

Introduction to the Special Issue: Highlighting AERA's Online Teaching and Learning SIG 2022

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The American Educational Research Association (AERA) is a research 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” (2022). The association aims to encourage educational research studies and promote the practical implications of research findings. With 12 divisions and more than 150 special interest groups (SIGs), AERA provides advanced information to generate connections across practitioners, the field’s leading researchers, and policymakers. AERA includes more than 25,000 members from 85 countries, including faculty, researchers, evaluators, graduate students, university deans, research directors, and higher education administrators.

In 2022, the AERA annual meeting was both place-based in San Diego, California, and virtual, with the theme of “Cultivating Equitable Education Systems for the 21st Century”. As an influential special interest group (SIG) of AERA, the Online Teaching and Learning (OTL) SIG provides 200-plus members an informative platform to discuss and disseminate challenges and possibilities relating to online learning and teaching. For more information on OTL visit <http://www.aera.net/SIG035/Online-Teaching-and-Learning-SIG-35>.

SIG OTL and the Online Learning Consortium (OLC) have maintained a long-standing collaboration to advance the theory and practice of online, blended, and digital learning. Since 2016, the *Online Learning* journal (OLJ), the official journal of OLC, has released a special issue to extend opportunities for SIG OTL members to contribute their expertise in online education research. The 10 papers selected for this issue represent diverse voices of educators and professionals sharing rigorous research and innovative topics using an array of research methods. They are arranged into three major categories: students’ cognitive and behavioral strategies in online environments; theoretical and practical implications of online learning and community; and students’ online learning experiences.

The first category of articles includes two studies focused on learners' cognitive and behavioral strategies in online learning. In “Teachers’ self-directed online learning strategies and experiences: A longitudinal study,” Pamela Beach, Elena Favret, and Alexandra Minuk examined cognitive and behavioral strategies elementary teachers used in a series of self-directed online learning sessions and whether these strategies changed over time. Data were collected from 12 elementary teachers with navigation captioning, think-alouds, and semi-structured interviews. The authors found that participants demonstrated four main cognitive strategies: meta-cognitive awareness, monitoring learning, evaluating information, and increases in self-efficacy. Several behavioral strategies were also adopted during the learning process, with notetaking and video viewing being the most frequent, followed by using web features, exploring information, and changing courses. Their results suggested that participants monitored their

learning during their navigation. The findings provided implications for online learning module developers and organizations interested in designing online professional development for educators.

In the next study, “Scaffolding a culminating assignment within a community and task-based MOOC,” Rebecca M. Quintana and Jacob M. Aguinaga, explored how scaffolds within a digital workbook could facilitate self-directed learning for learners completing a final project within a community and task-based MOOC. They explored the use of a digital workbook as an articulation and reflection scaffold in a MOOC course. They collected data from 77 assignments submitted during the four months of the MOOC and found that for some learners, a high level of workbook use corresponded to high quality written assignment responses. This study demonstrated that articulation and reflection scaffolds can be effectively integrated into learning sequences, providing directions for educators and designers to further refine the practice of facilitating self-management and self-monitoring that promote self-directed learning in a MOOC context.

The second category of articles focused on online learning and community, the first using Rovai’s conceptualization of classroom community and the second using the Community of Inquiry (CoI) framework. In “Classroom community and time: Comparing student perceptions of classroom community in traditional vs. accelerated online courses”, Patrick Lowenthal and Jesús Trespacios explored student perceptions of classroom community in accelerated online courses (e.g., 7-week courses) compared to traditional length online courses (e.g., 15-week courses). The authors questioned whether accelerated courses require instructors and students to dedicate more time to the course, which in turn could help speed up the building blocks for a sense of classroom community to emerge. Moreover, the results showed that well-designed courses and skilled facilitation were more important than course duration in developing a sense of community. Their findings further revealed that every student found the importance of developing a sense of classroom community differently.

Then in “Relationship between metacognition and online community of inquiry in an online case-based course”, Ayesha Sadaf and Stella Kim explored students’ perceived metacognition (self-regulation and co-regulation) in relation to the social, teaching, and cognitive presences within the community of inquiry (CoI) framework in a graduate online case-based instruction (CBI) course. According to their results (n=47), students perceived cognitive presence was higher and less variable among three online presences and metacognition in online CBI. The correlation between the two interdependent dimensions of metacognition (self-regulation and co-regulation) was significantly high. Additionally, social presence demonstrated the strongest association with both self-regulation and co-regulation, followed by cognitive presence. Their study made a huge contribution in exploring relationships between students’ perceived metacognition and the CoI presences in an online CBI scenario. It also shed light on emphasizing collaboration in the CBI course and encouraging students to be aware of others’ metacognitive thoughts in addition to their personal reflections.

Then in “The use of community of inquiry framework-informed Facebook discussion activities on student speaking performances in a blended EFL class”, Mohammad Shams Ud Duha, Jennifer C. Richardson, Zohur Ahmed and Fahmida Yeasmin examined the use of community of inquiry-informed Facebook discussion activities on the speaking performances of undergraduate students in a blended EFL class in Bangladesh. They found a statistically significant difference between the initial and post-test speaking scores between the two conditions. Although there was no difference between the experimental and control groups, the

instructor's comments and interview data showed that Facebook was beneficial for both groups in improving students' speaking performance. This study informs the application of the CoI framework on a social media platform and provides further suggestions to instructors on how to use social media platforms to facilitate discussion activities considering the CoI framework.

The final article in this category is "The impact of multimodal communication on learners' experience in a synchronous online environment: A mixed-methods study" by Ying Cai, Zilong Pan and Min Liu. The authors investigated how multiple modes (visual, bodily, behaviors, spoken language, and written language) in synchronous online learning impact students' learning experiences from the perspective of social and teaching presence. The study invited 243 undergraduate students to complete survey (survey questions were designed to measure social presence, teaching presence, perceived effectiveness of available modes, and satisfaction with synchronous online learning), and 7 of them participated the follow-up interviews. Their results showed that written and spoken languages were the most effective modes of online communication, and the four modes were also significantly positively correlated with social presence, teaching presence, and students' satisfaction. This study has implications for course instructors and designers in effectively adopting different modes in synchronous online environments and promoting social and teaching presence.

Finally, four studies examined students' online learning experiences from the aspects of social interaction, learning formats (e.g., synchronous, and asynchronous), emotional distress, and international students' learning experiences. In the article "Comparisons of synchronous and asynchronous discussions in an online roleplaying simulation to teach middle school written argumentation skills," Jeremy Riel, Kimberly A. Lawless, and James B. Oren investigated how different degrees of synchronous and asynchronous online social interactions influent student achievement in written argumentation skills in the context of an online educational simulation game (ESG) called GlobalEd (www.globaled2.com). This study involved 46 middle school teachers from social studies and 896 students who were divided into three degrees of interactions (2 scheduled live conferences, 1 scheduled live conference, and asynchronous-only interactions). Their findings showed each condition yielded a moderate effect size. Particularly, "mid-range" (1 live conference condition) exhibited the greatest effects for student achievement in argumentative writing skills. These results provided evidence that asynchronous discussion could be feasible and effective for creating socially intensive online space. Nevertheless, combining synchronous and asynchronous interactions based on available resources and feasibility can maximize social presence,

In the next study, "Student webcam behaviors and beliefs: Emergent norms, student performance, and cultural differences" by Vanessa Dennen, Yasin Yalcin, Jaesung Hur and Bruce Screws, the researchers investigated students' perceptions of synchronous learning (SL) and webcams in terms of the relationships to achievement and behaviors. Additionally, they explored cultural factors that potentially impacted on students' SL behaviors. The study involved 2298 participants from the United States (n=408), Turkey (n=925), and South Korea (n=965). The results showed practices and beliefs surrounding webcam use differed by cultural background, academic achievement, and preferred seating in the face-to-face classroom. Being aware of the differences is valuable for educators in designing and teaching cross-cultural synchronous courses. The study provided some insights into student comfort of SL. It also enabled instructors to evaluate the situational nature of using SL tools in online classes.

In the article, "How online learning readiness can predict online-learning emotional states and expected academic outcome: Testing a theoretically based mediation model," Hsiang-Yu

Chien, Yu-Chen (Jenny) Yeh and Oi-Man Kwok focused on how emotional distress related to online learning readiness and academic outcomes. By using k-means cluster analysis (n = 80), they found learners with high level of online learning readiness showed significant differences from the low level online learning readiness group on anxiety, boredom, and satisfaction. A structural equation modeling (SEM) test result also revealed that readiness positively predicted satisfaction; satisfaction predicted learning expectations and expected grade. The main takeaway from this study was that understanding students' online readiness, providing timely support, and paying attention to students' emotions were critical factors to consider in online teaching.

In addition, in Katie K. Koo and Mei Jiang's article, "What does it mean to take online classes as an international student during COVID-19? the researchers investigated international students' experiences, challenges, and perceptions of online learning environments during the COVID-19 pandemic by using the Theory of Social Support and the Community of Inquiry as theoretical frameworks. By conducting three virtual focus group interviews with 18 international students, the authors concluded that the main challenges that international students met during the pandemic were: social isolation in online learning spaces; difficulties with engaging in online class discussions and activities; limited opportunities for improving English proficiency in the online setting; and limited academic support from faculty and advisors. The findings offered insights and implications for institutions and faculty in establishing appropriate support systems for international students.

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Reference

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