Mouza, C. (2021). Editorial: Reenvisioning educator preparation through emerging technologies. *Contemporary Issues in Technology and Teacher Education, 21*(3), 580-582.

Editorial: Reenvisioning Educator Preparation Through Emerging Technologies

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As we embark in the new academic year while still battling the Covid-19 pandemic, three issues continue to remain at the forefront of K-16 education. First, technology clearly will remain a key element of educators' toolbox as they seek ways of blending face-to-face with virtual instruction. Second, educator and teacher preparation efforts must be reenvisioned in ways that take advantage of technology but simultaneously remain sustainable beyond emergency remote teaching. Third, equity considerations rooted in culturally relevant frameworks should be fundamental in efforts to support both in-service and preservice teachers in responding to the evolving needs of students.

As we grapple with these issues, we have a unique opportunity to "rethink schools in ways that can transform learning opportunities for students and teachers alike" (Darling-Hammond et al., 2020, p. v). We also have a unique opportunity to reenvision uses of emerging technologies for teaching and learning – technologies that are not always new but whose integration in classroom contexts warrants additional research (Mouza & Lavigne, 2013).

The articles in this volume help us rethink and reenvision educator preparation through emerging technologies while also advancing issues of equity. The CITE English Language Arts Education article, "'Crazy, Brave New Kid Learning a New [Virtual] Land': Multidirectional Mentorship for, With, and by a Bilingual Teacher Candidate/Writer," reimagines a university reading clinic by examining how to enact writing instruction in a virtual community of in-service teachers, teacher candidates, and elementary school students. Specifically, utilizing culturally sustaining frameworks the authors examine the multidirectional flows of mentorship that shifted community's engagement both as writers and teachers.

Similarly, examining participation roles in a virtual community, "Lessons Learned from an Elementary School Citizen Science Project" in the CITE Science Education section, examines the ways students used a citizen science project to engage in science practices. Prominent in this work was the use of digital public data, such as social media feeds to examine the different roles that emerged within the citizen science community.

Much like the CITE English Language Arts Education article, the CITE Mathematics Education article, "Equity and Equality: How Data Visualizations Mediate Teacher Sensemaking About Racial and Gender Inequity," is also rooted in issues of equity as they relate to the use of classroom data. Specifically, the authors examined how data analytics mediated the ways teachers made sense of racial and gender inequity in patterns of student participation in their respective classrooms. This article is at the forefront of efforts aimed at helping educators analyze data using an equity lens (Villani, 2018).

Similarly, the second CITE English Language Arts Education article, "Amplifying Historically Marginalized Voices through Text Choice and Play With Digital Tools: Toward Decentering Whiteness in English Teacher Education" also centers on issues of equity by examining the design of a teacher education course which utilized interactive digital technologies and multimodal texts to elevate marginalized voices among ELA preservice teachers.

Other articles in this issue seek to reenvision teaching and learning through new forms of emerging technologies. In the CITE General section, "Understanding the Role of Simulations in K-12 Mathematics and Science Teacher Education: Outcomes from a Teacher Education Simulation Conference" reports on the outcomes of a working conference that discussed the use of digital simulations in teacher education. The report noted the role of simulations as critical practice spaces in which both in-service and preservice teachers can rehearse instructional practices fundamental to teaching. At the same time the authors identified a series of unanswered questions in the use of simulations that as a community we ought to be examining.

Similarly, the CITE Current Practice section article, "An Investigation of Preservice Teachers' Integration of an Immersive Virtual Reality Technology," presents a retrospective study of preservice teachers' ability to plan learning experiences that integrated immersive virtual reality technology in teaching and learning. Finally, another CITE Mathematics Education article, "Professional Development Supporting Teachers' Implementation of Virtual Manipulatives," focuses on a professional development effort that helps secondary educators use virtual manipulatives. This example shows an emerging technology that is not entirely new but nonetheless its use in secondary school settings warrants additional research.

While these articles seek to advance new uses of emerging technologies in teacher education, we must not lose sight of the critical role of teacher beliefs in the quest for technology integration (Ertmer, 2015). The CITE Current Practice article, "Can You Picture This? Preservice Teachers' Drawings and Pedagogical Beliefs about Teaching With Technology,"

uncovers preservice teacher pedagogical beliefs related to technology using drawings as well as reflection on drawings. Findings from this work uncover new perspectives attributed by the authors to the ubiquitous access to handheld technology in schools and beyond – practices that were exacerbated during the pandemic.

Finally, in the CITE Science Education section, "Effects of an Asynchronous Online Science Methods Course on Elementary Preservice Teachers' Science Self-Efficacy" focuses on the role of online instruction on para-educators' self-efficacy beliefs about teaching science. This article not only reports on a population that is understudied in the field of technology and teacher preparation but it also identifies important course elements that helped improved confidence in science teaching.

Finally, the CITE Social Studies Education section includes a thought-provoking editorial, "The Metaphor Is the Message: Limitations of the Media Literacy Metaphor for Social Studies," to identify limitations associated with the literacy metaphor. It also offers a series of technoskeptical questions that social studies educators (and all educators) may want to think about while considering established and emerging technologies.

We wish all *CITE Journal* readers a healthy and productive year ahead. We welcome editorial responses to *CITE Journal* content.

References

Darling-Hammond, L., Schachner, A., & Edgerton, A. K. (with Badrinarayan, A., Cardichon, J., Cookson, P. W., Jr., Griffith, M., Klevan, S., Maier, A., Martinez, M., Melnick, H., Truong, N., & Wojcikiewicz, S.). (2020). *Restarting and reinventing school: Learning in the time of COVID and beyond*. Learning Policy Institute.

Mouza, C., & Lavigne, N.C. (2013). Introduction to emerging technologies for the classroom: A learning sciences perspective. In C. Mouza, & N. Lavigne (Eds.), *Emerging technologies for the classroom: A learning sciences perspective* (pp.1-14). Springer.

Ertmer, P. (2015). Teacher pedagogical beliefs: The final frontier in our quest for technology integration? *Educational Technology Research and Development, 53*(4), 25-39.

Villani, S. (2018). *Exploring equity issues: Educators use data and find solutions to improve equity*. Mid-Atlantic Equity Consortium (MAEC), Center for Education Equity.