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EDITORIAL

Editorial

Dear Readers,

It is with great pleasure that we present the June 2025 issue of *Science Education International*. This issue features 11 original research articles that highlight contemporary developments, challenges, and opportunities in science education. Representing a diverse group of countries, including Estonia, the Philippines, Türkiye, India, Finland, Saudi Arabia, Albania, Indonesia, Australia, and Colombia, the studies in this issue exemplify the international scope and collaborative nature of science education research.

The contributions span various themes, including student motivation, assessment tools, curriculum impact, technology integration, environmental behavior, and differentiated instruction. Collectively, these studies offer insights for educators, policymakers, and researchers working toward the advancement of science teaching and learning in varied educational contexts.

The first article, "*Predictors of Change in Intrinsic Motivation Factors on Adolescent Science Learning*," by Teppo, Soobard, and Rannikmäe (Estonia), examines how perceived choice and competence influence students' interest and enjoyment in science over time. Using a longitudinal approach, the study highlights the importance of fostering autonomy and motivation in adolescent science education.

The second article, "*Correlational Study of Learning Styles and Information Processing Patterns among STEM Learners in Biology*," by Fernandez and Leoveras (Philippines), explores the relationship between learning styles and cognitive processing among high school STEM students. The findings suggest a need for more tailored instructional approaches in biology classrooms.

The third article, "*The Synthesis for Research Trends in Identity Studies in STEM Education*," by Budak and Yerdelen-Damar (Türkiye), presents a bibliometric analysis of identity-related research in STEM. The study identifies dominant themes and emerging topics, offering a roadmap for future research in this evolving field.

The fourth article, "*Development and Validation of the Achievement Emotions Questionnaire – Biology (AEQ-B)*," by Badesaba and Govil (India), introduces a reliable and valid tool to assess secondary school students' emotional responses to biology learning and testing environments.

The fifth article, "*Problem Solving in High School Biology: Students' Agentic Response to Differentiation*," by English et al. (Finland), investigates how students select problems based on perceived ability when offered differentiated biology tasks. The findings support the pedagogical value of tiered problem-solving to promote equitable engagement.

The sixth article, "*The Impact of Science Curriculum in Reducing Pollution: Evidence from a University in Saudi Arabia*," by Alshehri (Saudi Arabia), explores the influence of science curriculum on students' awareness of pollution and environmentally responsible behaviors. The results confirm the curriculum's potential in fostering sustainability education.

The seventh article, "*Using MATLAB for Teaching Physics: DC Circuits Case Study*," by Kokalari and Lili (Albania), highlights the pedagogical benefits of integrating MATLAB in physics instruction. The study shows how computational tools can enhance understanding by simplifying complex problem-solving processes.

The eighth article, "*Prediction of Middle School Students' Recycling Behaviors with Machine Learning Algorithms*," by Mustafaoğlu and Alkan (Türkiye), applies machine learning techniques to identify factors predicting students' recycling behavior. The study emphasizes the importance of environmental knowledge and behavior in shaping sustainable habits.

The ninth article, "*Investigating the Effects of Socio-Scientific Issues-Based Learning Module in Enhancing Students' Physics Knowledge*," by Badeo et al. (Philippines), demonstrates that incorporating socioscientific issues into instruction significantly improves students' physics understanding and promotes contextual learning.

The tenth article, "*Hybrid Teacher Training in Arduino-Based Science Education Across Different Modalities*," by Sarah et al. (Indonesia and Australia), evaluates a training program that equips teachers with Arduino-based science project skills. The study offers a comparison of in-person and online modalities, highlighting the practical challenges faced in their implementation.

The eleventh article, "*Promoting the Study of Inorganic Nomenclature in University Students Through an Educational Strategy Using m-Learning*," by Arteaga et al. (Colombia), explores the effectiveness of a flipped classroom strategy in teaching inorganic nomenclature. The results reveal higher achievement and engagement among students exposed to the m-learning approach.

We extend our sincere appreciation to all authors for their valuable contributions and to our reviewers for their time and expertise in ensuring the academic rigor of the journal. We hope the research shared in this issue will stimulate new ideas and inform future practices in science education worldwide.

Warm regards,

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