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COMMENTARY

Learning in the flow of work: Designing person-centric learning experiences with just-in-time microlearning

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As technical disruption and other workplace shifts impact the pace of change in the workplace, Beier et al. (2025) discuss the requirement for workers not just to upskill within their profession but the urgency for many to reskill and retrain into a new career path. This dynamic workplace horizon has led the authors to call for the shift from an organization-centered perspective on training and development to person-centered workplace learning focused on individual self-development. Organizations still have responsibility and stand to benefit in developing their workforce, but many individuals who operate outside of these organizations have been overlooked in the reskilling conversation because it has been previously dominated by the organization-centered approach. Although the focal article briefly mentions technology-enhanced learning, there is an opportunity to further explore how artificial intelligence (AI) can be leveraged to facilitate the shift to individualized workplace learning. This commentary argues that AI may be essential for designing person-centered training experiences by placing learning in the flow of work through just-in-time microlearning.

Introduction to microlearning

As the authors note, the rise of the internet and social media has changed how individuals seek and consume learning content. For example, younger generations prefer learning from YouTube videos over previous forms of guided self-instruction (Taylor & Hung, 2022). Additionally, the average employee is only able to dedicate less than 30 minutes a week to learn, which limits their capacity for many traditional training initiatives (Bersin, 2017). These behavioral shifts and time constraints have led to the emergence of microlearning, a form of online learning delivered in small, focused segments, each designed to teach a specific skill or objective on demand (Kaklij et al., 2019; Taylor & Hung, 2022). Although this type of instruction varies in format and purpose, microlearning is a modern learning experience featuring videos, articles, podcasts, or any other form of digital content that individuals can quickly consume in 10 minutes or less as they need it (Arun et al., 2020; Taylor & Hung, 2022).

Effectively implementing microlearning

Simply creating microlearning content is not enough for these lessons to be effective, as the authors of the focal article point out. It must be put into context by integrating and delivering learning experiences where people are. Creating and publishing microlearning content in organizational learning management systems or free massive open online courses (MOOCs) is not sufficient to achieve valid and relevant learner outcomes. Content must be personalized and

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contextualized to encourage transfer so that individuals can have learning experiences that are "just enough, just-in-time, and just for them" (Park, 2024; Younger, 2016). This form of just-in-time, integrated microlearning has also been described as "learning in the flow of work" (Bersin, 2018). Learning in the flow of work contrasts traditional e-learning methods, which require actively searching for the right content and interacting with media platforms designed to promote continued engagement outside the work environment. Instead, just-in-time microlearning content should be designed to enable individuals to quickly and intuitively understand a concept, apply it, and then return to their tasks seamlessly (Bersin, 2018; Maity, 2019). This allows microlearning to become a natural, continuous, and contextual part of work rather than a separate, isolated event, promoting greater understanding and transfer ("Learning in the Flow of Work," 2023; Taylor & Hung, 2022).

In many ways, the idea of learning in the flow of work is not new. Research suggests that contextualized learning comprises 60–80% of workplace learning through informal and on-the-job training, which can also include project-based learning or internships (Ellinger & Cseh, 2007). Some just-in-time learning tools like virtual assistants and help features are familiar and have also commonly been used to guide users to relevant documentation in out-of-flow locations. However, these systems disrupt the employee workflow while also demanding time-consuming organizational knowledge management to update, maintain, and tag information, especially in a rapidly changing workplace (Bersin, 2018; Maity, 2019). However, innovations in artificial intelligence (AI) can curate and integrate personalized microlearning seamlessly into the flow of work. AI-based algorithms and application programming interfaces (APIs) now have the capability to manage and filter institutional and conceptual knowledge, identify training at the point of need, and customize delivery to meet the specific needs of each user in their own workflow (Bersin & Zao-Sanders, 2019; Gibson et al., 2023; Maity, 2019). One practical application of this technology is the use of AI to integrate adaptive, interactive "intelligent agents" into a work interface. These agents leverage existing content libraries to provide support like a human trainer, such as individualized training needs assessment and performance monitoring (Maity, 2019; Vrontis et al., 2021).

Implications of AI-Enabled, Just-in-Time Microlearning

The additional personalization and contextualization offered by AI may particularly benefit aging, marginalized, and displaced workers. Leveraging adult learning principles, personalized AI-training can use workers' existing experience and knowledge, also known as crystalized abilities, to help them gain new skills (Davenport et al., 2022; Lyndgaard et al., 2024). By individualizing experiences around the learner, leveraging AI to place learning in the flow of work enables a shift toward person-centered design thinking (Bersin, 2017).

Additionally, AI integration in learning can unlock untapped potential within learning analytics through its ability to collect and interpret data, enabling organizations to identify workforce skill gaps and strategic learning opportunities. These capabilities will shape the next generation of organizational talent management strategy. Beyond the workplace, these analytics can be applied within community and government contexts to inform broader skill development initiatives. AI-enabled, just-in-time microlearning offers numerous applications in the workplace, further democratizing learning and fostering person-centric learning experiences.

Despite its exciting potential to support inclusive, person-centered skill development, just-in-time microlearning is not a comprehensive learning solution. Although early research suggests that learning in the flow of work is useful in delivering procedural knowledge, the abbreviated format of microlearning is not conducive for gaining knowledge that requires in-depth reasoning or comprehension (Taylor & Hung, 2022). Macrolearning, or longer form instruction that provides holistic, declarative understanding of a domain, is a necessary component during the initial steps of the learning process (Bersin, 2017; Kanfer & Ackerman, 1989).

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Microlearning is an effective supplement that can provide continuous injections of the new skill, task, or information needed to proceed to reach an acceptable level of proficiency, but is not alone sufficient (Bersin, 2017; Taylor & Hung, 2022). Additionally, as the authors noted, there is limited empirical research on technology-enhanced and AI-enabled learning. Although the adoption of learning in the flow of work within industry has begun, the guidelines for designing and implementing microlearning lessons remain largely anecdotal. Existing research has shown positive acceptance and satisfaction of microlearning, especially when integrated into a broader learning strategy, but more work is needed to explore various tools, design principles, and their potential learning effectiveness (Rof et al., 2024; Taylor & Hung, 2022).

Another important acknowledgment is the ongoing barrier of entry in inclusive implementation, as the most effective integration of just-in-time microlearning occurs within organizational settings where learning is embedded into day-to-day work. Operationalizing learning in the flow of work within organizations also poses many challenges, requiring significant investment, continuous development culture, and robust data infrastructure and analytics (McKenna, 2023; Mikalef & Gupta, 2021). However, there is an opportunity for the creators of disrupting technologies to build AI-enabled, just-in-time microlearning into their products, which could accelerate learning and adoption. This would enable individuals both within the formal and informal economies to have access to seamless, personalized self-teaching experiences rather than having to search for additional resources while learning new technologies.

Conclusion

Although the authors discuss practical ways to support greater person-centric learning, AI-powered, just-in-time microlearning can be leveraged as an additional tool to provide inclusive, contextual learning experiences. Adopting a person-centered perspective on workplace learning starts with framing training within the context of experience design, which is fostered through integrating intuitive learning within individuals' experiences at work (Bersin, 2017). Integrating AI into learning can also transform data-driven strategy for developing both traditional and nontraditional workers. Although it is not a complete solution, using AI to place learning in the flow of work can support a holistic learning strategy and drive a shift toward learner-centric design thinking.

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