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EDITORIAL

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In this issue of the Journal of Research in STEM Education, we present seven unique contributions. The first article by Schwab, Cole, Desai, Hemann, Hummels, and Maltese (2018) present findings related to a summer STEM program. The purpose of the project is to increase middle and high school students' interest in STEM careers while engaging in STEM programing and to help graduate students to develop pedagogical knowledge related to teaching. Authors provide details of the Foundations in Science and Mathematics program (FSM) program and explore its impact on student learning.

The second article by Genareo, Kemis and Raman (2018) investigates students' conceptions of engineering at the beginning and end of their involvement in a National Science Foundation funded Graduate STEM Fellows in K-12 Education (GK-12) program. It examines whether students involved in the program exhibited greater conceptions of engineering from beginning to end, whether differences exist among males and females, and if students' engagement and satisfaction with their Fellows affects growth in conceptions of engineering. Pre-survey and post-survey data were collected annually over four years from 1,522 participants in grades 7 and 8 who had a GK-12 Fellow.

The third article of this issue by JeanPierre (2018) explores the inquiry beliefs and practices of an elementary teacher in an urban low SES school. The case study included an array of data collection methods: teacher interview, classroom observations of teacher's practices (3-5) days a week over six months, weekly journal reflections, teacher's responses to an inquiry survey. Findings indicated that the teacher's beliefs and practices did align and that she did consistently use structured and guided inquiry practices, but rarely used "full inquiry" as described in the National Science Education Standards. Key to this teacher's use of inquiry was the professional education she had received that both modeled and provided opportunity for her to use various inquiry practices.

Arnone and Hanuscin (2018)' s article examines and describes the ways in which elementary teachers conceptualize iSTEM Education and the integrative approaches they use when teaching STEM content, with the intent to inform the development of elementary specific iSTEM Education professional development.

Tyler-Wood, Johnson, Cockerham (2018)'s study examined factors that influence middle school students' dispositions towards science, technology, engineering, and math (STEM) careers. Interest and ability in STEM subject areas were compared by gender, based on 182 middle school students' responses to four different test instruments. The findings of this study underscore the challenges that still exist in achieving equal gender representation in the STEM workforce, and suggest that adopting a constructivist learning approach may provide a foundation for girls to develop a more positive approach toward science, boost STEM awareness and interest, and increase STEM success.

Peters-Burton, House and Lynch (2018)'s contribution examined the curriculum and instruction occurring at high performing STEM-focused high schools that have no academic conditions for student admission. By conducting a cross-case analysis across eight case studies of contextually different but well-regarded inclusive STEM high school, they found that different themes emerged across these schools. These themes included different hierarchical levels of design and implementation (classroom-level, cross-cutting school level, school-wide) as well as responsive design of curriculum and instruction. They discuss unique contextual differences as well as implications for replication of inclusive STEM school design.

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The final paper of this issue by Aydeniz and Bilican (2018) explored the weaknesses and strengths in pre-service primary teachers' (PST) conceptualization of STEM and their knowledge of STEM pedagogy after engaging in integrated STEM (science, technology, mathematics and engineering) activities for one semester. The course activities emphasized concepts related to engineering design process, the interrelatedness of STEM subjects, inquiry and problem solving. Results show that engaging students in immersive STEM activities helped PSTs develop foundational knowledge regarding STEM, engineering design and STEM pedagogy, which they could built on later to more effectively teach through STEM integration. Discussion focuses on how PSTs and practicing teachers can be supported through sustained professional development for STEM integration.

Collectively, these articles make unique contributions to our collective understanding of issues related to STEM education.

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