

Introduction to OLJ Volume 29, Issue 1

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This issue of *Online Learning* presents a diverse collection of research studies exploring innovative teaching strategies, technology integration, faculty and student engagement, and instructional methodologies in online education. These studies offer insights into the evolving landscape of digital learning, contributing valuable findings for educators, instructional designers, and administrators.

In their article, "Active Learning and the Development of 21st Century Skills in Online STEM Education: A Large-Scale Survey," Ilana Ram, Rinat Rosenberg-Kima, Daniel R. Lewin, Abigail Barzilai, Olga Chumtonov, and Ido Roll from Technion, Israel Institute of Technology investigate the relationship between active learning strategies and the development of key 21st-century skills in online STEM courses. Analyzing survey responses from undergraduate students, they find that activities aligned with the Interactive, Constructive, Active, and Passive (ICAP) framework significantly enhance communication, collaboration, and critical thinking skills. Their study underscores the necessity of structured active learning designs in remote STEM education to maximize student engagement and satisfaction.

Dara Tafazoli from the University of Newcastle, Australia, introduces a "Development of Computer-Assisted Language Learning (CALL) Literacy Framework for Foreign Language Teachers." This study identifies digital literacy, language proficiency, and pedagogical competency as critical components of CALL literacy. Through phenomenological inquiry and Delphi validation, the framework provides a structured approach for educators to integrate CALL effectively. The research highlights the growing necessity for language teachers to develop multifaceted technological competencies to optimize language instruction.

Michelle L. Ackerman, Bettina Shapira, Joel B. Goodin, and Sunilda A. Andriotis from National University, San Diego, examine dissertation completion rates in online doctoral programs in their study, "Sequentially Structured Online Dissertation Model: Implications for Timely Completion Among Online Psychology Doctoral Students." Their findings suggest that a structured approach incorporating mentor feedback loops and scaffolded research components significantly reduces time-to-completion. The study offers evidence that implementing a sequentially structured model fosters student accountability and supports dissertation progress, addressing persistent challenges in online doctoral education.

Mohamed Shameem Adam, Junainah Abd Hamid, Ali Khatibi, and S. M. Ferdous Azam analyze instructional strategies in their article, "Investigating the Effects of Direct Instruction and Facilitated Discourse on Social and Cognitive Presence in Blended Learning." Utilizing the Community of Inquiry framework, their study reveals that social presence plays a mediating role in the relationship between teaching presence and cognitive presence. Their research offers valuable guidance for designing blended learning environments that balance structured instruction with interactive discourse to enhance student engagement and critical thinking.

In "Predictive Model to Analyze Real and Synthetic Data for Learners' Performance Prediction Using Regression Techniques," the authors explore the effectiveness of machine learning in educational analytics. Comparing real, synthetic, and hybrid datasets, they demonstrate that synthetic data can achieve predictive accuracy comparable to real data. Their findings emphasize the potential of privacy-preserving synthetic data to support personalized learning interventions while maintaining data security and accessibility.

Hebatullah ElGamal from Carl von Ossietzky University of Oldenburg presents "What is the De Facto? Implementation of the Flipped Classroom Approach in Higher Education." Through interviews with veteran professors across multiple disciplines, the study identifies key benefits and challenges of sustained flipped learning implementation. Findings highlight the need for institutional support, student readiness, and theoretical frameworks to optimize the effectiveness of this pedagogical approach in higher education.

The "Greek Version of the Blended Teaching Readiness Instrument (BTRI): Results of the Pretest Study and the Content Validation" study examines the adaptation and validation of the Blended Teaching Readiness Instrument for Greek educators. The research provides insights into teachers' preparedness for blended learning and underscores the importance of professional development programs tailored to local educational contexts.

Kosmas Vlachos from the National & Kapodistrian University of Athens investigates the impact of written assignments on postgraduate TESOL students in "Written Assignments in Technology-Enhanced Postgraduate Courses in TESOL." Findings indicate that structured assignments incorporating modern technologies improve teacher trainees' instructional design skills and intercultural awareness. The study highlights the role of reflective practice in fostering continuous professional development in language education.

Yujin Park, Jewoong Moon, and Hunhui Na explore elementary STEM educators' use of Open Educational Resources (OER) in "Elementary STEM Teachers' Open Educational Resources and TPACK in a Professional Learning Network: A Case Study." Analyzing online interactions within a professional learning network, their study reveals that technology-related resources and pedagogical content knowledge are the most frequently discussed topics. The research underscores the role of PLNs in supporting elementary STEM teachers' professional development and resource-sharing practices.

Fang Tang's study, "Setting the Stage for Success: Readiness and Connectedness as Antecedents of Learning Continuance Intention in Online Learning," investigates the relationship between online learning readiness and student connectedness. Through hierarchical multiple regression analysis, the study finds that motivation and course facilitation significantly impact students' intentions to continue online learning, emphasizing the importance of fostering readiness and support structures in digital education.

Kristi Arnesen's article, "Encouraging Self-Regulation in an Online University Course for Preservice Teachers: An Intervention Study," examines the role of goal setting and self-reflection in fostering self-regulation among online learners. Findings suggest that structured interventions

significantly enhance students' ability to manage their learning, demonstrating the benefits of self-regulation strategies in online education.

Yam B. Limbu and Christopher McKinley's systematic review, "Factors Associated with Student Engagement in Online Learning During COVID-19 Pandemic," synthesizes research on student engagement drivers in online education. Their review identifies key student, instructor, and institutional factors that impact engagement, providing a framework for enhancing digital learning experiences.

Hasini Perera's research, "Fostering Higher-Level Inquiry in Online Asynchronous Discussion with Kit-Build Concept Mapping," explores how structured preparatory activities can enhance cognitive engagement in online discussions. The study finds that using concept mapping leads to deeper inquiry and improved discourse, offering practical strategies for fostering higher-order thinking in digital learning environments.

Saif Al-Hammouri's article, "The Effectiveness of the Good Behavior Game on Students' Academic Engagement in Online-Based Learning," evaluates how gamification strategies can improve student participation and engagement. The study's results indicate that structured competitive learning activities significantly enhance both the quantity and quality of student engagement in online courses.

Together, these studies provide a comprehensive exploration of instructional design, faculty and student engagement, and technology integration in online and blended learning environments. The findings contribute to a deeper understanding of effective pedagogical strategies, ensuring that digital education continues to evolve in a manner that is inclusive, innovative, and impactful.

We extend our gratitude to the authors and reviewers who contributed to this issue and to the *Online Learning* community for their continued support in advancing research and best practices in digital education.