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International Council of Associations for Science Education

Supporting and promoting science education internationally

Editorial

As the number of submissions has gradually increased during the last three years of online distribution, Science Education International has recently recruited another editorial member in order to provide more prompt supports to authors and to enhance the review process. In strong collaboration with the chief editor, I am pleased to serve this international journal and to endeavor to contribute to knowledge of science education. In this issue with my first editorial participation, the six articles are carefully selected to share empirical results conducted in seven different countries, in the hope of meeting both localized and international implementations of educational research. Their research findings and implications are not only the most relevant for the local educators but also allowing international researchers to grasp how science education would influence the sampled students, teachers, or other societies.

Gafoor and Narayan's quantitative study from India explored the factors that promoted student interest in science. Their regression analysis clarified the assumptions related to gender roles and regional differences: (a) biology experiences and chemistry experiments enhanced girl students' interest of science, (b) physics activities and biology experiments were the highest predictors towards boy students' interest of science, and (c) indirect and vicarious experiences attributed to urban students' interest of science. In a similar light by analyzing student perceptions of science learning, Al-Balushi et al. contributed to misconception research working with Omani students. According to their dedicated examination, the four significant principles were suggested to prevent student misconceptions regarding the structure of compounds in chemistry (p. 234).

Two additional localized studies in science teaching were conducted in Timor-Leste and Turkey. The former authored by Gabrielson and Hsi described a case of a science teacher training program designed through: (a) seeking locally-rooted topics, (b) supporting experiential learning, and (c) ensuring sustainable use and delivery of instructional materials. These were the foremost aspects for developing hands-on teaching activities within their limited resources. These principles provided guidelines for viable material developments in schools of various socioeconomic status. The latter authored by Tekeş and Gönen reported their implementation of V-diagrams—one of the conceptual teaching methods since the 1970s—in physics laboratories. This study provided further significant evidence that students learn new topics more effectively in interacting with their previously-perceived knowledge.

Two other studies dealt with science curricula in Taiwan and the US, and Brazil. The former comparative study analyzed earth-science curricula focusing on the sun and moon. The authors, Yang et al., stated such benchmarking of international curricula would shed light on the prevalent expectation of student performance in TIMSS. In the latter nation-wide study, Bizzo et al. provided how science education enhanced citizen's understanding of science and well-being in Brazil. Their content analysis highlighted that the number of causalities from snakebites meaningfully decreased after the revision of Brazilian science textbooks in 1996.

I hope this and the upcoming issues continue balancing our focus between "what experienced practitioners say to the science teacher" and "what research says to the science teacher". As seen in the above, especially those from Timor-Leste and Brazil, empirically-reported local articles can provide practical and theoretical references of science teaching and learning.

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