

Introduction to the Special Issue: Highlighting AERA's Online Teaching and Learning SIG 2023

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The American Educational Research Association (AERA) is an international society that “strives to advance knowledge about education, to encourage scholarly inquiry related to education, and to promote the use of research to improve education and serve the public good” ([About AERA](#)). AERA members consist of researchers, practitioners, and policymakers who belong to one or more of 12 divisions and more than 150 special interest groups (SIGs). They come together annually to share educational research results and discuss implications for practice. The Online Teaching and Learning (OTL) SIG is a group of over 200 members who discuss and disseminate challenges and possibilities relating to online teaching and learning. SIG OTL and the Online Learning Consortium (OLC) have maintained a long-standing collaboration to advance online, blended, and digital learning theory and practice. The AERA annual meeting in 2023 was place-based in Chicago, Illinois, as well as virtual. The theme of the meeting was “[Interrogating Consequential Education Research in Pursuit of Truth.](#)”

Since 2016, the Online Learning Journal (OLJ), the official journal of the OLC, has released a special issue to extend opportunities for SIG OTL members to contribute their expertise in online education research. The 16 papers selected for this issue represent innovative and diverse topics using various research methods. We have tried to group them into five themes: 1. Measurement and analysis; 2. Equity, Inclusion, Advocacy, Embodiment; 3. Modality; 4. Openness; and 5. Philosophy & Theory.

1. Measurement & Analysis

Six articles focus to some degree on measurement and analysis. These articles collectively focus on developing measurement tools and models for online and digital learning.

In the first article, “[The Online Teaching Motivation Scale \(OTMS\): Development and Validation of a Survey Instrument](#),” Wiles et al. describe the creation and validation of an instrument aimed at quantifying the motivational factors influencing K-12 teachers in online teaching contexts. The survey consists of 27 items focused on three factors: teacher self-efficacy,

perceptions of online teaching, and perceived administrative support. The study's findings show strong reliability and validity of the OTMS.

In the next article, “**Bridging Theory and Measurement of Student Engagement: A Practical Approach**,” Means and Neisler describe the creation and application of measures for specific components of student engagement, aligned with a theoretical model, to evaluate the effect of instructor practices and learning technology on engagement, particularly for Black, Latine, and low-income students in online learning. They report on the reliability of these measures and the interrelationships among them, offering insights for future educational research and practice.

Then, in “**Course Design Approaches and Behavioral Patterns in Massive Open Online Courses for Professional Learning**,” Marc Egloffstein et al. analyzed learner behavior in 13 business and technology-related MOOCs through lag sequential analysis, identifying common and distinct interaction sequences across lecture, system interaction, and discussion-oriented courses. The results suggest integrating interactive elements and metacognitive interactions into MOOCs to enhance learner engagement and outcomes. They conclude with implications for future research and course design.

Then Gunawardena et al., in “**Deep Learning Models for Analyzing Social Construction of Knowledge Online**,” investigated how two neural networks could predict the social construction of knowledge using Gunawardena’s popular Interaction Analysis Model (IAM). They report on the accuracy of these predictions and discuss the potential this work can have in providing rapid feedback for online course revision. To improve the accuracy, they recommend training the models with larger data sets or focusing on the design of prompts to improve classification accuracy.

Next, in “**Measuring Faculty Engagement in Online Formative or Whole-Person Education: A Revised Instrument and Item Response Theory Model**,” Wortham et al. describe the development of a scale to evaluate faculty engagement with formative or whole-person education principles. They present the psychometrics for the 10-item scale., demonstrating high reliability and validity. They conclude with how the scale might be adapted for other contexts.

In the last article in this first group, “**College Students, Networked Knowledge Activities, and Digital Competence: Implications for Online Curricula and Workforce Preparation**,” Dennen et al. investigated college students' digital literacy skills with knowledge-related activities by surveying 350 college students about their engagement with professional platforms and digital skills like tagging, writing, and creating. The findings suggest that students frequently engage with platforms for personal use but are less active on professional networks or

in content creation, skills valued in the workforce. The authors conclude with strategies for curriculum development to better prepare students for digital tasks in their future careers.

2. Equity, Inclusion, Advocacy, Embodiment

The second group of articles loosely focuses on equity, inclusion, advocacy, and embodiment issues.

In the first article in this group, “**Higher Education Instructor Perception of Helpfulness of Inclusive and Equitable Online Teaching Strategies**,” Martin et al. introduce the Inclusive and Equitable Online Teaching Strategies (IEOTS) instrument. The IEOTS consists of 45 strategies across five categories to assist instructors in fostering inclusivity and equity in online courses. The findings highlight the perceived helpfulness of these strategies and emphasize the importance of student choice in promoting inclusivity and equity.

In the next article, “**Culturally- and Linguistically-Responsive Online Teacher Learning Professional Development**,” Pawan et al. set forth to understand the theories and conceptual models used in responsive online teacher preparation and professional development by conducting a literature review. Their results showed how sociocultural theories, models, and frameworks help address inclusivity and, in turn, help reduce barriers, create online communities, enhance accessibility, and promote engagement. They discuss the importance of teacher education programs and professional development on leveraging cultural and linguistic assets while focusing on equity in design and conclude with ways AI might help.

The next article, “**Conceptions of Time in Educational Technology: Considerations for Equity-focused Design**,” by Fortman et al., also focused on equity in design. In this study, the researchers analyzed marketing materials from Coursera and Microsoft. They found that marketing materials perpetuate a conception of time as a resource and a future-oriented element in learning. Based on the analysis of blog posts and customer success stories, the findings have implications for developing equitable pedagogical designs in technology-enhanced learning environments.

Then, focusing more on advocacy, in “**Emergent Themes from Study of a Highly Flexible Hybrid Learning Program**,” Castañón et al. investigate a hybrid learning program's impact on teachers, students, and parents. The authors discuss the program's unique features, such as individualized schedules and project-based curriculum, and highlight the collective advocacy for accessible instruction and appropriate support. The study also considers the additional challenges teachers face and suggests a need for united efforts to support student learning while addressing teacher needs.

The last article in this group focused specifically on embodiment. In “**I sing the body electric”: Embodied presence in the Community of Inquiry framework**,” Howell investigated the embodied experiences of female “sojourner” teachers who navigate online, face-to-face, and hybrid teaching spaces, revealing their complex relationship with physical presence in virtual teaching environments. Howell challenges the relegation of embodiment to the social presence domain of the Community of Inquiry framework, suggesting a reconceptualization that acknowledges the intersection of physical and intellectual labor in teaching.

3. Modality

While a few other articles (e.g., Martin et al.) in this special issue focus on modality, the following two articles more directly focus on the role of modality.

In “**Instructional Strategies for Engaging Online Learners: Do Learner-centeredness and Modality Matter?**,” Shi et al. conducted a mixed-method investigation into how online instructors use different instructional strategies to engage learners and how course modality (i.e., synchronous versus asynchronous) and instructor learner-centeredness influence this choice. Findings showed that learner-centered strategies, particularly discussions, occur at a high rate regardless of an instructor’s learner-centeredness or modality. Also, instructors with a high learner-centeredness reported more use of lectures regardless of course modality than those with low learner-centeredness.

Then, in “**Comparing Blended and Online Learners’ Self-Efficacy, Self-Regulation, and Actual Learning in the Context of Educational Technology**,” Zhang et al. compared technology integration self-efficacy, self-regulated learning strategies, and learning outcomes between preservice teachers in the same blended and online educational technology course. Students in the online modality reported better time management but sought less help than those in the blended modality. However, they found no significant difference between technology integration self-efficacy or learning outcomes between both modalities. These results can inform the design of educational technology courses to meet the needs of both blended and online learners.

4. Openness

The second to last group of papers focuses on the concept of openness. In the first paper in this group, “**Personalized Learning and Open Education Resources in Multilingual Learner Teacher Preparation**,” Bondie investigated the incorporation of personalized learning and open education resources (OER) in a teacher preparation course, analyzing the effects on standard university course evaluations and the selection of assignments by novice teachers. Findings suggest that personalization and OER may improve perceptions of technology, agency, relevance, diversity, and assessment, despite increased outside class hours and reduced satisfaction with course organization and feedback.

Then in the next paper, “**Building Open Pedagogy in Community Colleges**,” Gilpin et al. investigated the implementation of open pedagogy in community college settings, assessing its influence on student engagement and persistence. They found that while students recognized the benefits of sharing work publicly and valued collective efforts, they had concerns about privacy. The results suggest enhancing media literacy, offering group work options, and ensuring institutional support to mitigate anxiety around public sharing and supporting student identities in the learning process.

5. Philosophy & Theory

The last group has just one single article that really focuses on philosophy and theory. In “**Navigating Online Learning Through ‘Technological Frames’: A Qualitative Examination**,” Basdogan and Bonk utilizing Carl Mitcham's typology, analyzed how educational technology scholars perceive technology in learning environments and contexts, revealing a prioritization of technology as volition and activity, followed by object, with knowledge being least referenced. They also uncovered a new category termed “space,” offering both theoretical and practical insights for future research in online and distance learning.

Our gratitude goes out to the OIJ editor-in-chief Peter Shea, Mary Rice, the managing editor of OIJ as well as the AERA OTL SIG chair, and all the authors. We hope you'll find these articles as enlightening and informative as we did.

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Reference

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<https://www.aera.net/About-AERA>