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Editorial: Using Technology to Support Teacher and Student Voice

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This month marks 2 years into the Covid-19 pandemic. With no doubt, the Covid-19 pandemic has caused worldwide disruptions in education, which have exacerbated inequalities. In fact, technological and other barriers have made it more difficult for students of color to stay engaged in virtual schools (Office of Civil Rights, 2021). As a result, recent test scores in mathematics and reading for students in grades 3-8 indicate declines during the pandemic with growing gaps between students in low-poverty and high-poverty schools (Kuhfeld et al., 2022). Yet as we begin to return to some form of normalcy, we have a unique opportunity to take stock of these challenges and rethink our schools, including the role that technology can play in supporting teaching and learning amidst growing concerns of teacher shortages.

Toward this end, a press release from the U.S. Department of Education emphasized the need to reimagine our education systems and infuse equity into our work, so that all students have access to rigorous and culturally responsive teaching (U.S. Department of Education, 2021). Technology can play a critical role in reimagining traditional education systems and providing tools to help give teachers and students voice as they learn to apply equity-oriented and culturally responsive practices in schools. This issue of *CITE Journal* helps us reimagine ways of using multimedia in efforts to support teachers develop culturally responsive practices. It also examines emerging technologies, such as simulations and 360 video and their role in supporting teacher learning.

The CITE-English Education article, "'All the Talks, All the Bonding, All the Love': Women of Color Feminist Multimodalities as Interruptions to the Whiteness of Teacher Education," describes the ways in which multimodal literacy projects, supported by digital technologies, can help women of color explore their perspectives, theories, and ways of knowing within the context of their teacher education program. Through the use of multimedia, the authors present a rich picture of the manner in which preservice teachers of color pushed against white norms of schooling.

Similarly, the CITE-English Education article, "Fostering Culturally Sustaining Practice and Universal Design for Learning: Digital Lesson Annotation and Critical Book Clubs in Literacy Teacher Education," continues this theme by examining ways in which novice educators can develop culturally sustaining and universally designed literacy practices in online learning environments. Participants engaged in interactive tasks that included digital annotations, where they offered commentary in read-aloud books and critical book club meetings. Through these tasks, the authors examined how novice elementary school teachers connected theory and practice in literacy instruction in the context of synchronous and asynchronous interactions.

Finally, the CITE-English Education article, "An Inquiry Into the Possibilities of Collaborative Digital Storytelling," examines how digital storytelling can help preservice teachers learn about their students' perspectives, overcome deficit ideologies, and support literacy learning across spaces. In this work, preservice teachers collaborated with school students to develop digital stories on what they had learned throughout their fieldwork. Results from this work reveal the challenges as well as opportunities of using technology to create stories that capture the relationships, viewpoints, and perspectives of preservice teachers and their elementary students. As a whole, this set of English Education section articles illustrate multiple approaches to infusing racial literacy across teacher education coursework.

The CITE-Mathematics Education article, "Representations of Practice Used in Mathematics Methods Courses," examines the types of representations used in mathematics methods courses to teach future teachers. Findings indicated that teacher educators drew primarily on videos and less so on animations/comics and 360 videos. Findings also indicated limited familiarity with animations/comics and 360 videos among teacher educators. Nonetheless, teacher educators reported each medium to be useful, though familiarity was not always associated with use. Findings are important in understanding why and how educators use different representations of practice.

The CITE-Science Education section includes two articles focusing on teacher learning *through* (i.e., in simulations) and *about* (i.e., robotics) technology. "Using Preservice Teachers' Transcript Coding of Simulated Argumentation Discussions to Characterize Aspects of Their Noticing About Argument Construction and Critique" examines how preservice teachers were able to notice key aspects of scientific argumentation discussions when coding transcripts of simulated classroom discussions in the context of Mursion simulated environment. Findings showed that participants were not always accurate in their coding, indicating the need to provide more explicit learning experiences that connect theory to classroom interactions.

"Preservice Elementary Teachers' Engineering Design During a Robotics Project" examines the engineering design practices of preservice teachers where participants designed, built, and programmed robots. Through the analysis of video-recorded group activities, the authors examined ways in which participants collaboratively constructed new knowledge as they engaged in the engineering design process. Findings indicated that

preservice teachers successfully generated ideas and evaluated ideas to solve problems. Yet, they rarely judged the feasibility of solutions or expressed disagreements with their partners. Examining the feasibility of solutions is important for connecting engineering design to science and mathematics, which is usually a key objective when introducing engineering to preservice teachers. The authors argue for the need to create design tasks that both require science and mathematics knowledge and are responsive to their cultural interests and values.

Finally, the CITE-General section article, "What's Being Taught? An Analysis of Corporate EdTech Certification Programs," analyzes the knowledge bases integrated into corporate educational technology certification programs using the TPACK framework. Results indicated a focus on technology knowledge independent of content. The authors identify opportunities for strengthening these programs through targeted integration with content and discuss implications for teacher education contexts and K-12 schools. This work is important as the field examines the qualities and distinguishing features of academic programs and how they can support effective uses of technology in K-12 settings.

We hope readers enjoy this set of article and hope to see many readers at SITE in San Diego or virtually.

References

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