STEM Education Review

INAUGURAL EDITORIAL

A forum to promote STEM education worldwide

Dingming Wang*

School of Humanities and Social Sciences, Beijing Institute of Technology, Beijing 100081, China

The *STEM Education Review* (*STEMER*) is an online open-access journal that focuses on the study of talent cultivation in science, technology, engineering, and mathematics (STEM).

STEM education refers to a series of talent training activities related to Science, Technology, Engineering, and Mathematics. In practice, STEM education usually stands for the collection of all scientific and technological disciplines parallel with the social sciences and humanities in higher education, which is equivalent to the science and engineering education in China and the Mathematik, Informatik, Naturwissenschaften, and Technik (MINT) education in Germany. Furthermore, it refers to the integrated multidisciplinary science education covering subjects such as math, physics, chemistry, biology and *etc.* in basic education which emphasizes collaboration, communication, problem-solving, critical thinking, and creativity.

For a long time, science and technology have been playing an increasingly important role in promoting human civilization and social progress. With the booming of emerging science and technologies such as big data, artificial intelligence, 5G, Internet of Things, cloud computing, blockchain, gene technology, quantum technology, semiconductor, and space technology, a new round of scientific and technological revolution has already come. Never has education been connected with science so closely. With the rapid evolvement in science and technology, the world's political landscape, economic development, and people's lives are going through immense changes. The pandemic of coronavirus disease 2019 (COVID-19) has not only impacted people's health and economic development greatly around the world, but also influenced the international landscape of science and technology innovation profoundly. Against the spread of the global pandemic, geopolitical tensions and the interwoven evolution of scientific and technological revolution and industrial transformation, the world has never faced more complex challenges. What's more, the unprecedented challenges call for a strong sense of shared future and close cooperation.

Taking scientific and technological innovation as the fundamental power for boosting economy and accelerating development and transformation, countries all over the world have planned ahead layout of basic research and core technologies to ensure the supply of high-quality knowledge so as to safeguard technological sovereignty and people's lives and health. With greater emphasis on demand orientation and focus on key areas such as digitization, emission reduction and public health, they are trying to facilitate the dual transformation of digitization and green development for a new advantage. Developed countries and emerging countries have already launched a series of technology, talent and education strategies, such as the National Strategy for Critical and Emerging Technology of U.S., EU Industrial Strategy, Horizon Europe, UK Research and Development Roadmap, UK Innovation Strategy: Leading the future by creating it, Industry Strategy 2030 of Germany, National Innovation Strategy of Brazil and so on, which will significantly influence the global STEM education and bring huge opportunities.

Since China's reform and opening up in last century, with continuous improvements in education scale, structure, and quality, science education has made great achievements in China. Accompanied by a substantial increase in the scientific research investment, China has cultivated a huge number of scientific and technological talents, making great contributions to the scientific and technological progress of China and the world at large.

***Corresponding Author:**
Dingming Wang, School of Humanities and Social Sciences, Beijing Institute of Technology, No.5, Zhongguancun South Street, Haidian District, Beijing 100081, China.
Email: wdmedu@bit.edu.cn; https://orcid.org/0000-0003-2038-4673
Received: 6 December 2022; Revised: 23 December 2022; Accepted: 19 January 2023; Published: 3 February 2023
https://doi.org/10.54844/stemer.2022.0322

Meanwhile, it is full of opportunities and challenges in the global STEM education. On the one hand, science and technology are increasingly becoming the core forces for sustainable global economic, social, and environmental development. On the other hand, the development of science and technology is extremely unbalanced. In less developed countries and regions science education is seriously insufficient, and only a few developed countries have mastered the core technologies. Gaps in scientific literacy like the Digital Gap among people all over the world are widening rapidly. In order to bridge these gaps and to address global issues like ecological environment, pollution control and disease prevention, it is necessary for all countries to work together to create a closer partnership with great vision and agile action. We sincerely call upon policy-makers, scientists and educators to pay more attention on the excellence and equity of science education, to create an equal, inclusive, developing, and win-win community of science and education through the STEM education undertaking, with the human development at the core and in close connection with social problems, and to build a peaceful and interdependent human society sharing a harmonious worldview featured by political multi-polarity, balanced economy, cultural diversity, security, mutual trust, and sustainable environment.

Now is the time to offer a journal that emphasizes STEM educational issues to stimulate research and encourage academic exchange across disciplines. Thus, here is *STEMER*, a forward-looking, international, and specialized journal. As the first review journal in STEM education, *STEMER* seeks to provide an open and innovative international forum for empirically, historically, and theoretically based articles and scholarly reviews on experiences and achievements in management, practice, research, education, and training in the field of STEM education, so as to reflect the comprehensive discipline development, academic history and innovation, and to make far-sighted outlooks. *STEMER* encourages contributions within and across STEM fields (*e.g.*, science, technology, engineering, and mathematics) and social science fields (*e.g.*, education, psychology, and sociology) to promote scholarly exchange and discussion on emerging issues in STEM education, including elementary education, post-secondary education, undergraduate education, graduate education and so on. *STEMER* welcomes papers in forms of Editorials, Review articles, Original Research, Perspectives, Opinions and Commentaries, Recommendations, and Consensus from scholars all over the world.

I am honored to be the Editor-in-Chief. I will strive to gather together top scholars in STEM education area at home and abroad to form an international high-level editorial board. Following the world's top education journal's example, *STEMER* will keep to rigorous peer review and publishing standards so as to pursue a high-quality development in the future.

Welcome to browse *STEMER*. I sincerely hope to get your attention and support. Thank you!

DECLARATIONS

Conflict of interest

Dingming Wang is the Editor-in-Chief of the journal. This is the Inaugural Editorial for the journal.