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## Equity, Technology, and Teaching

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## *Editorial Comments*

# **Equity, Technology, and Teaching**

Clayton Smith

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In this issue, we focus on equity, diversity, and inclusion (EDI) in our teaching practice, how technology is affecting teaching and learning during and beyond the COVID-19 pandemic, and trends in pre-service and in-service teaching. We begin with three EDI articles, including one on the continued EDI gaps that persist in science, technology, engineering, and mathematics fields, another on how the negative effects of having a deficit view of teaching and learning in schools impacts pre-service teachers' development of an equity mindset, and a third on Canadian Muslim excellence. Then, we present four technology-focused articles, including one on how the COVID-19 pandemic impacted learning for students with disabilities, another on how digital storytelling helped international students and immigrants to improve their language skills, a third on the affect that limited e-gadget access for rural students has on their performance, success, and retention, and a fourth on the efficacy of technology in enhancing education services. We then share three articles on pre-service teaching, including one on the efficacy of employing the backward design framework in enhancing pre-service teachers' curriculum knowledge, another on pre-service teachers' challenges and experiences to practice teaching in a rural school, and a third on integrating international large-scale assessments competencies into the teacher-education curriculum. We conclude with two articles on in-service teaching, including the association between metacognition and critical-thinking skills, and another on the importance of including all students in music education, especially those who find it challenging. This issue includes two book reviews.

Equity diversity, and inclusion (EDI) gaps continue to persist in science, technology, engineering, and mathematics fields. Jenna Sim, Mary Jung, Rishma Chooniedass, and Jannik Haruo Eikenaar found, through pilot testing the foundational-level Foundations for Inclusive and Respectful Engagement e-learning modules in STEM undergraduate classes at the University of British Columbia's Okanagan campus, that development of EDI curriculum initiatives can potentially help to reduce the inequities, discrimination and stereotyping of historically and persistently marginalized people within STEM.

The negative effects of having a deficit view of teaching and learning in schools have often been discussed as impacting pre-service teachers' development of an equity mindset. Amber Howard, Chloe Boyard, and Stacie Finley discuss the outcomes of a qualitative inquiry, using Yosso's community cultural wealth model as a framework, that shows how pre-service teachers' education equity mindset can be enhanced.

To achieve cultural understanding in our schools, it is essential that we incorporate a diverse set of resources in our teaching practice. Zareen Amtul, April King, and Adita Lia present a study that redresses the limited presence of stories of Muslims in Canadian archival history and curriculum, drawing attention to the racial issues so that public awareness of anti-Islamophobia strategy can be made known. The project resulted in the development of a digital archive located on an eCampusontario hosted Pressbook.

The abrupt switch to online learning during the pandemic due to the COVID-19 pandemic impacted learning for students with disabilities. Diane Montgomery and Kathy Snow share the results of a case study that examined the independent online experience of four elementary and three high school students in Ontario during the COVID-19 pandemic. They found that autonomy through choice of instructional and assessment methods was important for all learners, and that students with disabilities faced unique challenges, especially in regard to their ability to focus, comprehend information, and work in varying online platforms.

Digital storytelling is a narrative technique that combines audio, video, and animation elements that can be used to promote cultural understanding in university language classrooms. Somayeh Kamranian shares the results of an exploratory case study that used digital storytelling to engage immigrant and international students in French-language studies in Canada. By reflecting on their own identities as part of the storytelling exercise, the students were able to appreciate both the diversity of their learning community and the potential global nature of their Francophone course content. Digital storytelling helped them to improve their language skills, including reading comprehension, vocabulary, and general communication, to develop new research abilities, and to acquire cultural competency in an enjoyable way.

The use of e-gadgets for instructional practices, learning processes, and bridging transactional distance between higher-educational institutions and students remain complex and contested phenomena in educational research. Rendani Siphon Netanda discuss the findings from a qualitative case-study design conducted at the University of South Africa which found that many rural-based students have no access to e-gadgets, which influenced their performance, success, and retention rates.

Limited research exists that documents the use of technology-based educational counseling services targeting students. Rifqi Muhammad, using the Preferred Reporting Items for Systematic reviews and Meta-Analyses program known as PRISMA, present a comprehensive review of the related literature on the efficacy of technology in enhancing education services, which supports the effectiveness of using mental-health application (MHAs) technology, mobile well-being apps, mobile health (MHEALTH), short message services (SMS), facial emotion recognition (FER), and mindfulness apps to provide mental-health counseling services in education.

Acquiring robust curriculum knowledge is essential for teacher candidates. Esra Kerimoğlu and Sertel Altun, using an action research methodology to address the problem of pre-service teachers lacking curriculum knowledge, explore the efficacy of employing the backward design (BD) framework in enhancing pre-service teachers' curriculum knowledge. Findings revealed significant improvements in curriculum knowledge following BD-based instruction, with positive feedback from pre-service teachers.

While many studies have focused on English-as-a-Foreign-Language teachers' teaching practices in urban schools, little study has been indulged regarding pre-service teachers' (PSTs) challenges and experiences to practice teaching in a rural school. Heri Mudra report on a transcendental phenomenology study in Indonesia that explored various difficulties encountered by urban pre-service teachers during their teaching practicum (TP) in rural schools. The results revealed that the PSTs encountered four main challenges during TP in rural schools, including

changes in teacher identity construction, intercultural sensitivity barriers, a lack of supporting resources, and limited teacher professional development.

Teacher educational institutions (TEI) play a vital role in improving international large-scale assessments (ILSA) results, such as Program for International Student Assessment (PISA), by training future educators. Allen Espinosa, Ma Arsenia Gomez, Praksis Miranda, Adonis David, Heidi Macahilig, Allan Reyes, Leah Amor Cortez, Brando Palomar, and Jayson de Vera, using a descriptive-developmental research design, examined how ILSA key competencies can be incorporated into the curriculum, along with practices of outcomes-based educational programs at TEAs. Researchers propose a framework for integrating ILSA competencies into the teacher-education curriculum, anchored in outcomes-based education.

Metacognition and creative-thinking skills have been identified as essential components within the category of ways of thinking that fall under the umbrella of 21<sup>st</sup>-century skills. Okta Alpindo, Edi Istiyono, Widiastuti, and Erna Andriyanti delineate the association between metacognition and critical-thinking skills using a meta-analysis that concluded that increasing metacognitive abilities will improve critical-thinking abilities.

The world of music instruction is not homogenous, and students entering tertiary-level music programs often bring diverse backgrounds, abilities, and levels of musical proficiency. One group of students, musically-challenged students, present unique challenges for music educators. Jay Mabini presents a qualitative single case study that draws from constructivist and behaviourist leaning theories. Findings highlight the importance of including all students in music education, especially those who find it challenging, and that teachers who offer emotional support and create a nurturing environment boost students' confidence and interest in the subject.

This issue includes two book reviews. I Gede Budi Mahendra and Benyamin Limbong Tampang review the book, *Research Thinking for Responsive Teaching: Research Skill Development with In-service and Preservice Educators* (2024), which focuses on responsive teaching, highlighting the importance of adaptability and effective utilization of resources to meet the needs of diverse learners by offering guidance for improving teaching practice, curriculum design, and professional development. Rushengul Urayim reviews the book, *Teaching and Learning Resources for Endangered Languages* (2018), which explores the documentation of teaching resources for the teaching of endangered languages, including innovative practices, educational contexts, ideological issues, teaching and learning methods, and orthography development.

It is my distinct pleasure to thank our contributing authors, reviewers, and editorial team members for their commitment to educational scholarship and its dissemination in *JTL*. It really does 'take a village.' For those who may be picking up *JTL* for the first time, consider joining the *JTL* family as an author or a reviewer. You are always welcome!