

Erin Walker

Human-Computer Interaction Institute
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Research Interests

Intelligent Tutoring Systems, Computer-Supported Collaborative Learning, Cultural Learning, Ill-Defined Domains

Education

Ph.D. Human-Computer Interaction. Carnegie Mellon University.
Expected Spring, 2010. Advisor: Kenneth R. Koedinger.

B.C.Sc. (Honours). Computer Science and Psychology. University of Manitoba.
May, 2004.

Professional Experience

Graduate Research Assistant, Carnegie Mellon University, 2004-

Developed intelligent tutoring support for peer tutoring in algebra. Designed and implemented tutoring interventions, and evaluated them in classroom studies.
Advisor: Kenneth R. Koedinger, Human Computer Interaction Institute

Visiting Research Assistant, University of Southern California, Summer 2007

Designed and implemented educational scaffolding for bilateral multi-issue negotiation, including preliminary intelligent tutoring support.
Advisor: Jonathan Gratch, Institute for Creative Technologies

Undergraduate Research Assistant, University of Manitoba, 2003-2004

Examined people's perceived and actual signals in computer-mediated and face-to-face communication. Designed and ran study, conducted data analysis.
Advisor: Jacquie Vorauer, Psychology Department

Undergraduate Research Assistant, University of Manitoba, 2003-2004

Designed and implemented a planning system that explored two different methods of knowledge representation: inheritance hierarchies and plan decomposition.
Advisor: Christel Kemke, Computer Science Department

Undergraduate Research Assistant, University of Manitoba, Summer 2003

Investigated the NP-complete problem of finding a mobile intruder in a polygon.
Advisor: Helen Cameron, Computer Science Department

Teaching Experience

Teaching Assistant, Carnegie Mellon University, Fall 2006

Software Architecture for User Interfaces.

Lead class discussion, helped students with homework, graded assignments.

Professor: Jason Hong, Human Computer Interaction Institute

Publications

Refereed Journal Articles

Harrer, A., McLaren, B. M., Walker, E., Bollen, L., and Sewall, J. (2006). Creating Cognitive Tutors for Collaborative Learning: Steps Toward Realization. *User Modeling and User-Adapted Interaction*, 16 (3-4), 175-209.

Refereed Full Papers

Walker, E., McLaren, B. M., Rummel, N., and Koedinger, K. R. Who Says Three's a Crowd? Using a Cognitive Tutor to Support Peer Tutoring. To appear in the *Proceedings of the 13th International Conference on Artificial Intelligence and Education*. 2007.

Walker, E., Koedinger, K. R., McLaren, B. M. and Rummel, N. Cognitive Tutors as Research Platforms: Extending an Established Tutoring System for Collaborative and Metacognitive Experimentation. In the *Proceedings of the 8th International Conference on Intelligent Tutoring Systems*, Jhongli, Taiwan, June 26-30, 2006.

Harrer, A., McLaren, B. M., Walker, E., Bollen, L., and Sewall, J. Collaboration and Cognitive Tutoring: Integration, Empirical Results, and Future Directions. In the *Proceedings of the 12th International Conference on Artificial Intelligence and Education*, Amsterdam, the Netherlands, July 2005.

McLaren, B. M., Bollen, L., Walker, E., Harrer, A., and Sewall, J. Cognitive Tutoring of Collaboration: Developmental and Empirical Steps Toward Realization. In the *Proceedings of the Conference on Computer Supported Collaborative Learning*, Taipei, Taiwan in May/June 2005.

Refereed Short Papers and Workshop Papers

Walker, E., Rummel, N., McLaren, B. M. & Koedinger, K. R. The Student Becomes the Master: Integrating Peer Tutoring with Cognitive Tutoring. Short paper at the *Conference on Computer Supported Collaborative Learning (CSCL-07)*. Rutgers University, July 16-21, 2007.

Walker, E., and Ogan, A. Peer Moderation in Culural Discussion Forums. Accepted for presentation at *EUROCALL*. 2007.

Walker, E., Ogan, A., and Wylie, R. A Tense Situation: Applying Cognitive Tutor Methodology to Ill-Defined Domains. Accepted for presentation at *EUROCALL*. 2006.

Ogan, A., Wylie, R., and Walker, E. Defining the ill-defined: Modeling student behavior in making aspectual distinctions. Accepted as a Student Track Paper at the 8th *International Conference on Intelligent Tutoring Systems*, 2006.

Ogan, A., Wylie, R., and Walker, E. The challenges in adapting traditional techniques for modeling student behaviors in ill-defined domains. Accepted at the Workshop for Ill-Defined Domains at the 8th *International Conference on Intelligent Tutoring Systems*, 2006.

Rummel, N., Diziol, D., Spada, H., McLaren, B., Walker, E. & Koedinger, K. (2006). Flexible support for collaborative learning in the context of the Algebra I Cognitive Tutor. Workshop paper presented at the Seventh International Conference of the Learning Sciences (ICLS 2006). Bloomington, IN, USA.

Walker, E. Mutual Peer Tutoring: A Collaborative Addition to the Cognitive Tutor Algebra-1. Accepted as a Young Researcher's Track paper at the *International Conference on Artificial Intelligence and Education (AIED-05)*.

Awards

Best Young Researcher Paper.

International Conference on Artificial Intelligence and Education. 2005.

Laureates of the Canadian Psychological Association.

Certificate of Academic Excellence. 2004.