Guest Editorial

Editorial Welcome: Launching the *American Journal of STEM Education: Issues and Perspectives*

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ABSTRACT

This editorial introduces the inaugural volume of the American Journal of STEM Education: Issues and Perspectives, a peer-reviewed platform designed to advance knowledge, research, and practices within the field of STEM education. The journal addresses key gaps in disseminating interdisciplinary STEM education research and promotes best practices, equity, and innovation in teaching and learning. The mission and scope of the journal are to emphasize its commitment to supporting graduate students and early-career scholars through dedicated mentorship and publishing opportunities. The journal's first issue features empirical research and reviews on diverse topics, including graduation trends, technology-enhanced pedagogy, equitable administration practices, the integration of generative AI in international education, and the impact of disruptive technologies in community colleges. Through its interdisciplinary approach, the journal aims to foster dialogue and contribute globally to the continuous improvement of STEM education.

INTRODUCTION

We are delighted to announce the launch of the *American Journal of STEM Education: Issues and Perspectives*, an academic platform designed to foster the dissemination of cutting-edge research, pedagogical advancements, and innovative practices within the field of STEM education. This journal comes at a time when STEM education is more critical than ever, given the demands of an increasingly technological and knowledge-driven global economy (Freeman et al., 2014). This journal aims to cultivate a rich, interdisciplinary dialogue that advances both theoretical and practical aspects of STEM education by bringing together educators, researchers, policymakers, and practitioners from diverse contexts.

Fostering Innovation and Best Practices in STEM Education

The growing recognition of the importance of STEM education is supported by a robust body of research underscoring its role in driving economic growth, innovation, and social progress (National Research Council, 2012). Despite this, there remains a significant gap in the consolidation of STEM education research across disciplines. Many scholars and educators express concerns that research findings are often scattered across various specialized journals, making interdisciplinary insights difficult to access (Honey, Pearson, & Schweingruber, 2014). Our journal seeks to bridge this gap by offering a unified platform where diverse perspectives can be shared and analyzed, fostering a holistic understanding of STEM education's challenges and opportunities.

The journal will focus on a wide range of topics, including innovative teaching methods, curriculum design, integration of technology, diversity, and equity in STEM education, as well as policy implications. In doing so, it will serve as a repository of best practices, allowing educators and researchers to learn from and apply successful models in their own contexts. Studies like those by Freeman et al. (2014) show that active learning strategies significantly enhance student outcomes in STEM education, and our journal will prioritize articles that highlight such effective practices.

Supporting Graduate Students and Early-Career Scholars

In addition to providing a venue for established researchers, the *American Journal of STEM Education: Issues and Perspectives* is committed to supporting graduate students and early-career scholars. We recognize that emerging scholars often face barriers to publication, including a lack of mentorship and access to networks (Gopaul, 2011). To address this, the journal will offer a dedicated section for early-career contributions, including research articles, perspectives, and case studies. We

believe that by offering a space for these voices, we can foster the next generation of STEM educators and scholars, providing them with the feedback and visibility necessary to advance their careers.

The journal will also provide mentorship opportunities through its editorial process. Each submission from a graduate student or early-career scholar will undergo a rigorous yet supportive peer-review process, with feedback designed to enhance the quality of the work while also serving as a learning opportunity for the authors. This approach aligns with research that shows how mentoring and guidance are key factors in the professional development of new academics (McAlpine & Amundsen, 2011). By creating a nurturing environment for these scholars, the journal aims to build a community of practice that advances the field of STEM education as a whole.

Scope and Focus

The *American Journal of STEM Education: Issues and Perspectives* will publish articles on a wide range of topics relevant to contemporary STEM education, including but not limited to:
- Innovative teaching methods and curriculum development
- Assessment and evaluation in STEM disciplines
- Integration of technology in STEM education
- Gender and diversity issues in STEM
- K-12 and higher education alignment
- Professional development for STEM educators
- Policy analysis and implications for STEM education

By prioritizing empirical research, case studies, meta-analyses, and review articles, the journal will take a comprehensive approach to the issues facing STEM educators and researchers today.

Featured Articles in the Inaugural Issue

We are proud to present a collection of insightful articles and essays in this first edition of the *American Journal of STEM Education: Issues and Perspectives*. This issue reflects the journal's commitment to fostering a multidisciplinary dialogue on STEM education, addressing critical issues from curriculum design to equity and the integration of disruptive technologies.

In this inaugural volume, we feature a diverse range of articles that address key issues in STEM education. Amy Gunter and Goia Polidori explore trends in STEM graduation rates and the reforms needed to enhance support for underrepresented

students in their article, *STEM Graduation Trends and Educational Reforms: Analyzing Factors and Enhancing Support*. Marina Falasca contributes a piece on integrating multimedia technologies into English language teaching pedagogy for pre-service STEM educators, offering practical strategies for improving instruction. Franca Nwankwo and Iweha Chris Chijioke examine the role of equitable administration practices in promoting socioeconomic development in Nigeria's higher education system. Yadu Prasad Gyawali discusses the potential of technology-enhanced pedagogy to transform English language instruction in STEM contexts. Muddassir Siddiqi investigates how generative AI is enhancing international education, from recruitment to cultural support for international students, while Joyce Martin explores the impact of disruptive technologies on improving efficiency in community college apprenticeship programs. In addition to these empirical studies, Sharlene Allen Milton's timely review, *Rethinking Hybrid and Remote Work in Higher Education*, critically examines the implications of hybrid and remote work models for STEM faculty and administrators.

We encourage readers to engage with these articles, as they represent both foundational knowledge and emerging trends in STEM education.

Conclusion

The first edition marks an exciting new chapter in the advancement of STEM education. By providing a dedicated platform for high-quality research, practical insights, and global dialogue, we aim to foster continuous improvement in STEM education. Our commitment to supporting early-career scholars, promoting best practices, and facilitating international exchange will contribute to a more inclusive and effective STEM education system. We look forward to your contributions and to the vibrant scholarly community that this journal will help cultivate.

References

Freeman, S., Eddy, S.L., McDonough, M., Smith, M.K., Okoroafor, N., Jordt, H., & Wenderoth, M.P. (2014). Active learning increases student performance in science, engineering, and mathematics. *Proceedings of the National Academy of Sciences*, 111(23), 8410-8415.

Gopaul, B. (2011). Distinction in doctoral education: Using Bourdieu's tools to assess the socialization of doctoral students. *Equity & Excellence in Education*, 44(1), 10-21.

Honey, M., Pearson, G., & Schweingruber, H. (Eds.). (2014). *STEM integration in K-12 education: Status, prospects, and an agenda for research*. National Academies Press.

Ladson-Billings, G. (1995). Toward a theory of culturally relevant pedagogy. *American Educational Research Journal*, 32(3), 465-491.

McAlpine, L., & Amundsen, C. (2011). *Doctoral education: Research-based strategies for doctoral students, supervisors, and administrators*. Springer.

National Research Council. (2012). *A framework for K-12 science education: Practices, crosscutting concepts, and core ideas*. National Academies Press.