Examining the Special Affordances of Robotics for Enabling Computational Thinking in Collaborative Learning Settings

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13:30 – 14:45
Room 205, Runme Shaw Building, HKU
Chair: Dr Gary Wong

Abstract:

The activity of learning robotics unfolds in a multi-dimensional problem space that presents both two-dimensional and three-dimensional representations with which students may reason. This multi-dimensionality affords specific types of learning interactions that are particularly efficacious for novice and younger learners working collaboratively. Drawing on over 10 years of research, Dr. Sullivan will present findings from her research into how middle school students (ages 10-14) learn while engaged with robotics activity from cognitive, social, and affective lenses. This presentation will provide insight related to how problem-solving discussions derived from multi-dimensional interaction support student debugging, algorithmic development, and systems understanding. Dr. Sullivan will also discuss how the physical and mobile nature of the robotics device itself, motivates playful engagement with the activity, further supporting collaborative interactions and student development of computational thinking.

About the speaker:

Dr. Florence R. Sullivan is a Professor of Learning Technology and Chair of the Teacher Education and Curriculum Studies department in the College of Education at the University of Massachusetts, Amherst. She is the author of Creativity, Technology, and Learning: Theory for Classroom Practice, published by Routledge Press in 2017. Dr. Sullivan currently serves as Chair of the American Educational Research Association's Special Interest Group on Technology as an Agent of Change in Teaching and Learning and is an associate editor for the interdisciplinary journal ACM Transactions on Computing Education. Her research focuses on middle school (ages 11-14) student's collaborative learning with constructionist-based, computational media including LEGO robotics and Scratch. She has published over 30 papers on this topic in the last 10 years.

~ All are welcome ~
For enquiries, please contact the Office of Research at 3917 8254.