Curriculum Vitae Frederick Peck

Freudenthal Institute US, School of Education, University of Colorado 249 UCB, Boulder CO, 80309

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Education

PhD	2011-Present	University of Colorado Curriculum and instruction: Math education Advisor: David Webb Anticipated graduation: May 2016
MA	2004-2006	University of Colorado Curriculum and instruction: Math education Teacher licensure: Secondary mathematics
PhD Student	2002-2004	University of Michigan Human Computer Interaction Advisor: Suresh Bhavnani
ВА	1997-2001	Carnegie Mellon University Business administration: Information technology

Research experience

2011-present	Principal Investigator, "Rise over run or rate of change: Exploring and expanding student understandings of slope in Algebra I" Design experiment to study the ways in which cognition gets distributed in math classrooms, with a content focus on slope
2013-Present	Graduate research assistant, "Engineering pathways" Faculty Director: Kevin O'Connor Ethnographic study of students in the college of engineering

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2013-Present Graduate research assistant, "Measuring student growth using student

learning objectives"

Faculty Director: Derek Briggs

Collaboration with teachers to explore how measurements of student growth can be made more meaningful for teachers while still fulfilling accountability requirements

2002-2004 Graduate research assistant

Faculty advisor: Suresh Bhavnani

Teaching and facilitation experience

University courses

2013-present Instructor, University of Colorado

Summer quantitative course for incoming PhD students in the school of education

2002-2004 Graduate student instructor, University of Michigan

High School Mathematics

2006-2012 Math teacher, Centaurus High School, Lafayette CO

Taught Algebra I, Math workshop, AP calculus AB, IB math HL, IB math SL

Professional development for teachers

Feb 2014 Facilitator, Math on the "planes" conference

"Using mathematical models to do and learn mathematics"

2013-present Facilitator, Denver Public Schools and University of Colorado

The assessment triangle and Student Learning Objectives

June 2013 Facilitator, Math on the "planes" summer bootcamp

"The five faces of fractions and rational numbers"

Grants

2008-2010 \$65,000 "Double-dose of mathematics for struggling learners"

Three year grant awarded by Impact on Education

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Publications

Journal publications

- Migozuchi, T., **Peck, F.A.**, & Matassa, M. (2013). Developing robust understandings of slope. *Elementary mathematics teaching today, 511* (Journal published in Japan). 31-32.
- Bhavnani, S.K., and **Peck**, **F.A.** (2010). Scatter Matters: Regularities and Implications for the Scatter of Healthcare Information on the Web. *Journal of the American Society for Information Science and Technology* 61,4, 659–676.
- Bhavnani, S.K., **Peck**, **F.A.**, and Reif, F. (2008). Strategy-Based Instruction: Lessons Learned in Teaching the Effective and Efficient Use of Computer Applications. *ACM Transactions on Computer-Human Interaction* 15, 1, 2:1-2:43.
- Bhavnani, S.K., Bichakjian, C.K., Johnson, T.M., Little, R.J., **Peck, F.A.**, Schwartz, J.L., and Strecher, V.J. (2006). Strategy Hubs: Domain Portals to Help Find Comprehensive Information. *Journal of the American Society for Information Science and Technology* 57, 1, 4-24.

Work submitted for journal publication

- **Peck, F.A.** & Matassa M. (in review). The power of preformal productions: A case study involving fractions.
- Briggs, D and **Peck**, **F.**A. (in review). Using learning progressions to design vertical scales that support coherent inferences about student growth

Refereed conference presentations and proceedings

- **Peck, F.A.** (2013). How does reinvention get distributed? *Presented at the Fourth International RME Conference (RME 4)* Boulder CO
- Peck, F.A. (2013). Beyond rise-over-run: Contexts, representations, and a learning trajectory for slope. *Presented at the fourth international RME conference (RME 4)*. Boulder CO
- **Peck, F.A.** (2013). "I think it's a hundred and fifteen dollars": How mathematical activity and the social setting are mutually informing and co-constitutive. *Poster presented at the 2013 NCTM research conference*. Denver, CO
- **Peck, F.A.** & Matassa M. (2012). Ratio and rate: Towards a unified framework. *Poster presented at the 12th International Conference on Mathematics Education (ICME 12)* Seoul, Korea
- Matassa, M. & Peck, F.A. (2012). Rise over run or rate of change? Exploring and expanding student understanding of slope in Algebra I. *Proceedings of the 12th International Congress on Mathematics Education*. Seoul, Korea. 7440-7445.

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- Peck, F.A., and Moeller, J. Length times width equals area and line times line equals parabola: Incorporating two RME models into a cohesive learning trajectory for quadratic functions. Presented at the third international RME conference (RME 3). Boulder CO
- **Peck, F.A.,** and Moeller, J. From informal models to formal algebra: Using technology to facilitate progressive formalization in Algebra I. *Presented at the Regional Meeting of the National Council of Teachers of Mathematics*. Denver, CO
- Bhavnani, S.K., and **Peck**, **F.A.** (2006). Towards a Model of Information Scatter: Implications for Search and Design. *Proceedings of ASIST'2006*.
- **Peck, F.A.**, Bhavnani, S.K., Blackmon, M.H., and Radev, D.R. (2004). Exploring the use of natural language systems for fact identification: Towards the automatic construction of healthcare portals. *Proceedings of ASIST'2004*, 327-338.
- Bhavnani, S.K., Bichakjian, C.K., Johnson, T.M., Little, R.J., **Peck, F.A.**, Schwartz, J.L., and Strecher, V.J. (2003). Strategy Hubs: Next-Generation Domain Portals with Search Procedures. *Proceedings of CHI'03*, 393-400.
- Bhavnani, S.K., Jacob, R.T., Nardine, J., and **Peck, F.A.** (2003). Exploring the Distribution of Online Healthcare Information. *Proceedings of CHI'03*, 816-817.

Awards and fellowships

2011 – 2013 Chancellor's fellow, University of Colorado

Service and outreach

2013 – Present	Advisory board for PhET interactive simulations, University of Colorado	
2013 - Present	Student ambassador for the C&I Math/Science doctoral program	
2012 – Present	Reviewer for: • Journal for Research in Mathematics Education (JRME); • Realistic Mathematics Education conference (RME); • International Conference on the Learning Sciences (ICLS); • National Council of Teachers of Mathematics research conference	
2007-2012	Boulder Valley School District Curriculum Coordinating Council	
2006-2012	Boulder Valley School District Mathematics Curriculum Council	