J. Elizabeth Richey

Curriculum Vitae (March 2023)

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EDUCATION

2015   Ph.D., Cognitive Psychology, University of Pittsburgh
2011   M.S., Cognitive Psychology, University of Pittsburgh
2006   B.S., B.A., Psychology, English Writing, Religious Studies, Minor in French
University of Pittsburgh, *Summa Cum Laude*

PROFESSIONAL EXPERIENCE

University of Pittsburgh
2022-Present Instructor, Psychology Department

2021-2022   Visiting Lecturer, Psychology Department

Carnegie Mellon University
2019-2021   Project Scientist, Human-Computer Interaction Institute
PIs: Bruce McLaren, Kenneth Koedinger
2018-2019   Postdoctoral Fellow, Human-Computer Interaction Institute
PI: Bruce McLaren

University of Maryland Robert H. Smith School of Business
2017-2018   Instructional Consultant, Office of Transformational Learning

Miami University
2015-2017   Assistant Professor, Department of Educational Psychology

University of Pittsburgh
2009-2015   Graduate Student Researcher
PIs: Timothy Nokes-Malach, Christian Schunn
2006-2009   Marketing Coordinator, Institute for Entrepreneurial Excellence

HONORS

2018   University of Pittsburgh Department of Athletics Most Valuable Professor (MVP)
2016   Miami University Alumni Teaching Scholar
2013   Dr. Ruth L. Myers Mentoring Excellence Award, University of Pittsburgh
2011   Honorable Mention, NSF Graduate Research Fellowship
2006   Phi Beta Kappa, University of Pittsburgh
2001   Chancellor's Scholarship, University of Pittsburgh

RESEARCH INTERESTS

Learning, instruction, transfer, belonging, motivation, metacognition, collaboration, achievement goals, example-based learning, analogical reasoning, explanation

JOURNAL PUBLICATIONs

1) Huang, Y., Dang, S., **Richey, J. E.**, Chhabra, P., Thomas, D. R., Asher, M., Lobczowski, N. G., Mclaughlin, E., Harackiewicz, J. M., Aleven, V., Koedinger, K. (accepted). Using latent variable models to make gaming-the-system detection robust to context variations. *User Modeling and User-Adapted Interaction*.

2) Nguyen, H. A., Hou, X., **Richey, J. E.**, & McLaren, B. M. (2022). The impact of gender in learning with games: A consistent effect in a math learning game. *International Journal of Game-Based Learning, 12*(1), 1-29.

3) Hou, X.; Nguyen, H. A., **Richey, J. E.**, Harpstead, E., Hammer, J. & McLaren, B. M. (2022). Assessing the Effects of Open Models of Learning and Enjoyment in a Digital Learning Game. *International Journal of Artificial Intelligence in Education, 32*(1), 120-150.

4) McLaren, B. M., **Richey, J. E.,** Nguyen, H. A., & Hou, X. (2022). How instructional context can impact learning with educational technology: Lessons from a study with a digital learning game. *Computers & Education, 178*, 104366.

5) **Richey, J. E.,** Andres-Bray, M., Mogessie, M., Scruggs, R., Andres, J. M. A. L., Star, J. R., Baker, R. S., & McLaren, B. (2019). More confusion and frustration, better learning: The impacts of erroneous examples. *Computers & Education, 139*, 173-190. doi:10.1016/j.compedu.2019.05.012

6) **Richey, J. E**., Bernacki, M. L., Belenky, D. M., & Nokes-Malach, T. J. (2018). Comparing class- and task-level measures of achievement goals. *The Journal of Experimental Education, 86*(4), 560-578. doi:10.1080/00220973.2017.1386155

7) **Richey, J. E.,** Nokes-Malach, T. J., & Cohen, K. (2018). Collaboration facilitates abstract category learning. *Memory and Cognition, 46*(5), 685-698. doi:10.3758/s13421-018-0795-7

8) Bernacki, M. L., Nokes-Malach, T. J., **Richey, J. E.**, & Belenky, D. M. (2016). Science diaries: a brief writing intervention to improve motivation to learn science. *Educational Psychology, 36*(1), 26-46. doi: 10.1080/01443410.2014.895293

9) Nokes-Malach, T. J., **Richey, J. E.**, & Gadgil, S. (2015). When is it better to learn together? Insights from research on collaborative learning. *Educational Psychology Review, 27*(4), 645-656. doi: 10.1007/s10648-015-9312-8.

10) Zepeda, C. D., **Richey, J. E.**, Ronevich, P., & Nokes-Malach, T. J. (2015). Direct instruction of metacognition benefits adolescent science learning, transfer, and motivation: An in-vivo study. *Journal of Educational Psychology, 107*(4), 954-970. doi: 10.1037/edu0000022.

11) **Richey, J. E.** & Nokes-Malach, T. J. (2015). Comparing four instructional techniques for promoting robust knowledge. *Educational Psychology Review, 27*, 181-218. doi: 10.1007/s10648-014-9268-0.

12) **Richey, J. E.**, Phillips, J. L., Schunn, C. D., & Schneider, W. (2014). Is the link from working memory to analogy causal? No improvement following working memory gains with training. *PLOS ONE.* 9(9): e106616. doi: 10.1371/journal.pone.0106616.

13) **Richey, J. E.** & Nokes-Malach, T. J. (2013). How much is too much? Learning and motivation effects of adding instructional explanations to worked examples. *Learning and Instruction, 25*, 104-124. doi: 10.1016/j.learninstruc.2012.11.006

CONFERENCE PUBLICATIONS (Peer Reviewed)
*Undergraduate mentee

14) McLaren, B., **Richey, J. E.,** Nguyen, H. A., Mogessie, M. (2022). Focused Self-Explanations Lead to the Best Learning Outcomes in a Digital Learning Game. *Proceedings of the 16ᵗʰ International Conference of the Learning Sciences.*

15) Nguyen, H., Guo, Y., Nguyen, V., **Richey, J. E.,** McLaren, B. M. (2022). Evaluating a Framework for Learning Non-routine Problem-solving in Mathematics. *Proceedings of the 16th International Conference of the Learning Sciences.*

16) Huang, Y., Dang, S., **Richey, J. E.**, Asher, M., Lobczowski, N. G., Chine, D., Mclaughlin, E., Harackiewicz, J. M., Aleven, V., Koedinger, K. (2022). Item Response Theory-Based Gaming Detection. *Proceedings of the 15th International Conference on Educational Data Mining (EDM 2022).*

17) Nguyen, H., Takacs, Z. K., Bereczki, E., **Richey, J. E.**, Mogessie, M., McLaren, B. (2022). Investigating the Effects of Mindfulness Meditation on a Digital Learning Game for Mathematics. *Proceedings of the 23rd International Conference on Artificial Intelligence in Education* (pp. 762-767).

18) Chine, D. R., Brently, C., Thomas-Browne, C., **Richey, J. E.**, Gul, A., Carvalho, P. F., Branstetter, L., Koedinger, K. R. (2022). Educational Equity Through Combined Human-AI Personalization: A Propensity Matching Evaluation. *Proceedings of the 23rd International Conference on Artificial Intelligence in Education* (pp. 366-377).

19) Lobczowski, N. G., *Morton, E., **Richey, J. E.**, Jarbo, K., & Koedinger, K. (2021). Interactions with peers on the path to success in math. To appear in *Proceedings of the 15th International Conference of the Learning Sciences* (pp. 585-588).

20) **Richey, J. E**., Zhang, J., Das, R., Andres-Bray, J. M., Scruggs, R., Mogessie, M., Baker, R. S., & McLaren, B. M. (2021). Gaming and confrustion explain learning advantages for a math digital learning game. In *Proceedings of the 22nd International Conference on Artificial Intelligence in Education* (pp. 342-355). Springer, Cham. **_Nominated for best paper._**

21) Baker, R. S., McLaren, B. M., Hutt, S., Mogessie, M., **Richey, J. E.,** Rowe, E., Almeda, M. V., & Andres, A. (2021). Towards sharing student models across learning systems. In *Proceedings of the 22nd International Conference on Artificial Intelligence in Education* (pp. 60-65). Springer, Cham.

22) Schaldenbrand, P., Lobczowski, N. G., **Richey, J. E.**, Gupta, S., McLaughlin, E., Adeniran, A. & Koedinger, K. (2021). Computer-supported human mentoring for personalized and equitable math learning. In *Proceedings of the 22nd International Conference on Artificial Intelligence in Education* (pp. 308-313). Springer, Cham.

23) Huang, Y., Lobczowski, N., **Richey, J. E.,** MacLaughlin, E., Asher, M., Harackiewicz, J., Aleven, V., & Koedinger, K. (2021). A general multi-method approach to data-driven redesign of tutoring systems. In *Proceedings of the 11th International Conference on Learning Analytics and Knowledge* (pp. 161-172)

24) **Richey, J. E.**, Lobczowski, N. G., Carvalho, P. F., & Koedinger, K. (2020). Comprehensive views of math learners: A case for modeling and supporting non-math factors in adaptive math software. In the *Proceedings of the 21st International Conference on Artificial Intelligence in Education* (pp. 460-471). Springer, Cham.

25) Hou, X., Nguyen, H., **Richey, J. E.**, & McLaren, B. M. (2020). Exploring how gender and enjoyment impact learning in a digital learning game. In *Proceedings of the 21st International Conference on Artificial Intelligence in Education* (pp. 255-268). Springer, Cham.

26) Mogessie, M., **Richey, J. E**., McLaren, B. M., Andres-Bray, J. M. L., & Baker, R. S. (2020). Confrustion and gaming while learning with erroneous examples in a decimals game. In

Proceedings of the 21st International Conference on Artificial Intelligence in Education (pp. 208-213). Springer, Cham.

27) **Richey, J. E.,** McLaren, B. M., Andres-Bray, J. M. L., Mogessie, M., Scruggs, R., Baker, R. S., & Star, J. R. (2019). Confrustion in learning from erroneous examples: Does type of prompted self-explanation make a difference? In *Proceedings of the 20th International Conference on Artificial Intelligence in Education* (pp. 173-190). Springer, Cham.

28) Harpstead, E., **Richey, J. E.,** Nguyen, H., & McLaren, B. M. (2019). Exploring the subtleties of agency and indirect control in digital learning games. In *Proceedings of the 9th International Conference on Learning Analytics and Knowledge* (pp. 121-129). **Nominated for best paper.**

29) Davis, D., **Richey, J. E.**, & Zepeda, C. D. (2018). Domain-General Metacognitive Instruction Reduces Productive Learning Behaviors and Performance?. In Kay, J. and Luckin, R. (Eds.) *Rethinking Learning in the Digital Age: Making the Learning Sciences Count, 13th International Conference of the Learning Sciences (ICLS) 2018* (Vol. 3, pp. 1653-1654). London, UK: International Society of the Learning Sciences.

30) **Richey, J. E.**, Zepeda, C. D., & Nokes-Malach, T. J. (2015). Transfer effects of prompted and self-reported analogical comparison and self-explanation. In D. C. Noelle, R. Dale, A. S. Warlaumont, J. Yoshimi, T. Matlock, C. D. Jennings, & P. P Maglio (Eds.), *Proceedings of the 37th Annual Conference of the Cognitive Science Society* (pp. 1985-1990). Austin, TX: Cognitive Science Society.

31) **Richey, J. E.**, Bernacki, M. L., Belenky, D. M., & Nokes-Malach, T. J. (2014). Relating a task-based, behavioral measure of achievement goals to self-reported goals and performance in the classroom. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1287-1292). Austin, TX: Cognitive Science Society.

32) **Richey, J. E.**, Nokes-Malach, T. J., & *Wallace, A. (2014). Achievement goals, observed behaviors, and performance: testing a mediation model in a college classroom. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1293-1298). Austin, TX: Cognitive Science Society.

BOOK CHAPTERS

33) Lobczowski, N. G., Asher, M. W., **Richey, J. E.**, Huang, Y., Hecht, C., Bhardwaj, S., Aleven, V., Koedinger, K., & Harackiewicz., J. (2022). Designing a Motivation Intervention for Students Learning Algebra Online. In Spector, M. J., Lockee, B. B., & Childress, M. D. (Eds.), *Learning, Design, and Technology.* Springer, Cham. https://doi.org/10.1007/978-3-319-17727-4_185-1

34) Nokes-Malach, T. J., Zepeda, C. D., **Richey, J. E.**, & Gadgil, S. (2019). Collaborative learning: The benefits and costs. In J. Dunlosky and K. Rawson (Eds.), *The Cambridge Handbook on Cognition and Education* (pp. 500-527). Cambridge: Cambridge University Press.

35) Nokes-Malach, T. J. & **Richey, J. E**. (2015). Knowledge transfer. In R. Scott and S. Kosslyn (Eds.), *Emerging Trends in the Social and Behavioral Sciences.* Hoboken, NJ: John Wiley and Sons.

PAPERS AND PROCEEDINGS UNDER REVIEW AND IN PREPARATION
*Undergraduate mentee, **Graduate mentee

Kukday, S., Habersham, P., & **Richey, J. E.** (under review). Collaboration promotes sense of belonging and learning in large-enrollment online introductory biology.

Richey, J. E., **Su. J., Lobczowski, N. G., *Sheth, A., & Loughlin, S. M. (in preparation). Predicting students' feelings of belonging with a new survey of climate-focused instructor behaviors.

Richey, J. E., Maddox, C. B., & Harper, E. (in preparation). A value-affirmation intervention to improve college athletes' mental health and feelings of belonging.

Carvalho, P. F., Sharma, A., **Richey, J. E**., & Koedinger, K. R. (in preparation). Increasing Learning Opportunities Using Analytics and Data-driven Technology Interventions to Address Outcome Inequalities.

Su. J., **Richey, J. E., & Loughlin, S. M. (in preparation). Do Student Evaluation of Teaching items predict learning? A comparison of instructor- and student-framed items.

PRESENTATIONS
*Undergraduate mentee; **Graduate mentee; †Richey maiden name

1) Richards, J., Cherbow, K. Tekkumru-Kisa, M., & **Richey, J. E.** (Accepted). Co-designing for relevance in NGSS-aligned performance assessments. In J. Richards (Chair), *Unpacking "relevance" as a design aim for instructional materials: In what ways? For whom?* [Related Paper Set]. To be presented at NARST Annual International Conference, Chicago, IL.

2) Kukday, S., Habersham, P., & **Richey, J. E.** (2021). Collaboration affects student learning and sense of belonging in introductory biology. Paper to be presented at the 2021 annual meeting of the National Association of Biology Teachers (NABT), Atlanta, GA.

3) **Richey, J. E**., Lobczowski, N. G., Jarbo, K., *Morton, E., & Koedinger, K. (2021). Perceptions of Preparedness and Success Inform Undergraduates' Feelings of Belonging. Paper to be presented at the 2021 annual meeting of the European Association of Research on Learning and Instruction (EARLI), Virtual.

4) Jarbo, K., Lobczowski, N. G., **Richey, J. E.**, *Morton, E., & Koedinger, K. (2021). Student-Teacher Relationships Drive Student Help-Seeking from Teachers for Math Learning Challenges. Paper to be presented at the 2021 annual meeting of the European Association of Research on Learning and Instruction (EARLI), Virtual.

5) Lobczowski, N. G., **Richey, J. E.**, Asher, M., Harackiewicz, J., & Koedinger, K. (2021). Students' use of math in different contexts: An exploration of responses to a utility-value intervention. Paper presented at the 2021 annual meeting of the American Education Research Association (AERA).

6) Lobczowski, N. G., Jarbo, K., **Richey, J. E.**, *Morton, E., & Koedinger, K. (2021). A narrative inquiry of critical moments in students' paths to math success. Paper presented at the 2021 annual meeting of the American Education Research Association (AERA).

7) Asher, M., Lobczowski, N. G., **Richey, J. E.**, Hecht, C., Huang, Y., Aleven, V., Koedinger, K., & Harackiewicz, J. (2020). Designing a Utility-value Intervention for Students Learning

Algebra Online. Paper to be presented at 2020 EARLI Sig 8 and Sig 16 Joint Conference on Motivation/Emotion and Metacognition, Dresden, Germany. (Conference cancelled)

8) Lobczowski, N. G., **Richey, J. E**., Su, J., & Loughlin, S. (2020). Undergraduate Students' Conceptualization of Belonging. Poster to be presented at 2020 EARLI Sig 8 and Sig 16 Joint Conference on Motivation/Emotion and Metacognition, Dresden, Germany. (Conference cancelled)

9) **Richey, J. E.**, Maddox, C. B., & Harper, E. (2020, April). Improving student-athletes' academic belonging and mental health through a value-affirmation intervention. Poster to be presented to the annual meeting of the American Education Research Association: San Francisco, CA. (Conference cancelled)

10) Lobczowski, N. G., **Richey, J. E.**, *Yu, P., Herckis, L., Donaldson, K., Branstetter, L., & Koedinger, K. (2020, April). Building strategies for a personalized learning mentor app: A design case. Poster to be presented to the annual meeting of the American Education Research Association: San Francisco, CA. (Conference cancelled)

11) **Richey, J. E.**, **Su. J., *Sheth, A., & Loughlin, S. M. (2019, April). A new survey of climate-related instructor behaviors predicts students' feelings of belonging. Paper presented to the annual meeting of the American Education Research Association: Toronto, CA.

12) **Su. J., **Richey, J. E.**, & Loughlin, S. M. (2019, April). Student Evaluation of Teaching (SET) predicts learning: But only with appropriate content and Frame-Of-Reference (FOR). Paper presented to the annual meeting of the American Education Research Association: Toronto, CA.

13) **Su, J., Loughlin, S. M., & **Richey, J. E.** (2018, April). Incentivizing Teaching Innovations in Professional Programs through Individual and Institutional Support. Poster presented to the annual meeting of the American Education Research Association: New York.

14) **Richey, J. E**., Davis, D. R., & Zepeda, C. D. (2017, November). Do I really know it? A toolkit for increasing students' metacognitive knowledge. Paper presented to the 2017 Original Lilly Conference on College Teaching.

15) **Richey, J. E.**, *Walker, T., *Green, C., & Nokes-Malach, T. J. (2016, April). Relational mapping: An interactive perspective on classroom-level analogy support. Symposium presented to the annual meeting of the American Education Research Association: Washington, D.C.

16) *Wallace, A., **Richey, J. E.**, Nokes-Malach, T. J. (2014, July). Change in achievement goals and their relation to exam grades. Poster presented to 36th Annual Conference of the Cognitive Science Society: Quebec City, Canada.

17) **Richey, J. E.**, Nokes-Malach, T. J., & *Wallace, A. (2014, March). Observed behaviors mediate the link between achievement goals and grades in a college classroom. Poster presented to the Seventh Annual inter-Science of Learning Center Student and Post-doc Conference, Pittsburgh, PA.

18) Zepeda, C., **Richey, J. E.**, Nokes-Malach, T. J., & Ronevich, P. (2013, April). Explicit Instruction of Metacognition in a Middle School Science Class Leads to Metacognitive, Academic, and Motivational Benefits. Poster presented to the biannual meeting of the Society for Research in Child Development, Seattle, WA.

19) Zepeda, C., **Richey, J. E.**, Nokes-Malach, T. J., & Ronevich, P. (2012, October). Direct Instruction of Metacognition and its Benefits to Science Learning. Poster presented to the SACNAS national meeting: Seattle, WA.

20) **Richey, J. E.**, Bernacki, M. L., Belenky, D. M., & Nokes-Malach, T. J. (2012, April) Predicting performance with a task-based behavioral measure of achievement goals. Paper presented to the annual meeting of the American Education Research Association: Vancouver, Canada.

21) **Richey, J. E.**, Chang, A., Nokes, T. J., & Schunn, C. D. (2010, August). Using analogical learning in science curricula to improve conceptual understanding. Poster presented to 32nd Annual Conference of the Cognitive Science Society: Portland, OR.

22) Mestre, J., Docktor, J., Strand, N., Ross, B., Nokes, T., **Richey, E.** (2010, July). A conceptual analysis approach to physics problem solving. Paper presented at the American Association of Physics Teachers Conference: Portland, OR.

23) Nokes, T. J., Mestre, J. P., Ross, B. H., **Richey, J. E**. (2010, June). Conceptual analysis and student learning in physics. Poster presented at the 2010 Institute for Education Sciences Research Conference: Washington, DC.

24) Nokes, T. J., Mestre, J. P., Ross, B. H., & **Richey, J. E**. (2010, May). Conceptual Analysis and Student Learning in Physics. Paper presented to 22nd Annual Association for Psychological Science Convention: Boston, MA.

25) Chang, A., †**Strohm, E.**, Nokes, T. J., & Schunn, C. D. (2009, November). Using cognitive science to improve middle school science learning. Poster presented to the 50th Annual Meeting of the Psychonomic Society: Boston, MA.

26) Nokes, T. J., Ross, B. H. Mestre, J. P., †**Strohm, E.**, Brookes, D. T., & Feil, A. (2009, November). Conceptual analysis facilitates learning and transfer in both laboratory and classroom settings. Poster presented to the 50th Annual Meeting of the Psychonomic Society: Boston, MA.

INVITED PRESENTATIONS

27) **Richey, J. E.** (February 2020). Struggling together: How less instruction, more confusion, and productive collaboration can support deeper learning. Pearson Biology Leadership Community Summit. Fort Myers, FL.

28) **Richey, J. E.** (November 2019). The cognitive and social benefits of collaborative learning. Howard Hughes Medical Center Science Education Advisory Board. Chevy Chase, MD.

29) **Richey, J. E.** (April 2017). Investigating the effects of metacognitive training on students' motivation, study strategies, and learning. Miami University Department of Psychology Brain, Cognitive, and Developmental Science Brown Bag.

30) **Richey, J. E**. and Zepeda, C. D. (February 2015). Study smarter, not harder, with strategies supported by cognitive science. Academic Resource Center's workshop series. University of Pittsburgh, Pittsburgh, PA.

TEACHING EXPERIENCE

University of Pittsburgh
PSY 0035: *Research Methods Lab*

-Instructor, Fall 2018, Spring 2019 (two sections), Fall 2020 (remote), Spring 2020 (remote), Summer 2021 (remote), Fall 2021 (two sections), Spring 2022

PSY 1054 *Topics in Cognitive Psychology: Learning and Motivation in Educational Contexts*
-Instructor, Fall 2021, Spring 2022 (two sections), Fall 2022

PSY 0432: *Cognitive Psychology Lab* (1 section)
- Instructor, Fall 2014

PSY 420/421/422: *Cognitive Psychology* (2 sections)
- Guest lecturer and teaching assistant to Timothy Nokes-Malach, Spring 2013, Fall 2013

PSY 0005: *Introduction to Cognitive Science* (1 section)
- Guest lecturer and teaching assistant to Timothy Nokes-Malach, Fall 2012

PSY 1902: Directed Individual Readings (1 section)
-Supervising mentor to Aleza Wallace, Fall 2012

Miami University
EDP 101: *Psychology of the Learner* (5 sections)
- Instructor, Fall 2015, Spring 2016 (face-to-face and hybrid sections), Fall 2016, Spring 2017

EDP 601: *Advanced Educational Psychology* (2 sections)
- Instructor, Fall 2015, Fall 2016

PRESENTER/CREATOR, INSTRUCTIONAL DEVELOPMENT WORKSHOPS, UNIVERSITY OF MARYLAND

Creating Effective and Appealing Presentations, February 2018.

Engaging Students Through Active Learning, February 2018.

Enhancing Presentations Through Your Delivery: Body Language, Vocal Cues, and Style (co-presented with Christine Schaaf), December 2017.

Student Voices, Expert Strategies: Supporting International Students, October 2017.

Teaching Strategies for BGMT 367 Instructors and Teaching Assistants, August 2017 and January 2018

Teaching Workshop for PhD Students, August 2017.

New Faculty Teaching Workshop, July 2017.

Instructor Training for Accounting Adjuncts, July 2017.

MENTORING

University of Pittsburgh
• **Graduate Teaching Assistant (1)**
Dani Hunter

• **Hot Metal Bridge Post-Baccalaureate Diversity Fellowship Program (4)**
Karla Rivera-Torres, PhD, University of California – Los Angeles
Travis Alvarez, PhD, University of Pittsburgh

Cristina Zepeda, PhD, University of Pittsburgh
Jessica Vazquez, Ed.S, University of South Florida

- **Undergraduate Honors Thesis Committee (1)**
Aleza Wallace, now PhD student, University of Rochester

- **Undergraduate First Experiences in Research Students (4)**
Lauren Baff • Anh Huynh • Timothy Lee • Aleza Wallace

- **Undergraduate Research Assistants (6)**
Ryan Hast • Sarah Honsaker • Whitney Hornyak • Emily Schmidt • Tatum Walker • Qingqing Yang

- **Undergraduate Teaching Assistants (6)**
Geixi Medina • Emily Kosenske • Jessica Nederlanden • Chelsea Proulx • Rachel Tang • Sarah Witter

- **Undergraduate Summer Interns, Funded through LearnLab's REU Program (3)**
Corinne Green, University of Houston; now PhD student, Purdue University
Emily Hangen, University of Chicago; PhD, University of Rochester
Norah Hass, University of Notre Dame; PhD, University of Missouri-Kansas City

Carnegie Mellon University
- **Undergraduate Research Assistants (11)**
Pooja Casula • Sung Hyun Back • Komal Dhull • Patrick Healy • Yijun Qian • Lily Lou • Malik Richardson • James Wei • Lauryn Jefferson • Sarah Di • Omika Surya

University of Maryland
- **Doctoral-level Graduate Assistants (2)**
Junjie Su • Huiling Hu

- **Undergraduate Assistant (1)**
Ankit Sheth

Miami University
- **Comprehensive Exam Committees (1)**
Cynthia Johnson

- **Master's Thesis Research Advisor (3)**
Shejlla Avdiq • Autumn King • Qiuting Zhou

- **Master's Thesis Committees (excluding research advisees) (9)**
Beibei Wu • Jingxuan Li • Kayleigh Perline • Kevin Shaw • Connor Wilkinson • Susana Madinabeitia • Muhammad Farooq • Morgan Cody • Gehui Chen

- **Graduate Assistants (2)**
Caroline Houston • Jenna Tenenbaum

- **Undergraduate Associate (1)**
Jessica Dennett

PROFESSIONAL DEVELOPMENT

Inclusive Course Design Workshop Series (2021)
Mental Health First Aid Certificate Course (2020)
Miami University Mental Health Ally (2016)
Miami University Center for Teaching Excellence workshops on engaging students, academic
      integrity, scholarship of teaching and learning, mentoring undergraduate research,
      promoting critical thinking, supporting Title IX, and classroom inclusion (2015-2017)
Alumni Teaching Scholars Faculty Learning Community, Miami University (2016-2017)
New Faculty Research Community, Miami University (2016)
AERA Division C New Faculty Mentoring Program (2016)
Faculty eLearning Course Design Intensive Workshop, Miami University (2016)
New Faculty Teaching Enhancement Program, Miami University (2015)

GRANTS AWARDED

University of Pittsburgh
Collaborative Research: Investigating Gender Differences in Digital Learning Games with Educational Data Mining
National Science Foundation (2201800), 07/01/2022 to 06/30/2025
PI: Bruce M. McLaren; Co-PIs: Timothy Nokes-Malach; **Jane Elizabeth Richey**; Nicole Else-Quest; Ryan Baker; Jon R. Star
Total award: $1,500,000

Carnegie Mellon University
Facilitating Teacher Learning with Video Clips of Instruction in Science
National Science Foundation (2000833), 11/1/20 to 10/31/2023
PI: Miray Tekkumru Kisa; Co-PIs: Jonathan Osborne, Miriam Sherin, Jennifer Richards, **J. Elizabeth Richey**
Total award: $700,000

Assessing Cognitive and Social Impacts of Collaboration on Student Learning in Introductory Biology
Biology Leadership Conference Catalytic Grant, 2020-2021.
PIs: **J. Elizabeth Richey,** Sayali Kukday, Patricia Habersham
Total award: $10,000

Combining Cognitive Tutors with Culturally Relevant and Social Justice Pedagogies to Increase Relevance in Math
Simon Initiative Seed Grant, Carnegie Mellon University, 2020-2021.
PI: Nikki Lobczowski; Co-PIs: Kenneth R. Koedinger, **J. Elizabeth Richey**
Total award: $14,523

University of Maryland
Instructional Behaviors that Promote or Discourage an Inclusive Classroom Environment
Fearless Teaching Framework Research Seed Grant, University of Maryland, 2017
PIs: **J. Elizabeth Richey**, Junjie Su, Sandra Loughlin
Total award: $2,500

Miami University
An Investigation of How Metacognitive Instruction and Practice Changes College Students'

Learning Behaviors, Motivations, and Performance in Educational Psychology
APS Fund for Teaching and Public Understanding of Psychological Science, 2016-2017
PI: **J. Elizabeth Richey**; Co-PI: Darrel Davis
Total award: $15,000

Understanding and Improving College Athletes' Mental Health and Feelings of Academic Inclusion
College of Education, Health, and Society Interdisciplinary Seed Grant, 2016-2017
PIs: **J. Elizabeth Richey**, Erin Harper, Callie B. Maddox, Raymond H. Witte
Total award: $6,894

Improving Young Children and Older Adolescents' Motivation and Attitudes Toward Math Through Structured, Nonreciprocal Peer Tutoring
Committee on Faculty Research Summer Research Appointment, 2016
Total award: $6,200

How Metacognitive Instruction and Practice Changes College Students' Learning Behaviors and Performance
College of Education, Health, and Society Summer Research Grant, 2016
Total award: $5,000

RESEARCH AND DEVELOPMENT EXPERIENCE

Carnegie Mellon University
Bridging Opportunity Gaps in Urban School Contexts: Techniques and Tools for Personalized Learning Through AI and Culturally Responsive Mentoring
Chan Zuckerberg Initiative, 2019-2021
PI: Kenneth Koedinger
- Developed and assessed resources for a software aimed at addressing opportunity gaps through personalized mentoring and tutoring with artificial intelligence
- Coordinated focus groups to create peer videos about overcoming math challenges
- Collaborated with teachers and mentors to understand student learning experiences
- Analyzed user interaction data and focus group testimonials to understand students' motivational experiences and iteratively improve design

Exploring Cognitive-Metacognitive-Motivational Multiplier Effects in Middle Years Math
Bill & Melinda Gates Foundation, 2019-2021
PIs: Kenneth Koedinger, Judith Harackiewicz
- Designed utility value videos and learning analytics-based metacognitive support to embed in adaptive math software
- Recruited school partners and coordinate classroom experiments
- Contributed to quantitative and qualitative analyses of student experiences

Collaborative Research: Using Educational Data Mining Techniques to Uncover How and Why Students Learn from Erroneous Examples
National Science Foundation EHR Core Research, 2017-2021
PIs: Bruce M. McLaren, Ryan Baker, Jon Star
- Designed, conducted, and analyzed results from educational interventions with adaptive learning tutors and digital learning games

- Coordinated and led collaborative project meetings across institutions
- Supervised and mentored undergraduate research assistants

University of Pittsburgh
Innovating Motivation Research: Insights from Urban Middle School Classrooms on the Links between Psychosocial Classroom Activity and Mathematics Learning
University of Pittsburgh, Learning Research and Development Center: See Grant Competition, 2014-2016
PIs: Timothy Nokes-Malach, Tanner LeBaron Wallace, James Greeno, Rip Correnti

- Analyzed teacher videos to understand the impact of instructional decisions on learning and motivation outcomes
- Developed coding scheme to identify analogical comparison support in teacher talk

The 21ˢᵗ Century Research and Development Center on Cognition and Science Instruction
Department of Education, Institute for Education Sciences, R305C080009, 2009-2013
PI: Joseph Merlino, Co-PIs: Jennifer Cromley, Nora Newcombe, Timothy Nokes, Andy Porter, Christian Schunn

- Modified existing science curriculum materials to incorporate analogical comparison based on learning science principles
- Participated in teacher professional development workshops to support teacher learning and use of materials

Conceptual Analysis and Student Learning in Physics
Department of Education, Institute for Education Sciences, R305B070085, 2009-2011
PI: Brian Ross, Co-PIs: Jose Mestre, Timothy Nokes

- Recruited participants and conducted studies examining instructional methods for supporting conceptual physics learning

SERVICE

Editorial
2020- 2022   Co-Editor, *Journal of Research in Childhood Education*
2018- 2019   Associate Editor, *Journal of Research in Childhood Education*

Reviewing
Journals
Ad hoc reviewer for a number of educational psychology and learning science journals including *Educational Psychology Review; Journal of Educational Psychology; Journal of Experimental Psychology: General; Learning and Instruction; Cognitive Science; Instructional Science;* and *Learning and Individual Differences.*

Conferences
Ad hoc reviewer for conferences including the Cognitive Science Society's Annual Conference, the American Educational Research Association's Annual Meeting, and the American Psychological Association's Annual Convention, Division 15 Program

Community
Miami University
2016-2017   Academic Appeals Board, College of Education, Health, and Society

2015-2017   Educational Psychology Program Committee

University of Pittsburgh
2013-2015   Graduate Student Representative, LRDC Communications Committee
2010-2014   Graduate Student Representative, Senate Committee on Benefits and Welfare
2012-2013   Graduate Student Coordinator, Hot Metal Bridge Diversity Fellowship Program
2010-2011   Graduate Student Coordinator, Cognitive Psychology Brown Bag Series

PROFESSIONAL AFFILIATIONS

Association for Psychological Science; American Educational Research Association: Division C, Motivation SIG; American Psychological Association: Division 15; Cognitive Science Society

REFERENCES (additional references available upon request)

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