeChat public accounts, academic live-streaming platforms, and video channels are widely adopted and recognized marketing tools for science and technology journals.

The China Electric Power Research Institute Journal Center currently publishes four Chinese journals and two English journals. In addition to a shared Bilibili space, each journal maintains its own website (manuscript processing system), WeChat public account, and video channel to share and promote outstanding papers, author teams, and expert presentations from major conferences. The Journal Center has also co-hosted dozens of online forums with IEEE PES, the Chinese Society for Electrical Engineering, Tsinghua University' s Department of Electrical Engineering, and other domestic and international associations and universities, including the "CEPRI-IEEE PES Power and Energy Youth Forum," which has attracted hundreds of thousands of cumulative live viewers and significantly enhanced journal influence.

2. Approaches to Enhancing Editorial Competencies

In the context of rapidly evolving new media technologies, science and technology journal editors should make efforts across five key areas to improve their professional capabilities, as illustrated in Figure 3 [Figure 3: see original paper].

2.1 Staying Abreast of Industry Hotspots and Latest Developments

Editors should not only accumulate professional knowledge but also follow current affairs and political developments, track industry hotspots, and stay informed about the latest national and industry development strategies to broaden their perspectives. This enables them to correctly orient manuscripts at a macro level and engage in substantive discussions with experts about solicitation and new column planning. Editorial offices should encourage editors to participate in diverse academic activities, including conferences, exchange visits, and continuing education programs, to continuously update their expertise and enhance editorial skills. Editorial offices affiliated with universities and research institutes can leverage their unique advantages by encouraging editors to attend relevant technical lectures and academic reports or inviting in-house experts

to introduce fundamental aspects of relevant research fields and current priorities, hotspots, and challenges. With up-to-date industry knowledge, editors can better select and prioritize valuable manuscripts for rapid publication and dissemination.

2.2 Participating in Conferences, Training, and Exchange Visits

Regular exchanges and benchmarking within journal groups or editorial offices are essential for summarizing experiences and aligning understanding. Systematic discussions of relevant international and domestic standards and conventions should be actively promoted in practice to advance journal standardization and internationalization. Each journal should leverage its distinctive content and positioning to explore differentiated development paths while strengthening inter-journal learning to prevent counterproductive internal competition [10-11]. Editorial offices can improve acceptance rates and reduce review times by cross-recommending manuscripts, thereby minimizing the loss of high-quality submissions—a mutually beneficial approach for authors, editors, and journals.

Editorial offices should also periodically invite publishing industry experts to review their journals, identify deficiencies, and make timely corrections to continuously improve editorial quality and production standards. The China Electric Power Research Institute Journal Center employs a "going out, inviting in" approach, conducting field visits to relevant institutions, research institutes, universities, and peer editorial offices, or inviting experts to deliver lectures at the editorial office. Exchange topics include industry collaboration, journal operations, and expert resource maintenance, yielding valuable insights for journal internationalization and differentiation. Additionally, the Journal Center regularly holds information-sharing meetings among editorial offices and periodic editorial meetings within each office to facilitate timely communication and information sharing.

2.3 Participating in Professional Editorial Training and Obtaining Certification

Young editors recently graduated from universities or researchers newly transferred to editorial positions typically possess solid professional knowledge but lack formal editorial training. Editorial offices should provide pre-service training following a "proofreading-typesetting-editing" sequence to help new editors progressively master editorial knowledge and skills. New editors should be encouraged to take professional qualification examinations within a certain period after joining, striving for full "certified employment."

The mentorship of senior editors is crucial for new editors' development. Under experienced editors' guidance, newcomers can quickly familiarize themselves with workflows and regulations while contributing their own proficiency with new media technologies, creating a two-way knowledge exchange that promotes mutual progress [12-14].

2.4 Developing Empathy Through Perspective-Taking

Journal publishing requires not only editors' efforts but also collaboration and support from external experts, authors, and readers, as well as internal production, advertising, and distribution departments. Therefore, editors should cultivate empathy and practice perspective-taking [15]. During initial review and manuscript selection based on peer review feedback, editors should consider authors' perspectives, treating all submissions equally regardless of the author' s reputation. For renowned experts' work, appropriate skepticism is warranted; for lesser-known authors, editors should identify innovative points and practical value, providing patient guidance on writing if manuscripts are accepted to ensure both academic and writing quality meet publication standards. During editing, editors should examine content from the author' s perspective to identify omissions while also evaluating clarity from the reader' s perspective, revising passages that may cause misunderstanding.

2.5 Reading More, Thinking More, and Writing More

Editorial work involves continuous exposure to new knowledge and skills, requiring editors to embrace lifelong learning. Despite demanding and often overloaded schedules, editors should maximize fragmented time using multimedia platforms like "two micros and one terminal" (Weibo, WeChat, and news clients) to access valuable information in text, audio, and video formats for continuous self-improvement.

Merely accumulating professional knowledge is insufficient; editors should develop habits of reflection and writing, promptly summarizing work experiences and insights. This practice enhances professional competence, strengthens writing skills, and facilitates peer exchange through published papers—a multifaceted benefit.

Conclusion

"Success depends on talent, and prosperity stems from capability." Excellent science and technology journals require excellent editorial talent. Science and technology journal editors in the "new digital era" should proactively learn, diligently practice, and advance with the times, striving to become innovative scholar-editors who contribute to developing journals that achieve both social and economic benefits, maintain high academic and publication standards, and are valued by both authors and readers—truly "dual-benefit, dual-high, dual-love" journals [16].

References

[1] Fu Jinrui, Wang Xuefen, Wang Yongchao, et al. Cultivation of editorial talent for science and technology journals in the new media era [J]. Jiangsu Science and Technology Information, 2022(25): 9-11.

[2] Yan Mengchun. Logic and path for academic journal editors to promote publishing intelligence [J]. China Media Technology, 2023(1): 140-144.

[3] Jia Jingyu, Zhang Xiaomei. Research on training paths for Chinese science and technology journal editors [J]. China Media Technology, 2022(8): 50-52, 56.

[4] Ministry of Natural Resources. Notice of the Ministry of Natural Resources on Issuing the "Specifications for Content Representation in Public Maps" (Natural Resources Regulation [2023] No. 2) [EB/OL]. https://www.gov.cn/zhengce/zhengceku/2023-02/17/content_{5741977}.htm. 2023-02-06/2023-03-06.

[5] Zhang Tong. Research on challenges and coping strategies for science and technology journal editors in the intelligent media era [J]. Communication and Copyright, 2023(2): 29-31.

[6] Zhang Changsheng. Analysis of strategies for enhancing academic capabilities of science and technology journal editors [J]. Communication and Copyright, 2022(10): 26-28.

[7] Wu Jinhua, Chen Canhua. Subject consciousness and professional mission of science and technology journal editors in enhancing academic discourse power [J]. Publishing Wide Angle, 2022(6): 16-20.

[8] Tian Xu, Zhang Tong, Luo Xiaoqi, et al. Exploration and practice of thematic planning and dissemination for science and technology journals: A case study of *Journal of Mechanical Engineering* [J]. China Media Technology, 2023(4): 58-62.

[9] Xiao Xu, Zhu Yuping, Jiang Zhirui. Analysis on how science and technology journals select media convergence methods [J]. China Media Technology, 2023(4): 105-109.

[10] Xiao Xu, Zhu Yuping, Jiang Zhirui, et al. Construction of "small journal groups" for science and technology journals: Preliminary practice of "Zhenqiu Journals" [J]. China Media Technology, 2023(2): 43-46.

[11] Kang Rong, Wu Nada, Qing Cuiqing, et al. Construction and practice of science and technology journal cluster platforms under new information technologies [J]. China Media Technology, 2023(4).

[12] Li Zerong, Han Lei, Wang Qingxia. Analysis of the "old guiding new" talent training model for science and technology journals under new circumstances [J]. Acta Editologica, 2019(S2): 259-261.

[13] Liu Fengfeng. Discussion on problems and countermeasures for science and technology journal editors [J]. Cai Xie Bian, 2022(12): 125-127.

[14] Feng Weiwei. Discussion on the importance of theoretical level to science and technology journal editing and publishing [J]. Journalism Research Guide, 2022(18): 230-232.

[15] Tang Yi. Research on improving communication efficiency between science and technology journal editors and authors [J]. Cai Xie Bian, 2022(10): 109-111.

[16] Zou Haibin, Du Ning, Zhang Jingna, et al. Discussion on the guarantee mechanism for academic influence of science and technology journals [J]. Acta Editologica, 2018(1): 1-3.

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Note: Figure translations are in progress. See original paper for figures.