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Wednesday, April 17, 2024

2:30 to 4:00pm

CREATE for STEM Institute, 115 Erickson Hall

https://msu.zoom.us/webinar/register/WN_DTOnJPg0QIazshruZUAgrg

Studying self-regulated learning as a complex system

Dr. Elizabeth B. Cloude

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Presentation abstract:

In this presentation, I will dive into the study of self-regulated learning (SRL) as a complex system with digital learning environments. At the heart of this work, I examine the synergistic interactions among cognitive, affective, metacognitive, and motivational (CAMM) processes over time, and through these interactions, the emergence of SRL behaviors conducive to learning. Utilizing an interdisciplinary perspective that merges complex systems theory with SRL theory, my work leverages artificial intelligence (AI) and multimodal data (e.g., eye tracking, facial expressions, log files, heart rate variability) to probe CAMM interactions and dynamics with diverse learning software (e.g., game-based learning environments, open-ended learning environments, multimedia, intelligent tutoring systems).

Key findings from two studies will be discussed. The first paper will highlight the interplay between cognition and affective dynamics during game-based learning. The second paper will demonstrate how modeling emotions as a nonlinear dynamical system, emphasizing the synchrony between two data channels, effects on learning and knowledge. Finally, I will discuss my future research vision which aspires to investigate SRL more profoundly, exploring CAMM interactions among varying levels and complex ecosystems, including individual learners, teams of learners, learner-instructor dyads, and human-AI collaboration.

Biography:

Elizabeth B. Cloude is a recipient of the Marie Skłodowska-Curie Postdoctoral Fellowship funded by the European Union and is affiliated with the Faculty of Education and Culture and Gamification Group at Tampere University in Finland. Elizabeth's research specializes in studying self-regulated learning as a non-linear dynamical system with emerging technologies. Her focus is on collecting, processing, and analyzing multimodal data (e.g., eye movements, log files, physiology, concurrent verbalizations, facial expressions of emotions) to study the complex nature of learning and emotions across activities to build adaptive, intelligent systems. She was previously a postdoctoral scholar within the Penn Center for Learning Analytics at the University of Pennsylvania and holds a Ph.D. from the University of Central Florida. Elizabeth has contributed to various peer-reviewed publications, including the Cognitive Science Society, International Conference on Artificial Intelligence in Education, International Conference on Learning Analytics and Knowledge Conference, European Association for Research on Learning and Instruction, and IEEE Transactions on Affective Computing.

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