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Editorial note: Designing microlearning for how people learn

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ABSTRACT: Although the term *microlearning* has been around since 2005 (Hug, 2005), it has regained popularity in recent years due to the increasing mobility and competing priorities of adult learners. Today's learners seek smaller, focused lessons that deal with a single topic and can be consumed quickly. Yet, there are still many questions surrounding what microlearning entails, how it should be designed, who it is intended for, and how the learning in microlearning can be assessed. This special issue aims to explore the design, development, implementation, and assessment of microlearning, with an emphasis on designing microlearning experiences with today's learners in mind. After undergoing two rounds of rigorous reviews, four out of the 28 submissions received for this special issue were chosen for inclusion. This editorial note will introduce the special topic, analyze common themes across the selected papers, outline the procedures for paper solicitation and review, present summaries of the accepted papers, and synthesize the key findings.

Keywords: Microlearning, Micro-credentials, Mobile-based, Self-directed learning

1. Introduction

According to a recent report by the Association for Talent Development, "microlearning is one of the most widely discussed and debated trends in the learning industry" (ATD Research, 2017, p. 1, as cited in Corbeil et al., 2021b, p. 3). The explosive growth of social media over the past decade, as well as the abundance of mobile devices in the hands of learners and professionals will cause microlearning to quickly permeate educational and corporate learning environments as "personalized mobile learning through bite-sized learning snippets" (Corbeil et al., 2021a, p. xxiii).

While the applications of microlearning are becoming more popular and varied, there is consensus that creating microlearning is not as easy as dividing existing content into smaller chunks. As Kumar (2020) observes, "microlearning is not about chunking large pieces of content but designing a standalone piece of content that can be administered to learners for a holistic learning experience" (para. 12).

This special issue explores effective instructional and multimedia design principles and practices for the purposeful design, development, assessment, and implementation of microlearning for meaningful learning. This special issue will be of use to professionals, including designers, developers, and instructors, in all levels of online, blended, and mobile learning education and corporate learning environments.

An analysis of the accepted articles of this special issue identified four recurring themes:

- **Mobile-based microlearning:** Three of the articles focus on the use of mobile-based microlearning as a method to support adult learners and enhance instructional goals in various contexts, including workplace, higher education, and teacher professional development.
- **Flexibility and self-directed learning:** The articles highlight the importance of flexibility and self-directed learning in the context of microlearning. They discuss how microlearning offers convenience, enables learners to engage in brief, self-directed learning tasks, and promotes self-directed learning and extension of course content.
- **Integration of technology:** The articles emphasize the integration of technology, particularly mobile devices and online platforms, to facilitate microlearning. They discuss the challenges and benefits of incorporating technology in the design and implementation of microlearning experiences.
- **Design and assessment:** The articles discuss the design and assessment considerations associated with microlearning. They explore the design decisions, learning objectives, social dimensions, and assessment methods that need to be considered to ensure effective implementation and learner engagement with microlearning activities.

2. Paper solicitation and review

The call for manuscript proposals was published online on January 30, 2022. Of the 28 initial submissions, eight were excluded due to their lack of alignment with the special issue's focus or failure to meet ET&S standards. The remaining 20 manuscripts underwent two rounds of thorough evaluation and revision. Following the first round, eight articles proceeded to the Stage 1 review. Subsequently, these articles underwent a double-blind peer review process, leading to the identification of four exceptional manuscripts.

3. Accepted article summaries

Presented below are brief summaries of the articles that have been accepted for publication in this special issue.

3.1. A systematic review of mobile-based microlearning in adult learner contexts

This systematic review analyzes the empirical literature on mobile-based microlearning in adult learner contexts between 2015 and 2021. It explores the integration of mobile-based microlearning in workplace and higher education settings and highlights its effectiveness and design principles. The review concludes with recommendations for practitioners, emphasizing the importance of flexible learning options and the potential of mobile-based microlearning in supporting instructional goals.

3.2. How can you deliver microlearning when learners don't want it? Designing microlearning for socially oriented learners

This research study examines the impact of microlearning design decisions on employee learning in a professional development program. The study focuses on the case of microlearning lessons on inclusive teaching and analyzes participants' reflections, discussions, survey responses, and assessments. The findings suggest that microlearning can effectively support employee learning beyond the intended objectives, highlighting the importance of needs assessment, suitable learning objectives, social dimensions, and assessment in designing and assessing microlearning in line with learner preferences and workplace contexts.

3.3. Optional embedded microlearning challenges: promoting self-directed learning and extension in a higher education course

This case study examines the implementation of a microlearning system called *tech-flex challenges* in a higher education course. The study involved 85 students and 5 instructors in an educational technology course for preservice teachers. The findings reveal that while students had positive perceptions of the system, participation rates were low. Students who completed the microlearning challenges enjoyed them and were motivated to engage in them for learning purposes rather than for earning a micro-credential. Instructors suggested that making the challenges mandatory could increase attention and participation.

3.4. Creating the conditions for professional digital competence through microlearning

This study investigates the use of microlearning courses in online and blended learning modes as a teacher professional development (TPD) approach in Hong Kong. The study involves 32 preservice teachers in the English language education program and evaluates their digital competencies through questionnaires, interviews, and observations. The findings highlight the perceptions of preservice teachers regarding technology integration, challenges faced, and the need for personalized and hands-on training to meet diverse learning targets. The study also contributes to the development of conceptual frameworks for microlearning design in teacher professional development.

4. Summary: Cross-cutting themes in the findings

A careful review of the findings of the accepted articles identified five common themes. The articles demonstrate a generally positive impact of microlearning across various contexts, highlight the importance of instructional

design principles, emphasize the role of technology in enhancing microlearning experiences, address learner engagement and motivation, and emphasize the significance of self-directed learning in microlearning for extended knowledge and skill development. What follows is a summary of the five cross-cutting themes identified in the findings.

4.1. Effectiveness and benefits of microlearning

The articles highlight the positive impact and effectiveness of microlearning in various contexts, such as higher education, workplace settings, and teacher professional development. They emphasize that microlearning can support learner outcomes, enhance digital competence, and provide opportunities for self-directed learning and knowledge extension.

4.2. Instructional design principles

The articles emphasize the importance of adhering to fundamental instructional design principles when designing and implementing microlearning. They discuss the significance of needs assessment, learner analysis, adaptation to learner preferences, and creating a supportive and reflective learning environment.

4.3. Integration of technology

The articles highlight the role of technology in microlearning and its potential for enhancing learning experiences. They discuss the use of mobile devices, online platforms, and digital tools in delivering microlearning content and developing digital competence.

4.4. Learner engagement and motivation

The articles address learner engagement and motivation in microlearning. They discuss the role of learner preferences, social interaction, recognition through micro-credentials, and the impact of optional or mandatory microlearning challenges on learner participation and motivation.

4.5. Self-directed learning

The articles emphasize the importance of self-directed learning in microlearning. They discuss how microlearning tasks encourage and support self-directed learning skills, allowing learners to explore knowledge and skills beyond the regular course expectations and develop competence in using microlearning for professional development.

In summary, the cross-cutting themes in these articles revolve around the effectiveness and benefits of microlearning, instructional design principles, integration of technology, learner engagement and motivation, and the promotion of self-directed learning in microlearning contexts.

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