

Cultivating Research for Engaging Advanced Technology in Education (CREATE)

At CREATE, a multidisciplinary team of researchers collaborate to explore effective ways to design state of the art embodied technologies (e.g., virtual agents and robots) for enhanced learning and development.

Grounded in sociocultural theories and human/computer interaction research, CREATE uses anthropomorphism and embodiment to create social and interactive contexts that are inclusive for all learners. Research to date has shown that simulated social relations and social interactions could mediate learners' confidence and willingness to tackle challenging tasks and thereby encourage their mindful engagement in the tasks. Also, we've found that culturally and linguistically diverse groups of learners benefit greatly when they are assisted by digital embodied tutors or peers.



The Affable Reading Tutor (ART) project is aimed at developing and obtaining evidence of potential efficacy of computer-based strategy instruction for children in grades 4 through 5 who start “reading to comprehend.” Given the positive impact of reciprocal peer tutoring in classrooms, this environment will include digital human-like characters (PALs, Pedagogical Agents as Learning companions) designed as simulated peers.

As a simulated peer tutor, a PAL is designed to demonstrate or model the use of metacognitive strategies for effectively comprehending expository texts and to scaffold the strategy use of a learner. By providing interactive scaffolding, the PAL may reduce the learner's cognitive load.

Also, the learner can practice strategy use by teaching a less competent PAL, which may motivate the learner to be engaged in the task, help enhance the learners' self-efficacy beliefs, and facilitate the learner to make use of the learned strategies with desirable frequency