

# Aditi Kothiyal

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Research Scholar,  
Interdisciplinary program in Educational Technology,  
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## 1. Education

- Ph.D. Educational Technology, Indian Institute of Technology, Bombay, Mumbai, India (*ongoing*)
- M.S. Electrical Engineering, The Ohio State University, Columbus, USA: 2001-2004
- B.E. Electronics and Communications Engineering, College of Engineering, Guindy, Anna University, India: 1997-2001

## 2. Awards

- The Ohio State University Fellowship (September 2001 - August 2002)
- The Anna University Gold Medal for highest GPA in the first semester (1999)
- The Anna University Alumni Association Award for highest GPA in the first year (1999)

## 3. Employment

- Research Associate, Interdisciplinary program in Educational Technology, Indian Institute of Technology, Bombay, Mumbai, India: March 2012-July 2013.  
*Investigating teaching-learning strategies for ill-structured problem solving in engineering, with emphasis on engineering estimation*
- Graduate Research Assistant, Department of Electrical and Computer Engineering, The Ohio State University: April 2002 - December 2006
- Graduate Teaching Associate, Department of Electrical and Computer Engineering, The Ohio State University: September 2002 - June 2006

## 4. Publications

- Kothiyal, A., Murthy, S. & Chandrasekharan, S. (2016). "Hearts Pump and Hearts Beat": Engineering Estimation as a form of model-based reasoning. In The 12th International Conference of the Learning Sciences ICLS 2016, The International Society of the Learning Sciences
- Kothiyal, A. & Murthy, S. (2015). "'Exploring Student Difficulties in Divide and Conquer Skill with a Mapping Tool", In The 23rd International Conference on Computers in Education: Workshop Proceedings (pp. 271-276). Asia-Pacific Society for Computers in Education
- Kothiyal, A. (2015) Supporting Engineering Students' Estimation Skill using a Collaborative Digital Learning Environment. In The 11th International Conference on Computer Supported Collaborative Learning CSCL 2015, vol. 2, pp. 949-951, The International Society of the Learning Sciences
- Kothiyal, A., Rajendran, B., & S. Murthy. (2015) Delayed Guidance: A teaching-learning strategy to develop ill-structured problem solving skills in engineering. In *Learning and Teaching in Computing and Engineering (LaTiCE), 2015 International Conference on*. IEEE.

- Kothiyal, A., Majumdar, R., Pande, P., Agrawal, H., Ranka, A., & Chandrasekharan, S. (2014). How does representational competence develop? Explorations using a fully controllable interface and eye-tracking. In *The 22nd International Conference on Computers in Education: Workshop Proceedings* (pp.738-743). Asia-Pacific Society for Computers in Education
- Majumdar, R., Kothiyal, A., Ranka, A., Pande, P., Murthy, S., Agarwal, H., & Chandrasekharan, S. (2014, December). The enactive equation: Exploring how multiple external representations are integrated, using a fully controllable interface and eye-tracking. In *Technology for Education (T4E), 2014 IEEE Sixth International Conference on* (pp. 233-240). IEEE.
- Kothiyal, A., Murthy, S., & Iyer, S. (2014, June). Think-pair-share in a large CS1 class: does learning really happen?. In *Proceedings of the 2014 conference on Innovation & technology in computer science education* (pp. 51-56). ACM.
- Kothiyal, A., Majumdar, R., Murthy, S., & Iyer, S. (2013, August). Effect of Think-Pair-Share in a large CS1 class: 83% sustained engagement. In *Proceedings of the ninth annual international ACM conference on International computing education research* (pp. 137-144). ACM.
- Kothiyal, A., (2014) Notes on problem solving: A literature review of problem-solving, with emphasis on ill-structured, engineering and estimation problems. *Technical report (TR-ET-002-2014)*, Indian Institute of Technology, Bombay.
- Anand, A., Kothiyal, A., Rajendran, B., & Murthy, S. (2014, December). Guided Problem Solving and Group Programming: A Technology-Enhanced Teaching-Learning Strategy for Engineering Problem Solving. In *Technology for Education (T4E), 2014 IEEE Sixth International Conference on* (pp. 126-133). IEEE.
- Thota, N., Anand, A., Kothiyal, A., Diwakar, A., Kenkre, A., Deep, A., Reddy, D., ... & Pal, Y. (2014, December). Designing Engineering Curricula Based on Phenomenographic Results: Relating Theory to Practice. In *Technology for Education (T4E), 2014 IEEE Sixth International Conference on* (pp. 80-87). IEEE.
- Majumdar, R., & Kothiyal, A. (2013, December). PULSE: A Framework for Protocol Based Utility to Log Student Engagement. In *Technology for Education (T4E), 2013 IEEE Fifth International Conference on* (pp. 159-162). IEEE.

## 5. Methods

Experimental studies, Qualitative Studies (Grounded theory, Structured observations, Content analysis), Eye-tracking

## 6. Courses

- Introduction to Educational Technology
- Research Methods in Education
- Computer Aided Applied Statistics
- Intelligent Tutoring Systems
- Advanced Topics in Cognition
- Educational Tools Lab
- Educational Game Design
- Knowledge Structures and Learning System Design

## 7. Mentoring

- Electrical Engineering faculty – 1  
*Mentored in conducting an Educational Technology research study at her college and writing a paper based on it*
- Educational Technology PhD student – 1

*Mentored in planning and executing his course project for the Research Methods class and writing a paper based on it*

8. Service

Reviewer for conferences: T4E 2013, T4E 2014, T4E 2015, LaTiCE 2014, ITiCSE 2014, ICCE 2014, AIED 2015, Cognitive Science Society 2015, ISCLE 2015, Episteme 2015, ICALT 2016