



## Publications

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Kuo, E., Hallinen, N.R., & Conlin, L.D. (in press). When procedures discourage insight: Epistemological consequences of prompting novice physics students to construct force diagrams. *International Journal of Science Education*.

## Manuscripts in Preparation

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Hallinen, N.R., Blair, K.P., & Schwartz, D.L. Simple thinking sticks: Why simplifying examples can lead to negative transfer.

Hallinen, N.R. & Booth, J.L. Does solving for X help you solve in context? Investigating student thinking on story problems with algebraic proportions.

Hallinen, N.R. & Schwartz, D.L. Inventing a solution buffers against negative transfer.

Hallinen, N.R. The importance of non-examples in category learning.

Black, C.J., Hildebrand, L.E., Hallinen, N.R., & Gunderson, E.A. More is not always better: High working memory hinders performance on an approximate symbolic calculation task.

## Presentations and Proceedings

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Kaser, T., **Hallinen, N.R.**, & Schwartz, D.L. (2017, March). Modeling exploration strategies to predict student performance within a learning environment and beyond. In *Proceedings of the Seventh International Learning Analytics & Knowledge Conference*, pp. 31-40.

Kuo, E., **Hallinen, N. R.**, & Conlin, L. D. (2015, July). How prompting force diagrams discourages student use of adaptive problem-solving shortcuts. In A. D. Churukian, D. L. Jones, L. Ding (Eds.), *2015 Physics Education Research Conference Proceedings*, College Park, MD, July 29-30, 2015, pp. 183-186.

Blair, K., Pfaffman, J., Cutumisu, M., **Hallinen, N.**, & Schwartz, D. (2015, April). Testing the effectiveness of an iPad math game. In *Proceedings of the 33<sup>rd</sup> Annual ACM Conference Extended Abstracts on Human Factors in Computing Systems*, pp. 727-734.

**Hallinen, N.R.**, Baldinger, E., & Selling, S.K. (2014, July). The role of examples and nonexamples in defining. In Liljedahl, P., Nicol, C., & Allan, D. (Eds.) *Proceedings of the 38<sup>th</sup> Conference of the International Group for the Psychology of Math Education and the 36<sup>th</sup> Conference of the North American Chapter of the Psychology of Mathematics Education*, Vancouver, Canada.

**Hallinen, N.R.**, Blair, K.P., Chin, D.B., & Schwartz, D.L. (2014, June). Combining generation and direct instruction to prepare students to transfer big ideas across school topics. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, L. (Eds.). *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS)*, Boulder, CO.

Conlin, L., **Hallinen, N.R.**, & Schwartz, D.L. (2014, June). Supporting middle schoolers' use of inquiry strategies for discovering multivariate relations in interactive physics simulations. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurow, A. S., O'Connor, K., Lee, T., and D'Amico, L. (Eds.). *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS)*, Boulder, CO.

- Hallinen, N.R.** (2013, November). Supporting inductive learning to reduce overgeneralization. In Martinez, M. & Castro Superfine, A. (Eds.), *Proceedings of the 35<sup>th</sup> Annual Meeting of the North American Chapter of the International Group for the Psychology of Math Education*, Chicago, IL.
- Hallinen, N.R.**, Blair, K.P., Tsang, J.M., & Schwartz, D.L. (2013, May). I have a hammer. Is that a nail? Inducing mathematical structure to reduce negative transfer. *Annual Meeting of the American Educational Research Association*, San Francisco, CA.
- Blair, K.P., Tsang, J. T., **Hallinen, N.**, Rosenberg-Lee, M., Menon, V., & Schwartz, D. L. (2013, May). Extending natural number understanding to the integers: Cross-disciplinary research in education, neuroscience, and cognitive science. *Annual Meeting of the American Educational Research Association*, San Francisco, CA.
- Hallinen, N.R.**, Chi, M., Chin, D.B., Prempeh, J., Blair, K.P. & Schwartz, D.L. (2012, August). Applying cognitive developmental psychology to middle school physics learning: The rule assessment method. *Proceedings of the Physics Education Research Conference*, Philadelphia, PA.
- Hallinen, N.**, Walker, E., Wylie, R., Ogan, A., & Jones, C. (2009, July). I was playing when I Learned: A narrative game for French aspectual distinctions. *Proceedings of Workshop on Intelligent Educational Games, 14<sup>th</sup> International Conference on Artificial Intelligence in Education*. Brighton, UK, 117-120.
- Hallinen, N.R.** (2008, November). Effective, interesting, useful? An evaluation of the Carnegie Mellon Online Writing Tutor. *Association for the Advancement of Computer Education (AACE) E-Learn World Conference on E-Learning*, Las Vegas, NV.

### Poster Presentations

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- Black, C., **Hallinen, N.R.**, & Gunderson, E.A. (2017, April). High working memory hinders initial performance on approximate symbolic calculation, but practice leads to a strategy shift. Poster session to be presented at the *Society for Research in Child Development*, Austin, TX.
- Hamdan, N., Ham, L., **Hallinen, N.R.**, & Gunderson, E.A. (2017, April). Linear measurement skill mediates the relation between mental transformation and number line estimation in young children. Poster session to be presented at the *Society for Research in Child Development*, Austin, TX.
- Hallinen, N.R.** & Booth, J.L. (2016, December). Does solving for X help you solve in context? Investigating component skills that contribute to word problem solving performance in algebra. Poster session presented at the *IES PI Meeting*, Washington, DC.
- Hallinen, N.R.** & Schwartz, D.L. (2016, November). Knowing When It No Longer Works: One benefit of inducing a solution. Poster session presented at the *Annual Meeting of the Psychonomic Society*, Boston, MA.
- Hallinen, N.R.**, Newcombe, N.S., & Dziembowski, Z. (2016, July). Drawing attention: Do sketching and problem-solving frameworks support student thinking? Poster session presented at the *Physics Education Research Conference*, Sacramento, CA.

**Hallinen, N.R.** (2016, April). Examples and mathematics: How to design physics materials for learning and transfer. Invited poster session presented at the 2016 *Annual Meeting of the American Educational Research Association*, Washington, DC.

**Hallinen, N.R.,** Cheng, J., Chi, M., & Schwartz, D.L. (2014, June). Tug of War – What is it good for? Measuring student inquiry choices in an online science game. In Polman, J. L., Kyza, E. A., O'Neill, D. K., Tabak, I., Penuel, W. R., Jurrow, A. S., O'Connor, K., Lee, T., and D'Amico, L. (Eds.). *Learning and becoming in practice: The International Conference of the Learning Sciences (ICLS)*, Boulder, CO.

Chi, M., Chin, D.B., **Hallinen, N.R.,** & Schwartz, D.L. (2012, August). A comparison of two instructional models using contrasting cases. Poster session presented at the *Physics Education Research Conference*, Philadelphia, PA.

**Hallinen, N.,** Semmens, R., Dohmen, I., Chin, D.B., & Chase, C. (2012, April). Express yourself: Math learning in the context of communication. Poster session presented at the *Annual Meeting of the American Educational Research Association*. Vancouver, Canada.

Dohmen, I.M., **Hallinen, N.R.,** Schwartz, D.L., Chase, C.C., Chin, D.B., Semmens, R., & Shemwell, J.T. (2011, March). Communicating through math and measurement. Poster session presented at the *Annual inter-Science of Learning Conference*, Washington, DC.

**Hallinen, N.R.** (2010, December). Does negative integer instruction transfer to negative rational numbers? Poster session presented at *Stanford Psychological Studies in Education Student Poster Session*, Stanford, CA.

## Book Chapter

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Hayes, J.R., Bajzek, D.M., Brooks, J., Reyes, B., **Hallinen, N.,** & Steinberg, E.R. (2007). Developing an online writing tutor to improve technical-writing skills in engineering and science students. In G. Rijlaarsdam (Series Ed.) and D. Alamargot, P. Terrier, & J.-M. Cellier (Vol Eds.), *Studies in Writing*, Vol. 21, *Written Documents in the Workplace*, 107-123.

## Awards & Grants

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| Cisco Systems Stanford Graduate Fellowship (SGF)       |              |
| <i>3 years of graduate tuition support and stipend</i> |              |
| Gretchen Goldsmith Lankford Teaching Award             | \$2,500      |
| Andrew Carnegie Society Scholar                        | \$2,000      |
| CMU Undergraduate Presentation Travel Award            | \$250        |
| CMU Small Undergraduate Research Grants                | \$300, \$370 |
| Vira I. Heinz Scholarship for Global Leadership        | \$5,000      |

## Teaching Experience

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### San Jose State University Laurie College of Education

2015      Instructor: Research Methods in Child Development  
 2013      Instructor: Research Methods in Child Development

### Stanford University Graduate School of Education

2015      Teaching Assistant: Core Mechanics for Learning  
 2014      Teaching Assistant: Core Mechanics for Learning

2012 Teaching Assistant: Induction, Proof, Discovery, & Statistics

**Carnegie Mellon Dietrich College of Humanities and Social Sciences**

2009 Teaching Assistant: Introduction to Psychology

2009 Writing Assistant: Intermediate French II

2008 Writing Assistant: Intermediate French II

**Academic Service**

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**Ad-hoc Reviewer**

Cognitive Research: Principles and Implications  
Journal of Experimental Psychology: Applied  
Journal of Research on Educational Effectiveness  
Mathematical Thinking and Learning  
Physical Review: Physics Education Research

**Conference Reviewer and Session Chair**

American Educational Research Association (AERA)  
Psychology of Math Education (PME)  
Physics Education Research Conference (PERC)

**Mentorship**

Temple Undergraduate Research Mentor (Lauren Sprague & Dominique Losen)  
Consultant and mentor, Nomster Chef (Ashley Moulton, Stanford LDT MA student)  
Stanford Pre-Education Society Mentor (Vivian Chen, undergrad & LDT MA student)  
CMU Resident Advisor, Sexual Assault Advisor, & Safezone Trained LGBTQ Ally

**Committee Membership**

Stanford GSE Behavioral Neuroscience Faculty Search Committee (student representative)  
CMU Global Education Working Group (student representative)  
CMU Science and Humanities Scholars Student Advisory Council  
CMU Modern Languages Student Advisory Council

**Community Outreach**

Presenter, Franklin Institute Science After Dark

**Additional Experience with K-12 Students**

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Senior Class Program Director, Minds Matter of Philadelphia  
Child Life Volunteer, Children's Hospital of Pittsburgh  
English as a Second Language and French Classroom Tutor, Allderdice High School  
Assistant Teacher, 4 year-old class, CMU Children's School (Psychology Dept. Lab School)  
Summer Camp Counselor, 7-9 year-olds, Chatham College Music & Arts Day Camp

**Professional Societies**

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American Association of Physics Teachers  
American Educational Research Association  
International Society of the Learning Sciences  
Psychology of Math Education (PME) – North America Chapter  
Phi Beta Kappa Society  
Psi Chi Psychology Honor Society