Curriculum Vitae
Timothy James Nokes-Malach*
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PROFESSIONAL EXPERIENCE

University of Pittsburgh

- Professor, Psychology (Primary) and Learning Sciences and Policy (2021-present)
- Associate Professor, Psychology (Primary) and Learning Sciences and Policy (2013-2021)
- Assistant Professor, Psychology (Primary) and Learning Sciences and Policy (2007-2013)
- Senior Scientist, Learning Research & Development Center (2021-present)
- Research Scientist, Learning Research & Development Center (2007-2021)

EDUCATION

- **Beckman Postdoctoral Fellow**, University of Illinois at Urbana-Champaign (2004-2007)
- **Ph.D.**, **Cognitive Psychology**, University of Illinois at Chicago (2004)
  Minor in Philosophy of Science
  Dissertation: *Mechanisms of Transfer*
  Committee: Stellan Ohlsson (chair), Andrew R. A. Conway, Susan Goldman, James Pellegrino, and Thomas Moher
- **M.A.**, **Cognitive Psychology**, University of Illinois at Chicago (2001)
- **B.S.**, **Psychology**, University of Wisconsin at Whitewater (1998)
  Magna Cum Laude; Minor in Philosophy

RESEARCH INTERESTS

My research examines human learning, problem solving, and motivation with an aim to understand, predict, and promote knowledge transfer. Specific topics include: 1) identifying the cognitive and metacognitive processes underlying transfer success and failure, 2) exploring the relations between instruction, motivation, and transfer, 3) examining social and ecological processes that support or inhibit transfer, and 4) investigating the effects of mindfulness meditation on engagement, learning, and transfer. An overarching goal is to develop instructional theories to promote learning and transfer in mathematics and science.

PROFESSIONAL AFFILIATIONS

External

- American Educational Research Association
- Cognitive Science Society

- International Society of the Learning Sciences
- Psychonomic Society Member
- Society for the Advancement of Hispanics/Chicanos and Native Americans in Science

Internal

- Center for Mindfulness and Consciousness Studies
- Discipline Based Science Education Research Center
- LearnLab (Pittsburgh Science of Learning Center; Pitt & CMU)
- Motivation Center

HONORS AND AWARDS

- Nominated for the Tina and David Bellet Teaching Excellence Award, University of Pittsburgh (2015, 2016)
- Beckman Fellowship, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign (2004-2007)
- Cognitive Science Travel Funding Award, National Science Foundation (2001; 2005)
- Abraham Lincoln Fellowship, University of Illinois at Chicago (1999-2000; 2001-2004)
- Research Travel Funding Award, University of Illinois at Chicago (1999-2003)
- ACT-R Summer School Travel Funding Award, Carnegie Mellon University (2002)
- Provost Award for Graduate Research, University of Illinois at Chicago (2002)
- Diversity Fellowship, University of Illinois at Chicago, (2000-2001)
- Golden Key National Honors Society, University of Wisconsin at Whitewater (1997)
- Vice-President of the local chapter of Psi Chi National Honors Society, University of Wisconsin at Whitewater (1997)
- Secretary and Vice-President of the Intertribal Student Association (American Indian Group), University of Wisconsin at Whitewater (1997)

PUBLICATIONS

^{P} Indicates a postdoctoral author, ^{G} graduate student author, ^{U} undergraduate student author

JOURNAL PAPERS

1) ^{G} Zepeda, C. D., & **Nokes-Malach, T. J.** (2023). Assessing metacognitive regulation during problem solving: A comparison of three measures. *Journal of Intelligence*, *11*, 16. https://doi.org/10.3390/jintelligence11010016

2) ^{G} Kalender, Y., ^{P} Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2022). Framework for unpacking students' mindsets in physics by gender. *Physical Review Physics Education Research*, *18*, 010116. https://doi.org/10.1103/PhysRevPhysEducRes.18.010116

3) ^{P} Morphew, J. W., ^{P} Kuo, E., ^{G} King-Shepard, Q., ^{U} Lin, R., ^{U} Kwon, P., **Nokes-Malach, T. J.**, & Mestre, J. P. (2021). Doing and seeing are not believing: Investigating when and how conceptual knowledge impinges on observation and recall of physical motion. *Journal of Experimental Psychology: Applied*, *27(2*), 307-323. https://doi.org/10.1037/xap0000338

4) ^{G} Zepeda, C. D., & **Nokes-Malach, T. J.** (2021). Metacognitive study strategies in a college course and their relation to exam performance. *Memory and Cognition*, *49*, 490-497. https://doi.org/10.3758/s13421-020-01106-5

5) [G] Boden, K. K., [G] Zepeda, C. D., & **Nokes-Malach, T. J.** (2020). Achievement goals and conceptual learning: An examination of teacher talk. *Journal of Educational Psychology*, *112 (6*), 1221-1242. https://doi.org/10.1037/edu0000421

6) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2020). Damage caused by women's lowered self-efficacy on physics learning. *Physical Review Physics Education Research, 16 (1),* 010118. doi: 10.1103/PhysRevPhysEducRes.16.010118.

7) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2020). Engineering students' performance in foundational courses as a predictor of future academic success. *International Journal of Engineering Education*, *36 (4)*, 1340-1355.

8) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2020). Comparison of self-efficacy and performance of engineering undergraduate women and men. *International Journal of Engineering Education, 36 (6),* 1996-2014.

9) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2019). Why female science, technology, engineering, and mathematics majors do not identify with physics: They don't think others see them that way. *Physical Review Physics Education Research, 15 (2),* 020148. doi: 10.1103/PhysRevPhysEducRes.15.02014.

10) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2019). Gendered patterns in the construction of physics identity from motivational factors. *Physical Review Physics Education Research, 15 (2),* 020119. doi:10.1103/PhysRevPhysEducRes.15.020119

11) [G] Zepeda, C. D., [U] Hlutkowsky, C. O., [U] Partika, A. C., & **Nokes-Malach, T. J.** (2019). Identifying teachers' supports of metacognition through classroom talk and its relation to growth in conceptual learning. *Journal of Educational Psychology*, *111*(3), 522-541. http://dx.doi.org/10.1037/edu0000300

12) [P] Marshman, E., [G] Kalender, Z. Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018). Females with As have similar physics self-efficacy as males with Cs: A cause for alarm? *Physical Review Physics Education Research, 14,* 020123. doi.10.1103/PhysRevPhysEducRes.14.020123

13) [G] Meigh, M. K., Shaiman, S., Tompkins, C. A., Abbott, K. V., & **Nokes-Malach, T. J.** (2018). What memory representation is acquired during nonword speech production learning? The influence of stimulus features and training modality on nonword encoding. *Cogent Psychology, 5,* 1493714. doi.org/10.1080/23311908.2018.1493714

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

15) [G] Richey, J. E., **Nokes-Malach, T. J.**, & [U] Cohen, K. (2018). Collaboration facilitates abstract category learning. *Memory & Cognition*, *46*, 685-698. doi.org/10.3758/s13421-018-0795-7

16) [P] Marshman, E., [G] Zeynep, Y. K., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018). A longitudinal analysis of underrepresented students' motivational characteristics in introductory physics courses: Gender differences. *Canadian Journal of Physics*, *96*, 391-405. doi.org/10.1139/cjp-2017-0185

17) [G] Chan, J., & **Nokes-Malach, T. J.** (2016). Situative creativity: Larger physical spaces facilitate thinking of novel uses for everyday objects. *Journal of Problem Solving*, *9* (1), 29-45. http://dx.doi.org/10.7771/1932-6246.1184

18) [P] Bernacki, M., **Nokes-Malach, T.,** [G] Richey, E. J., & [G] 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

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

20) [G] Zepeda, C., [G] 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

21) [P] Bernacki, M. L., **Nokes-Malach, T. J.**, & Aleven, V. (2015). Examining self-efficacy during learning: Variability and relations to performance, behavior, and learning. *Metacognition and Learning, 10,* 99-117. doi: 10.1007/s11409-014-9127-x

22) [G] Richey, J. E., & **Nokes-Malach, T. J.** (2015). Comparing four instructional techniques for promoting robust knowledge. *Educational Psychology Review*, 27 (1), 181-218. doi: 10.1007/s10648-014-9268-0

23) [P] Bernacki, M. L., Aleven, V., & **Nokes-Malach, T. J.** (2014). Stability and change in adolescents' task-specific achievement goals and implications for learning mathematics with intelligent tutors. *Computers in Human Behavior*, *37*, 73-80.

24) **Nokes-Malach, T. J**., & Mestre, J. (2013). Toward a model of transfer as sense-making. *Educational Psychologist*, *48*(*3*), 184-207. doi: 10.1080/00461520.2013.807556

25) **Nokes-Malach, T. J.**, VanLehn, K., [G] Belenky, D., [U] Lichtenstein, M., & [U] Cox, G. (2013). Coordinating principles and examples through analogy and self-explanation. *European Journal of Education of Psychology, 28(4),* 1237-1263. doi: 10.1007/s10212-012-0164-z

26) [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2013). Knowledge transfer and mastery-approach goals: Effects of structure and framing. *Learning and Individual Differences*, *25*, 21-34. doi: 10.1016/j.lindif.2013.02.004

27) [G] Richey, J., E., & **Nokes-Malach, T. J.** (2013). How much is too much? Explanatory text effects on conceptual learning and motivation. *Learning and Instruction*, *25*, 104-121. doi: 10.1016/j.learninstruc.2012.11.006

28) [P] Alfieri, L., **Nokes-Malach, T. J.**, & Schunn, C. D. (2013). Learning through case comparisons: A meta-analytic review. *Educational Psychologist*, *48* (*2*), 87-113. doi: 10.1080/00461520.2013.775712

29) [G] Li, M., Frieze, I. H., **Nokes-Malach, T. J.**, & Cheong, J. (2013). Do friends help your study? Mediating processes between social relations and academic motivation. *Social Psychology of Education, 16* (*1*)*,* 129-149. doi: 10.1007/s11218-012-9203-5

30) [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2012). Motivation and transfer: The role of mastery-approach goals in preparation for future learning. *Journal of the Learning Sciences*, *21 (3)*, 399-432. doi: 10.1080/10508406.2011.651232

31) [G] Gadgil, S., & **Nokes-Malach, T. J.** (2012). Collaborative facilitation through error-detection: A classroom experiment. *Applied Cognitive Psychology*, *26 (3)*, 410-420. doi: 10.1002/acp.1843

32) **Nokes-Malach, T. J.**, Meade, M. L., & Morrow, D. G. (2012). The effect of expertise on collaborative problem solving. *Thinking & Reasoning, 18 (1)*, 32-58. doi: 10.1080/13546783.2011.642206

33) [G] Gadgil, S., **Nokes-Malach, T. J.**, & Chi, M. T. H. (2012). Effectiveness of holistic mental model confrontation in driving conceptual change. *Learning and Instruction*, *22 (1)*, 47-61. doi: 10.1016/j.learninstruc.2011.06.002
[Editor's Choice Article]

34) **Nokes, T. J.**, [P] Hausmann, R. G. M., VanLehn, K., & Gershman, S. (2011). Testing the instructional fit hypothesis: The case of self-explanation prompts. *Instructional Science*, *39 (5)*, 645-666. doi: 10.1007/s11251-010-9151-4

35) [G] Jang, J., Schunn, C. D., & **Nokes, T. J.** (2011). Spatially distributed instructions reduce load to improve learning outcomes and efficiency. *Journal of Educational Psychology*, *103 (1)*, 60-72. doi: 10.1037/a0021994

36) **Nokes, T. J.**, & Ash, I. K. (2010). Investigating the role of instructional focus in incidental pattern learning. *Journal of General Psychology, 137 (1)*, 84-113. doi: 10.1080/00221300903352125

37) [G] Belenky, D. M., & **Nokes, T. J.** (2009). Examining the role of manipulatives and metacognition on engagement, learning, and transfer. *Journal of Problem Solving, 2 (2)*, 102-129.

38) Meade, M. L., **Nokes, T. J.**, & Morrow, D. G. (2009). Expertise promotes facilitation on a collaborative memory task. *Memory*, *17 (1)*, 39-48. doi: 10.1080/09658210802524240

39) **Nokes, T. J.** (2009). Mechanisms of knowledge transfer. *Thinking & Reasoning*, *15 (1)*, 1-36. doi: 10.1080/13546780802490186

40) **Nokes, T. J.**, & Ohlsson, S. (2005). Comparing multiple paths to mastery: What is learned? *Cognitive Science, 29 (5)*, 769-796. doi: 10.1207/s15516709cog0000_32

41) **Nokes, T. J.**, & Ohlsson, S. (2003). Declarative transfer from a memory task to a problem solving task. *Cognitive Science Quarterly*, *3 (3)*, 259-296.

BOOK CHAPTERS

42) Carpenter, S., [G] King-Shepard, Q., & **Nokes-Malach, T. J.** (in press). The prequestion effect: Why it is useful to ask students questions before they learn. In C. E. Overson, C. M. Hakala, L. L. Kordonowy, & V. A. Benassi (Eds.). *In their own words: What scholars want you to know about why and how to apply the science of learning in your academic setting* (pp. 74-82). Society for the Teaching of Psychology. https://teachpsych.org/ebooks/itow

43) Miele, D. B., **Nokes-Malach, T. J.**, [G] May S. (2020). The impact of motivation on students' integration of multiple inputs. In P. Van Meter, A. List, D. Lombardi, & P. Kendeou (Eds.) *Handbook of Learning from Multiple Representations and Perspectives* (pp. 346-372). New York: Routledge.

44) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2020). Beliefs of about competence: The story of self-efficacy, gender, and physics. In A. Murrell, J. Petrie, & A. Soudi (Eds.), *Diversity Across the Disciplines: Research on People, Policy, Process and Paradigm* (pp. 3-17). Information Age Publishing.

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

46) Greeno, J. G., & **Nokes-Malach, T. J.** (2016). Some early contributions to the situative perspective on learning and cognition. In M. A. Evans, M J. Packer, and R. K. Sawyer (Eds.), *Reflections on the Learning Sciences* (pp. 59-75). Cambridge University Press. New York, NY.

47) **Nokes-Malach, T. J., &** [G] 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.

48) [P] Bernacki, M. L., **Nokes-Malach, T. J.**, & Aleven, V. (2013). Fine-grained assessment of motivation over long periods of learning with an intelligent tutoring system: Methodology, advantages, and preliminary results. In R. Azevedo and V. Aleven (Eds.), *International Handbook of Metacognition and Learning Technologies* (pp. 629-644). NY: Springer. doi: 10.1007/978-1-4419-5546-3_41

49) **Nokes, T. J.** & [G] Belenky, D. M. (2011). Incorporating motivation into a theoretical framework for knowledge transfer. In J. P. Mestre and B. H. Ross (Eds.), *Cognition and Education: The Psychology of Learning and Motivation: Advances in Research and Theory. Volume 55* (pp. 109-135). San Diego, CA: Academic Press. doi: 10.1016/B978-0-12-387691-1.00004-1

50) **Nokes, T. J.,** Schunn, C. D., & Chi, M. T. H. (2010). Problem solving and human expertise. In P. Peterson, E. Baker, and B. McGraw (Eds.), *International Encyclopedia of Education, Volume 5* (pp. 265-272). Oxford: Elsevier. doi: 10.1016/B978-0-08-044894-7.00486-3

Reprinted in*: **Nokes, T. J., Schunn, C. D., & Chi, M. T. H. (2011). Problem solving and human expertise. In V. G. Aukrust (Ed.), *Learning and Cognition in Education* (pp. 104-111). Oxford: Elsevier.

51) Mestre, J. P., Ross, B. H., [P] Brookes, D. T., [G] Smith, A. D., & **Nokes, T. J.** (2009). How cognitive science can promote conceptual understanding in physics classrooms. In I. M. Saleh and M. S. Khine (Eds.), *Fostering scientific habits of mind: Pedagogical knowledge and best practices in science education* (pp. 145-171). Rotterdam, Netherlands: Sense Publishers.

52) Ross, B. H., Taylor, E. G., Middleton, E. L., & **Nokes, T. J.** (2008). Concept and category learning in humans. In H. L. Roediger III (Ed.), *Cognitive Psychology of Memory* (pp. 535-556). Volume 2 of *Learning and memory: A comprehensive reference-Cognitive Psychology (J. Byrne Editor).* Oxford, UK: Elsevier.

CONFERENCE PAPERS (*Peer Reviewed*)

53) [G] Yuya, A., Litman, D., [G] Yu, M., [P] Lobczowski, N. G., **Nokes-Malach, T.**, Kovashka, A. & Walker, E. (submitted). Is misrecognition by teachable agents bad for students? Submitted to AIED.

54) [G] Yuya, A., Litman, D., [G] Yu, M., [P] Lobczowski, N. G., **Nokes-Malach, T.**, Kovashka, A. & Walker, E. (2022). Comparison of lexical alignment with a teachable robot in human-robot and human-human-robot interactions. In O. Lemon, D. Hakkani-Tur, J. J. Li, A. Ashrafzadeh, D. H. Garcia, M. Alikhani, D. Vandyke, O. Dusek (Eds.) *Proceedings of the 23rd Annual Meeting of the Special Interest Group on Discourse and Dialogue* (pp. 615-622). Edinburgh, UK. Association for Computational Linguistics.

55) [G] Steele, C., [P] Lobczowski, N. G., [U] Davison, T., [G] Yu, M., [G] Diamond, M., Kovashka, A., Litman, D., **Nokes-Malach, T.**, & Walker, E. (2022). It takes two: Examining the effects of collaborative teaching of a robot learner. In M. M. Rodrigo, N. Matsuda, A. I. Cristea, V. Dimitrova (Eds.) *Artificial Intelligence in Education - Posters and late breaking results, workshops and tutorials,*

industry and innovation tracks, practitioners' and doctoral consortium (pp. 604-607), Lecture Notes in Computer Science, Vol. 13356. Springer, Cham. https://doi.org/10.1007/978-3-031-11647-6_125

56) [G] Maidment, T., [G] Yu, M., [P] Lobczowski, N., Kovashka, A., Walker, E., Litman, D., & **Nokes-Malach, T.** (2022). Building a reinforcement learning environment from limited data to optimize teachable robot interventions. In A. Mitrovic and N. Bosch (Eds.) *Proceedings of the 15th International Conference on Educational Data Mining* (pp. 62-74). Durham, UK. https://doi.org/10.5281/zenodo.6853129

57) [G] Jaramillo, S., Kuo, E., Rottman, B.M., & **Nokes-Malach, T. J.** (2021). Investigating causal inference difficulties with a simple, qualitative force-and-motion problem. In M. B. Bennett, B. W. Frank, and R. Vieyra (Eds.) *2021 Physics Education Research Conference Proceedings*. Virtual Conference: American Association of Physics Teachers. doi.org/10.1119/perc.2021.pr.Jaramillo

58) Kuo, E., [U] Weinlader, N. K., Rottman, B. M., & **Nokes-Malach, T. J.** (2020). Using causal networks to examine resource productivity and coordination in learning science. Poster in M. Gresalfi and I. S. Horn (Eds.) *The Interdisciplinarity of the Learning Sciences, 14th International Conference of the Learning Sciences (ICLS) 2020, Volume 2* (pp. 875-876). Nashville, TN: International Society of the Learning Sciences.

59) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2019). Inconsistent gender differences in self-efficacy and performance for engineering majors in physics and other disciplines: A cause for alarm? In Y. Cao, S. Wolf, and M. B. Bennett (Eds.) *2019 Physics Education Research Conference Proceedings*. Provo, UT: American Association of Physics Teachers. doi:10.1119/perc.2019.pr.Whitcomb

60) [U] Weinlader, N. K., [P] Kuo, E.**,** Rottman, B. M., **Nokes-Malach, T. J.** (2019). A new approach for uncovering student resources with multiple-choice questions. In Y. Cao, S. Wolf, and M. B. Bennett (Eds.) *2019 Physics Education Research Conference Proceedings*. Provo, UT: American Association of Physics Teachers. doi:10.1119/perc.2019.pr.Weinlader

61) **Nokes-Malach, T. J.**, [G] Kalender, Y., Marshman, E., Schunn, C., & Singh, C. (2019). How is perception of being recognized by others as someone good at physics related to female and male students' physics identities? In Y. Cao, S. Wolf, and M. B. Bennett (Eds.) *2019 Physics Education Research Conference Proceedings*. Provo, UT: American Association of Physics Teachers. doi:10.1119/perc.2019.pr.Nokes-Malach

62) [G] Kalender, Y., Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2019). Investigating the role of prior preparation and self-efficacy on female and male students' introductory physics course achievements. In Y. Cao, S. Wolf, and M. B. Bennett (Eds.) *2019 Physics Education Research Conference Proceedings*. Provo, UT: American Association of Physics Teachers. doi:10.1119/perc.2019.pr.Kalender

63) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018). How do introductory physics and mathematics courses impact engineering students' performance in subsequent engineering courses? In A. Traxler, Y. Cao, and S. Wolf (Eds.) *2018 Physics Education Research Conference*. Washington, DC: American Association of Physics Teachers. doi:10.1119/perc.2018.pr.Whitcomb

64) [G] Kalender, Y., Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2018). Large gender differences in physics self-efficacy at equal performance levels: A warning sign? In A. Traxler, Y. Cao, and S. Wolf (Eds.) *2018 Physics Education Research Conference*. Washington, DC: American Association of Physics Teachers. doi:10.1119/perc.2018.pr.Kalender

65) **Nokes-Malach, T. J.**, [G] Kalender, Y., [P] Marshman, E., Schunn, C., & Singh, C. (2018). Prior preparation and motivational characteristics mediate relations between gender and learning outcomes in introductory physics. In A. Traxler, Y. Cao, and S. Wolf (Eds.) *2018 Physics Education Research Conference*. Washington, DC: American Association of Physics Teachers. doi:10.1119/perc.2018.pr.Nokes-Malach

66) **Nokes-Malach, T. J.**, [P] Marshman, E., [G] Zeynep, Y. K., Schunn, C., & Singh, C. (2017). Investigation of male and female students' motivational characteristics throughout an introductory physics course. In L. Ding, A. Traxler, and Y. Cao (Eds.) *2017 Physics Education Research Conference* (pp. 276-279). Cincinnati, OH: American Association of Physics Teachers. doi:10.1119/perc.2017.pr.064

67) [G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T. L., & Menekse, M. (2017). What is the role of motivation in procedural vs. conceptual transfer? An examination of self-efficacy and achievement goals. In L. Ding, A. Traxler, and Y. Cao (Eds.) *2017 Physics Education Research Conference* (pp. 60-63). Cincinnati, OH: American Association of Physics Teachers. doi:10.1119/perc.2017.pr.010

68) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C (2017). Motivation characteristics of underrepresented ethnic and racial minority students in introductory physics classes. In L. Ding, A. Traxler, and Y. Cao (Eds.) *2017 Physics Education Research Conference* (pp. 204-207). Cincinnati, OH: American Association of Physics Teachers. doi:10.1119/perc.2017.pr.046

69) [G] Richey, J. E., [G] Zepeda, C. D., & **Nokes-Malach, T. J.** (2015). Transfer effects of prompted and self-reported analogical comparison and self-explanation. In D. Noelle and R. Dale (Eds.) *Proceedings of the 37th Annual Conference of Cognitive Science Society* (pp. 1985-1990). Austin, Texas: Cognitive Science Society.

70) [G] Richey, J. E., [P] Bernacki, M. L., [G] Belenky, D. B., & **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, and B. Scassellati (Eds.) *Proceedings of the 36th Annual Conference of Cognitive Science Society* (pp. 1287-1292). Austin, Texas: Cognitive Science Society.

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

72) Fancsali, S. E., [P] Bernacki, M. L., **Nokes-Malach, T. J.,** Yudelson, M., & Ritter, S. (2014). Goal orientation, self-efficacy, and "online measures" in intelligent tutoring systems. In P. Bello, M. Guarini, M. McShane, and B. Scassellati (Eds.) *Proceedings of the 36th Annual Conference of Cognitive Science Society* (pp. 2169-2174). Austin, Texas: Cognitive Science Society.

73) [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2013). The role of achievement goal motivation in self-explanation and knowledge transfer. In M. Knauff, M. Pauen, N. Sebanz, and I. Wachsmuth (Eds.) *Proceedings of the Thirty-Fifth Annual Conference of Cognitive Science Society* (pp. 1881-1886). Austin, Texas: Cognitive Science Society.

74) [G] Gadgil, S., & **Nokes, T. J.** (2010). Collaborative facilitation through error-detection: A classroom experiment. In S. Ohlsson and R. Catrambone (Eds.), *Proceedings of the Thirty-Second Annual Conference of the Cognitive Science Society* (pp. 2583-2588). Austin, Texas: Cognitive Science Society.

75) [G] Belenky, D. M., & **Nokes, T. J.** (2010). Optimizing learning environments: An individual differences approach to learning and transfer. In S. Ohlsson and R. Catrambone (Eds.), *Proceedings of the Thirty-Second Annual Conference of the Cognitive Science Society* (pp. 459-464). Austin, Texas: Cognitive Science Society.

76) Asterhan S. C., Schwarz, B. B., Butera, F., Darnon, C., **Nokes, T. J.,** Levine, J. M., [G] Belenky, D. M., [G] Gadgil, S., Resnick, L. B., & Sinatra, G. (2010). Motivation and affect in peer argumentation and socio-cognitive conflict. In K. Gomez, L. Lyons, and J. Radinsky (Eds.), *Learning in the Disciplines: Proceedings of the 9th International Conference of the Learning Sciences* (*ICLS 2010), Volume 2, Short papers, Symposia, and Selected Abstracts* (pp. 211-218). Chicago, IL, USA: ISLS.

77) [G] Gadgil, S., & **Nokes, T. J.** (2009). Analogical scaffolding in collaborative learning. In N. Taatgen, H. van Rijn, L., Shoemaker, and J. Nerbonne (Eds.), *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society* (pp. 3115-3120). Austin, Texas: Cognitive Science Society.

78) [G] Belenky, D. M., & **Nokes, T. J.** (2009). Motivation and Transfer: The role of achievement goals in preparation for future learning. In N. Taatgen, H. van Rijn, L., Shoemaker, and J. Nerbonne (Eds.), *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society* (pp. 1163-1168). Austin, Texas: Cognitive Science Society.

79) [P] Hausmann, R. G. M., **Nokes, T. J.**, VanLehn, K., & Van De Sande, B. (2009). The design of self-explanation prompts: The fit hypothesis. In N. Taatgen, H. van Rijn, L., Shoemaker, and J. Nerbonne (Eds.), *Proceedings of the Thirty-First Annual Conference of the Cognitive Science Society* (pp. 2626-2631). Austin, Texas: Cognitive Science Society.

80) [P] Hausmann, R. G. M., **Nokes, T. J.**, VanLehn, K., & Van de Sande, B. (2009). Collaborative dialog while studying worked-out examples. In V. Dimitrova, R. Mizoguchi, B. du Boulay, and A. Graesser (Eds.), *Proceedings of the 2009 Conference on Artificial Intelligence in Education: Building Learning Systems that Care: From Knowledge Representation to Affective Modeling* (pp. 596-598). Amsterdam, The Netherlands: IOS Press. doi: 10.3233/978-1-60750-028-5-596

81) **Nokes, T. J.**, & VanLehn, K. (2008). Bridging principles and examples through analogy and explanation. In G. Kanselaar, V. Jonker, P. A. Kirschner, and F. J. Prins (Eds.), *International Perspectives in the Learning Sciences: Cre8ting a Learning World, Proceedings of the 8th International Conference for the Learning Sciences (ICLS 2008)*, *Volume 3* (pp. 100-102). Utrecht, The Netherlands. ISLS.

82) **Nokes, T. J.**, & Ross, B. H. (2007). Facilitating conceptual learning through analogy and explanation. In L. Hsu, C. Henderson, and L. McCullough (Eds.), *Physics Education Research Conference, Vol. 951* (pp. 7-10). Melville, NY: American Institute of Physics Conference Proceedings. doi: 10.1063/1.2820952

83) **Nokes, T. J.** (2005). An investigation into adaptive shifting in knowledge transfer. In B. Bara, L. Barsalou, M. Bucciarelli (Eds.), *Proceedings of the Twenty-Seventh Annual Conference of the Cognitive Science Society* (pp. 1660-1665). Mahaw, NJ: Erlbaum.

84) **Nokes, T. J.** (2004). Testing three theories of knowledge transfer. In D. Gentner, K. Forbus, and T. Regier (Eds.), *Proceedings of the Twenty-Sixth Annual Conference of the Cognitive Science Society* (pp. 1029-1034). Mahaw, NJ: Erlbaum.

85) Ash, I. K., & **Nokes, T. J.** (2003). Instructional focus does not affect implicit pattern learning. In R. Alterman and D. Krish (Eds.), *Proceedings of the Twenty-Fifth Annual Conference of the Cognitive Science Society* (pp. 103-108). Mahaw, NJ: Erlbaum.

86) **Nokes, T. J.**, & Ohlsson, S. (2001). How is abstract generative knowledge acquired? A comparison of three learning scenarios. In J. D. Moore and K. Stenning (Eds.), *Proceedings of the Twenty-Third Annual Conference of the Cognitive Science Society* (pp. 710-715). Mahaw, NJ: Erlbaum.

87) **Nokes, T. J.**, & Ohlsson, S. (2000). An inquiry into the function of implicit knowledge and its role in problem solving. In L. R. Gleitman & A. K. Joshi (Eds.), *Proceedings of the Twenty-Second Annual Conference of the Cognitive Science Society* (pp. 829-834). Mahaw, NJ: Erlbaum.

WORKS IN PROGRESS

[G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T., & Menekse, M. (under review). Understanding the relationship between self-efficacy and achievement goals, and their predictive role on procedural and conceptual learning.

[G] Caddick, Z. A., Fraundorf, S. H., Rottman, B. M., **Nokes-Malach, T. J.** (under review). Cognitive perspectives on maintaining physicians' medical expertise: II. Acquiring, maintaining, and updating cognitive skills.

Fraundorf, S. H., [G] Caddick, Z. A., **Nokes-Malach, T. J.**, & Rottman, B. M. (under review). Cognitive perspectives on maintaining physicians' medical expertise: III. Strengths and weaknesses of self-assessment.

Fraundorf, S. H., [G] Caddick, Z. A., **Nokes-Malach, T. J.**, & Rottman, B. M. (under review). Cognitive perspectives on maintaining physicians' medical expertise: IV. Best practices and open questions in using testing to enhance learning and retention.

Rottman, B. M., [G] Caddick, Z. A., **Nokes-Malach, T. J.**, Fraundorf, S. H. (under review). Cognitive perspectives on maintaining physicians' medical expertise: I. The role of longitudinal assessment in comparison to other life-long learning mechanisms.

Nokes-Malach, T. J., Fraundorf, S. H., [G] Caddick, Z. A., & Rottman, B. M. (under review). Cognitive perspectives on maintaining physicians' medical expertise: V. Using an expectancy-value framework to understand the benefits and costs of testing.

[G] Zepeda, C. D., & **Nokes-Malach, T. J.** (under review). Comparing and contrasting models of self-regulated learning: What roles do metacognition and motivation play?

[G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T., & Menekse, M. (in preparation). Examining the role of motivation in transfer: A person-centered approach.

[G] Zepeda, C. D., & **Nokes-Malach, T. J.** (in preparation). Testing assumptions of self-regulated learning throughout a college course: Cyclical, iterative, and contextually driven.

GRANTS

[P] Indicates a postdoctoral collaborator, [G] graduate student collaborator

Current Support (Total $3,070,917)

- *Collaborative research: Investigating the Impact of Mindfulness Training to Mitigate Psychological Threat and Enhance Engagement and Learning in Undergraduate Introductory Physics*
  National Science Foundation, DUE-2100040, 10/21-10/24
  Total costs: $1,421,281
  PI: Brian M. Galla; Co-PI's: Eric Kuo (Illinois), Melanie Good, Timothy Nokes-Malach

- *Implementing Science of Learning Principles within Educational Practice*
  James S. McDonnell Foundation, Grant # 220020483, 12/16-12/27
  Total costs: $4,635,718
  Sub-award to the University of Pittsburgh: $599,992
  Sponsoring Institution: Iowa State University (Shana Carpenter, PI)
  Collaborative Institutions: University of Texas Austin (Andrew Butler, PI), Purdue University (Jeffrey Karpicke, PI), Boston College (David Miele, PI), Texas Christian University (Sarah Uma Tauber, PI), University of Pittsburgh (Timothy Nokes-Malach, PI)

- *Designing Effective Dialogue, Gaze, and Gesture Behaviors in a Social Robot that Supports Collaborative Learning in Middle School Mathematics*
  National Science Foundation, IIS-2024645, 9/20-9/23
  Total costs: $907,800
  PI: Erin Walker, Co-PI's: Diane Litman, Adriana Kovashka, Timothy Nokes-Malach

- *Using Mindfulness Training to Support Engagement, Learning, and Retention in Undergraduate Introductory Physics Courses*
  University of Pittsburgh, Learning Research and Development Center: Seed Grant Competition, 7/20-7/23
  Total costs: $149,644
  PI: Brian Galla, Co-PI: Timothy Nokes-Malach

Previous Support (Total: $4,515,784)

External

- *Foundational Science for Continuing Board Certification*
  American Board of Internal Medicine, 1/20-9/21
  Total costs: $81,897
  PIs: Benjamin Rottman, Scott Fraundorf, Co-PI: Timothy Nokes-Malach

- *Build, Understand, & Tune Interventions that Cumulate to Real Impact*
  National Science Foundation, DUE-1524575, 9/15-8/21
  Total costs: $1,795,922
  PI: Timothy Nokes-Malach, Co-PI's: Kevin Binning, Joesph Grabowski, Nancy Kaufmann, Ben Rottman, Chandralekha Singh, Chris Schunn, Elizabeth Votruba-Drzal

- *Investigating Motivation and Transfer in Physical Science through Preparation for Future Learning Instruction*
  National Science Foundation, DUE-1534829, 9/15-12/19
  Total costs: $593,278
  PI: Timothy Nokes-Malach, Co-PIs: Muhsin Menekse, Tanner LeBaron Wallace

- *Microgenetic and Longitudinal Approaches to Assessing the Relationship between Motivation and Affect on Robust Learning*
  National Science Foundation, Pittsburgh Science of Learning Center (LearnLab), SBE-0836012, 9/10-2/15
  Sub-award to the University of Pittsburgh: $285,467
  PI: Timothy Nokes-Malach, Co-PI: Vincent Aleven

- *Dialectical Interaction, Motivation, and Metacognition Interventions to Support Robust Learning*
  National Science Foundation, Pittsburgh Science of Learning Center (LearnLab), SBE-0836012, 9/09-2/15
  Sub-award to the University of Pittsburgh: $785,482
  PI: Timothy Nokes-Malach, Co-PI of the dialectical interaction component: John Levine

- *The 21st Century Research and Development Center on Cognition and Science Instruction*
  Department of Education, Institute for Education Sciences, R305C080009, 7/08-7/13
  Total costs: $9,995,038
  PI: Joseph Merlino, Co-PI's: Jennifer Cromley, Nora Newcombe, Timothy Nokes, Andy Porter, Christian Schunn

- *Analogical Scaffolding in Collaborative Learning*
  National Science Foundation, Pittsburgh Science of Learning Center (LearnLab), SBE-0354420, 7/08-7/09
  Sub-award to the University of Pittsburgh: $80,000
  PI: Timothy Nokes, Co-PI: ^{G} Soniya Gadgil

- *Harnessing What You Know: The Role of Analogy in Robust Learning*
  National Science Foundation, Pittsburgh Science of Learning Center (LearnLab), SBE-0354420, 7/08-7/09
  Sub-award to the University of Pittsburgh: $80,000
  PI: Timothy Nokes, Co-PI: ^{P} Robert G. M. Hausmann

- *Conceptual Analysis and Student Learning in Physics*
  Department of Education, Institute for Education Sciences, R305B070085, 7/07-7/11
  Total costs: $1,203,164
  Sub-award to the University of Pittsburgh: $124,646
  PI: Brian Ross, Co-PI's: Jose Mestre, Timothy Nokes

- *Bridging Principles and Examples through Analogy and Explanation*
  National Science Foundation, Pittsburgh Science of Learning Center (LearnLab), SBE-0354420, 1/07-6/08
  Sub-award to the University of Pittsburgh: $189,279
  PI: Timothy Nokes, Co-PI: Kurt VanLehn

Internal

- *Testing and Integrating a Mindfulness Resource in a Large Undergraduate STEM Course*
  University of Pittsburgh, Discipline-Based: Science Education Research Center (dB-SERC), 7/20-7/22
  Total costs: $10,000
  PI: Brian M. Galla, Co-PI's: Melanie Good, Timothy Nokes-Malach

- *A Bayesian Approach to the Study of Conceptual Change*
  University of Pittsburgh, Learning Research and Development Center: Seed Grant Competition, 7/18-12/21
  Total costs: $149,933
  PI: Eric Kuo, Co-PI's: Ben Rottman, Timothy Nokes-Malach

- *LRDC Undergraduate Summer Internship Program*
  University of Pittsburgh, Pitt Seed Grant Competition, 7/19-7/21
  Total costs: $50,000
  PI: Natasha Tokowicz, Co-PI: Timothy Nokes-Malach

- *Studying Collaborative Dialogue with a Teachable Robot in a Mathematics Domain*
  University of Pittsburgh, Learning Research and Development Center: Seed Grant Competition, 7/19-5/21
  Total costs: $25,819
  PI: Erin Walker, Co-PI's: Diane Litman, Timothy Nokes-Malach

- *Enhancing Undergraduate STEM Learning through Personalized Mobile Mindfulness Training*
  University of Pittsburgh, Personalized Education Grant Program, 5/18-4/20
  Total costs: $25,000
  PI: Brian Galla, Co-PI: Tim Nokes-Malach

- *Flipping the Script: Innovating Large Undergraduate Psychology Lectures with Learning Principles from Cognitive Science*
  Total costs: $14,908
  University of Pittsburgh, Discipline-Based: Science Education Research Center (dB-SERC), 7/15-7/16
  PI: Timothy Nokes-Malach, Co-PI: ^{G} Cristina Zepeda

- *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: Seed Grant Competition, 7/14-7/16
  Total costs: $149,763
  PI's: Timothy Nokes-Malach, Tanner LeBaron Wallace, James Greeno, and Rip Correnti

- *Dialectical Interaction and Conceptual Learning*
  University of Pittsburgh, Learning Research and Development Center: Seed Grant Competition, *9/08-9/10*
  Total costs: $74,390
  PI: John Levine; Co-PI: Timothy Nokes

INVITED PRESENTATIONS (External)

1) Walker, E., Litman, D., Kovashka, A. & **Nokes-Malach, T. J.** (2022, April). *Designing effective dialogue, gaze, and gesture behaviors in a social robot that supports collaborative learning in middle school mathematics*. National Robotics Institute Foundational Research in Robotics Meeting. National Science Foundation, Virtual Meeting.

2) **Nokes-Malach, T. J.** (2022, March). *Using large educational data sets to understand factors that affect student success in STEM*. Presentation given to the Program in Applied Developmental and Educational Psychology, Boston College, Virtual Meeting.

3) **Nokes-Malach, T. J.** (2021, November). *Using large educational data sets to understand factors that affect student success in STEM*. Presentation given to the Interdisciplinary Training Program in the Educational Sciences Seminar, University of Wisconsin Madison, Madison, WI.

4) **Nokes-Malach, T. J.** (2020, June). Interdisciplinary collaborations: Example and reflections. In M. Peffer, K. Daniel, and A. Schuchardt (Chairs), *Improving science education through interdisciplinary collaborations between learning sciences and discipline-based education research: A workshop for new and established researchers*. Presentation given at a workshop at the International Conference of the Learning Sciences, Virtual Meeting.

5) **Nokes-Malach, T. J.** (2019, February). *Investigating student motivation, learning, and transfer*. Presentation given to the Cognitive Science Seminar Series, Institute for Intelligent Systems, University of Memphis, Memphis, TN.

6) **Nokes-Malach, T. J.** (2018, November). *Investigating student motivation, learning, and transfer*. Presentation given to the Cognitive Psychology Brown Bag Series, Department of Psychological Sciences, Kent State University, Kent, OH.

7) **Nokes-Malach, T. J.** (2018, September). Keynote Speaker: *Using big data to understand factors that affect student success in STEM.* Conference at the Interface of Discipline-Based Education Research in STEM and Psychological Science, St. Louis, MO.

8) **Nokes-Malach, T. J.** (2018, March). *Using big data to understand factors that affect student success in STEM.* Presentation given to the Academic Innovation at Michigan Workshop Series (AIM: Analytics). University of Michigan, Ann Arbor, Michigan.

9) **Nokes-Malach, T. J.** (2017, March). *Investigating the role of motivation and metacognition in promoting knowledge transfer.* Presentation given to the Cognitive Psychology Brown Bag Series, Department of Psychology, University of Illinois at Chicago, Chicago, IL.

10) **Nokes-Malach, T. J.**, Richey, E., Gadgil, S. (2016, May). *When is it better to learning together? Insights from research on the costs and benefits of collaborative learning*. Learning in Social Contexts Conference. University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA.

11) **Nokes-Malach, T.**, Betancur, L., Binning, K., Chen, S., Grabowski, J., Kaufman, N., Marshman, E., Rottman, B., Schunn, C., Schuchardt, A., Singh, C., & Votruba-Drzal, E. (2016, April). *Build, understand, and tune interventions that cumulate to real impact*. Poster given at the Envisioning the Future of Undergraduate STEM Education (EnFUSE): Research and Practice Symposium. National Science Foundation, Washington DC.

12) **Nokes-Malach, T. J.** (2016, March). *Investigating the role of motivation and metacognition in promoting knowledge transfer.* Colloquium given to the Physics Education Research Group, Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL.

13) Klahr, D., & **Nokes-Malach, T. J.** (2016, February). *Timing is everything … sometimes*. Network for the Science of Learning Center's Awardee Meeting 2016. National Science Foundation, Washington, DC.

14) **Nokes-Malach, T. J.** (2015, April). *Science diaries: A writing intervention to improve motivation in middle school science*. Cognitive and Developmental Brown Bag Series, Psychology Department, Carnegie Mellon University, Pittsburgh, PA.

15) **Nokes-Malach, T. J.** (2014, October). *Knowledge transfer: New approaches to a controversial phenomenon*. Beckman Institute for Advanced Science and Technology 25th Anniversary Symposium. University of Illinois at Urbana-Champaign, Urbana, IL.

16) **Nokes-Malach, T. J.** (2011, July). *Conceptual analysis facilitates learning in laboratory and classroom settings*. Pittsburgh Science of Learning Center Summer Intern Program, Carnegie Mellon University, Pittsburgh, PA.

17) **Nokes, T. J.**, Levine, J. L., [G] Belenky, D. B., & [G] Gadgil, S. (2010, July). *Investigating the impact of dialectical interaction on engagement, arousal, and robust learning*. Pittsburgh Science of Learning Center Summer Intern Program, Carnegie Mellon University, Pittsburgh, PA.

18) **Nokes, T. J.**, [P] Hausmann, R. G. M., VanLehn, K., & Gershman, S. (2009, November). *The design of self-explanation prompts: The fit hypothesis*. Science of Learning Centers PI Meeting, Washington, DC.

19) **Nokes, T. J.** (2009, October). Using cognitive science to improve student learning. In R. Lopez (Chair), *Brain, mind, and learning: Research at the science of learning centers*. Symposium conducted at the 2009 Annual Meeting of the Advancing Hispanics/Chicanos & Native Americans in Science, Dallas, TX.

20) **Nokes, T. J.** (2009, October). Robust Learning. In R. Lopez (Chair), *Learn-a-Palooza*. Plenary symposium conducted at the 2009 Annual Meeting of the Advancing Hispanics/Chicanos & Native Americans in Science, Dallas, TX.

21) **Nokes, T. J.** (2009, March). Taking cognitive science to school: How cognitive science can improve conceptual learning in physics classrooms. In N. Newcombe (Chair), *The new learning sciences*. President's Integrative Symposium conducted at the Annual Meeting of the Eastern Psychological Association Conference, Pittsburgh, PA.

22) **Nokes, T. J.** (2007, August). *Facilitating conceptual learning through analogy and explanation*. Physics Education Research Conference, Greensboro, NC.

23) **Nokes, T. J.**, Meade, M. L., & Morrow, D. G. (2007, June). *Investigating the role of expertise in collaborative tasks*. Pittsburgh Science of Learning Center Summer Intern Program, Carnegie Mellon University, Pittsburgh, PA.

24) **Nokes, T. J.** (2006, February). *Creating adaptive knowledge structures and skills: Investigations of learning and transfer*. Cognitive Psychology Brown Bag Series, University of Illinois at Chicago, Chicago, IL.

25) **Nokes, T. J.** (2005, December). *Understanding transfer: An investigation into multiple mechanisms*. Psychology Colloquium, University of Pittsburgh, Pittsburgh, PA.

26) **Nokes, T. J.** (2004, March). *Investigating multiple mechanisms of knowledge transfer*. Symposium on Reasoning and Learning in Cognitive Systems, Stanford University, Palo Alto, CA.

INVITED PRESENTATIONS (Internal)

1) **Nokes-Malach, T. J**. & the Mindfulness Team. (2023, January). Developing and testing a mindfulness intervention for introductory physics courses. Presentation given to the University of Pittsburgh Week of Seismic.

2) Galla, B., **Nokes-Malach, T. J.**, & Good, M. (2021, November; 2022, March). *Testing and integrating a mindfulness resource in a large undergraduate STEM course*. Presentations given to the Discipline-Based Science Education Research Center.

3) **Nokes-Malach, T. J.** (2021, April). *Investigating student motivation, learning, and transfer*. Presentation given to the Pitt Psi Chi Chapter.

4) **Nokes-Malach, T. J.** (2020, February). *Study smarter, not harder! Strategies supported by cognitive science*. Presentation given the University of Pittsburgh Psychology Club.

5) **Nokes-Malach, T. J.** (2019, April). *The effect of expansive versus narrow environments on creative problem solving*. Presentation given to the University of Pittsburgh Psychology Club.

6) **Nokes-Malach, T. J.** (2018, December). *Strategies to enhance student learning and motivation based on principles of cognitive science.* Presentation given to the Teaching Brown Bag Series, Department of Psychology.

7) **Nokes-Malach, T. J.** (2018, October). *The impact of prior preparation and motivational characteristics on learning outcomes in introductory physics.* Presentation given to the Board of Visitors Meeting, LRDC.

8) **Nokes-Malach, T. J.** (2018, June). *Strategies to enhance student learning and motivation based on principles of cognitive science*. Presentation given to the Discipline-Based Science Education Research Center.

9) **Nokes-Malach, T. J.** (2018, April). *Investigating student motivation, learning, and transfer*. Presentation given to the University of Pittsburgh Psychology Club.

10) **Nokes-Malach, T.**, Betancur, L., Binning, K., Chen, S., Grabowski, J., Kaufman, N., Limeri, L., Marshman, E., Jamal-Orozco, N., Rottman, B., Schunn, C., Schuchardt, A., Singh, C., Vincent-Ruz, P., & Votruba-Drzal, E. (2016, October). *Intervention science: Investigating educational innovations at Pitt*. Board of Visitors Meeting, LRDC.

11) **Nokes-Malach, T. J.** (2016, March). *Flipping the script: Innovating large lectures with principles from cognitive science*. Presentation given to the Discipline-Based Science Education Research Center.

12) **Nokes-Malach, T. J.** (2016, February). *Knowledge transfer: New approaches for a controversial phenomenon*. Presentation given to the Research Round Table, Department of Communication Sciences and Disorders, School of Health and Rehabilitation Sciences.

13) Rottman, B., & **Nokes-Malach, T. J.** (2015, October). *Authenticity in educational instruction*. Presentation given to the Discipline-Based Science Education Research Center.

14) **Nokes-Malach, T. J.** (with Akiva, T., Galla, B., Kelly, S., Wang, M.). (2015, October). *Panel on motivation and engagement*. Learning Sciences and Policy Program and the Applied Developmental Psychology Program. School of Education.

15) **Nokes-Malach, T. J.**, Binning, K., Grabowski, J., Kaufman, N., Rottman, B., Schunn, C., Singh, C., Votruba-Drzal, E. (2015, October). *Build, understand, and tune interventions that cumulate to real impact*. Presentation given to the LRDC faculty.

16) **Nokes-Malach, T. J.** (2015, March). *The role of motivation in supporting preparation for future learning and knowledge transfer*. Presentation given to the Discipline-Based Science Education Research Center.

17) **Nokes-Malach, T. J.** (2014, April). *Science diaries: A brief writing intervention to improve motivation to learn science*. Board of Visitors Meeting, LRDC.

18) **Nokes-Malach, T. J.** (2014, April). *Science diaries: A writing intervention to improve motivation and achievement in middle school science*. Learning Sciences and Policy Brown Bag Series.

19) **Nokes-Malach, T. J.** (2013, March). *Conceptual learning principles*. School of Nursing's education series: "Placing the Learner First."

20) **Nokes-Malach, T. J.**, & [G] Chan, J. (2011, November). *The effects of expansive versus narrow environments on creative problem solving*. Annual induction ceremony of the Psi Chi Chapter.

21) **Nokes, T. J.**, Levine, J. L., [G] Belenky, D. B., & [G] Gadgil, S. (2010, June). *Dialectical interaction and conceptual learning*. Board of Visitors Meeting, LRDC.

22) **Nokes, T. J.** (2009, April). *Taking cognitive science to school: Improving cognitive science and student learning*. Research for Practice Conference, LRDC.

23) **Nokes, T. J.** (2008, December). *Taking cognitive science to school: How cognitive science can improve conceptual learning in physics classrooms*. Learning Sciences and Policy Brown Bag Series.

24) **Nokes, T. J.** (2006, April). *Creating adaptive knowledge structures and skills: Investigations of learning and transfer*. Cognitive Psychology Brown Bag Series, University of Illinois at Urbana-Champaign.

25) **Nokes T. J.,** Mestre, J. P., & Ross, B. H. (2006, April). *Facilitating knowledge transfer in physics*. Physics Education Brown Bag Series, University of Illinois at Urbana-Champaign.

PRESENTATIONS

[P] Indicates a postdoctoral author, [G] graduate student author, [U] undergraduate student author

1) [P] Lobczowski, N. G., [G] Asano, Y., Dahan, C., [U] Davison, T., **Nokes-Malach, T. J.**, Litman, D., Kovashka, A., & Walker, E. A. (accepted). Exploring Social Contagion in a CSCL Environment with a Social Robot. Paper to be presented as part of a symposium at the 2023 annual meeting of the European Association of Research on Learning and Instruction (EARLI), Thessaloniki, Greece.

2) [P] Benson-Greenwald, T. Galla, B. M., **Nokes-Malach, T. J.**, Kuo, E., Good, M., [G] Tumminia, M., [G] Pelakh, A., & Jahanian S. (2023, April). Engaging mindfully: Mindfulness training promotes psychological engagement in physics. Paper to be presented at the 95th Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

3) [P] Lobczowski, N. G., [G] Steele, C., [G] Yu, M., [G] Diamond, M., [U] Henriques, A., Kovashka, A., Litman, D., **Nokes-Malach, T.**, & Walker, E. (2022, October). *Exploring relationships between dyadic-level factors and collaborative learning outcomes with social robots.* Paper presented at the Association for Educational Communications and Technology International Convention, Las Vegas, NV.

4) [G] Pelakh, A., Good, M., Kuo, E., [G] Tumminia, M. J., Jahanian, S., **Nokes-Malach, T.**, & Galla, B. (2022, November). Testing associations between mindfulness training, psychological threat, and perceptions of confidence, difficulty, and anxiety during problem solving. Paper presented at the 63rd Annual Meeting of the Psychonomic Society, Boston, MA.

5) Good, M., Pelakh, A., Galla, B., **Nokes-Malach, T.**, Tumminia, M., Hinshaw, K., Jahanian, S., & Kuo, E. (2022, July). *Psychological threat and demands in physics classes.* Poster presented at the Physics Education Research Conference, Grand Rapids, MI.

6) [G] Pelakh, A., Good, M. L., Kuo, E., [G] Tumminia, M.J., Jahanian, S., **Nokes-Malach, T.**, & Galla, B. (2022, April). *Examining associations between stress appraisals, problem categorization, and solution times in undergraduate physics students.* Poster presented at the Center for Integrative Research on Cognition, Learning, and Education Conference, St. Louis, MO.

7) [G] Jaramillo, S., Kuo, E., **Nokes-Malach, T.J.**, & Rottman, B.M. (2021, July). Using causality to map difficulties in a qualitative physics problem. Poster presented at the Forty-third Annual Conference of Cognitive Science Society, Virtual Meeting.

8) [G] Pelakh, A**.**, Good, M. L., Kuo, E., **Nokes-Malach, T.**, [G] Tumminia, M.J., [G] Jamal-Orozco, N., [G] Diamond, M.S., [U] Adelman, A., Galla, B. (2021, July). *The relationship between intelligence mindset and test anxiety as mediated by effort regulation.* Poster presented at the Forty-third Annual Conference of Cognitive Science Society, Virtual Meeting.

9) [G] Boden, K. K., **Nokes-Malach, T. J.**, Miele, D. B., & Fujita, K. (2020, April). Can seeing the forest impact transfer? Effects of construal-level on learning strategies and knowledge transfer. In V. Yan (Chair), *Contextualizing knowledge and decision-making in strategic learning*. Symposium conducted at the annual meeting of the American Educational Research Association, Virtual Meeting.

10) [G] Boden, K. K., Kuo, E., **Nokes-Malach, T. J.**, [G] King-Shepard, Q., Wallace, T. L., & Menekse, M. M. (2020, April). Examining the role of motivation for transfer: A person-centered approach. In D. B. Miele, A. L. Wigfield, and B. Finn (Chairs), *Broadening the terrain: Examining novel motivational processes in STEM contexts*. Symposium conducted at the annual meeting of the American Educational Research Association, Virtual Meeting.

11) [G] King-Shepard, Q., [G] Boden, K., [U] Adelman, A., **Nokes-Malach, T. J.**, & Carpenter, S. (2020, July). *Investigating the benefits of pre-questions on lecture-based learning*. Poster presented at the Forty-Second Annual Conference of the Cognitive Science Society, Virtual Meeting.

12) [G] Diamond, M., & **Nokes-Malach, T. J.** (2020, July). *Investigating the role of student achievement goals in conceptual physics learning*. Poster presented at the Forty-Second Annual Conference of the Cognitive Science Society, Virtual Meeting.

13) [G] King-Shepard, Q., [P] Kuo, E., & **Nokes-Malach, T. J.** (2019, November). *Investigating the effects of a physics misconception on the perception of physical motion*. Poster presented at the 60th Annual Meeting of the Psychonomic Society, Montreal, CA.

14) [G] Cwik, S., [G] Kalender, Y., Schunn, C., **Nokes-Malach, T.**, & Singh, C. (2019, July). *Understanding motivational characteristics of students who repeat calculus-based introductory level physics courses.* Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

15) [G] Kalender, Y., Marshman, E., Schunn, C., **Nokes-Malach, T.**, & Singh, C. (2019, July). *Investigating the role of prior preparation and self-efficacy on female and male students' introductory physics learning outcomes*. Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

16) [P] Kuo, E., [U] Weinlader., N, **Nokes-Malach, T.**, & Rottman, B. (2019, July). *Measuring conceptual understanding through students judgments of certainty*. Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

17) [G] Li, Y., [G] Kalender, Y., Schunn, C., **Nokes-Malach, T.**, & Singh, C. (2019, July). *Understanding motivational characteristics of students who repeat algebra-based introductory physics courses.* Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

18) **Nokes-Malach, T.**, [G] Kalender, Y., Marshman, E., Schunn, C., & Singh, C. (2019, July). *How is perception of being recognized by others as someone good at physics related to female and male students' physics identities.* Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

19) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T.**, Schunn, C., & Singh, C. (2019, July). *An examination of gender differences in self-efficacy and academic performance in different STEM domains.* Paper presented at the summer meeting of the American Association of Physics Teachers, Provo, UT.

20) [P] Kuo, E., [G] Boden, K., [G] King-Shepard, Q., **Nokes-Malach, T.**, & Wallace, T. (2019, January). *Motivation enhances conceptual learning, not procedural training.* Paper presented at the winter meeting of the American Association of Physics Teachers, Houston, TX.

21) [G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T. L., Menekse, M. M. & [G] King-Shepard (2018, November). *Investigating the role of motivation in procedural and conceptual learning?* Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.

22) [G] Jamal-Orozco, N. P., [U] Russo, G., [G] Weaver, A., **Nokes-Malach T. J.**, & Galla, B. M., (2018, November). *Investigating the effects of mindfulness training on students' emotion regulation and learning*. Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, Louisiana, USA.

23) [G] King-Shepard, Q., [P] Kuo, E., & **Nokes-Malach, T. J.** (2018, November). *Investigating the relation between declarative versus embodied knowing of physics concepts*. Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.

24) [G] Zepeda, C. D., & **Nokes-Malach T. J.** (2018, November). *Investigating the relations between metacognitive study strategies and exam performance in a college course*. Poster presented at the 59th Annual Meeting of the Psychonomic Society, New Orleans, LA.

25) [G] Zepeda, C. D., & **Nokes-Malach T. J.** (2018, September). *Investigating the relations between metacognitive study strategies and exam performance in a college course*. Poster presented at the Conference at the Interface of Discipline-Based Education Research in STEM and Psychological Science, St. Louis, MO.

26) [G] Kalender, Y., [P] Marshman, E., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018, July). *Large gender differences in physics self-efficacy at equal performance levels: A warning sign?* Paper presented at the summer meeting of the American Association of Physics Teachers, Washington, DC.

27) [P] Kuo, E., [G] Boden, K., [G] King-Shepard, Q., **Nokes-Malach, T.**, Wallace, T., & Muhsin, M. (2018, July). *Inventing with contrasting cases to learn the concept of speed.* Paper presented at the summer meeting of the American Association of Physics Teachers, Washington, DC.

28) **Nokes-Malach, T. J.**, [G] Kalender, Y., [P] Marshman, E., Schunn, C., & Singh, C. (2018, July). *The impact of prior preparation and motivational characteristics on learning outcomes in introductory physics courses.* Paper presented at the summer meeting of the American Association of Physics Teachers, Washington, DC.

29) [P] Marshman, E., [G] Kalender, Y., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C. (2018, July). *Gender differences in students' motivational characteristics: Alarming trends.* Paper presented at the summer meeting of the American Association of Physics Teachers, Washington, DC.

30) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018, July). *How do introductory physics and mathematics courses impact engineering students' performance in subsequent engineering courses?* Paper presented at the summer meeting of the American Association of Physics Teachers, Washington, DC.

31) [G] Jamal-Orozco, N. P., [U] Russo, G., **Nokes-Malach T. J.**, & Galla, B. M. (2018, June). *Investigating the effects of meditation training on students' learning*. Poster presented at the 6th International Workshop on Advanced Learning Sciences, Pittsburgh, PA.

32) [G] Kalender, Y., [P] Marshman, E., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018, June). *An investigation into students' self-efficacy in introductory physics courses*. Poster presented at the 6th International Workshop on Advanced Learning Sciences, Pittsburgh, PA.

33) [G] King-Shepard, Q., [P] Kuo, E., [G] Boden, K., **Nokes-Malach, T.**, Wallace, T., & Muhsin, M. (2018, June). *Learning to recognize a physical quantity in new contexts by inventing it from contrasting cases*. Poster presented at the 6th International Workshop on Advanced Learning Sciences, Pittsburgh, PA.

34) **Nokes-Malach, T.**, [P] Kuo, E., [G] Boden, K., [G] King-Shepard, Q., Wallace, T., & Muhsin, M. (2018, June). Exploring the relations between Student Motivation, Learning, and Transfer. In T. Nokes-Malach (Moderator), *Symposium 1: Motivation and engagement for learning*. Symposium to be conducted at the 6th International Workshop on Advanced Learning Sciences, Pittsburgh, PA.

35) [G] Whitcomb, K. M., [G] Kalender, Y., **Nokes-Malach, T. J.**, Schunn, C., & Singh, C. (2018, June). *How do introductory physics and mathematics courses impact engineering students' performance in subsequent engineering courses?* Poster presented at the 6th International Workshop on Advanced Learning Sciences, Pittsburgh, PA.

36) [G] Jamal-Orozco, N. P., [U] Russo, G., **Nokes-Malach T. J.**, & Galla, B. M. (2018, May). *Investigating the effects of mindfulness training on students' stress, emotion regulation, and learning*. Poster presented at the 30th Annual Convention for the Association for Psychological Science, San Francisco, CA.

37) [G] Boden, K., [P] Kuo, E., Nokes-Malach T., Wallace, T., & Meneske, M., (2018, March). *Motivation and conceptual learning: an examination of self-efficacy and achievement goals in 6th grade science.* Paper presented at the meeting of the National Association for Research in Science Teaching, Atlanta, GA.

38) [G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T. L., & Menekse, M. M. (2017, November). *What is the role of motivation in knowledge transfer? An examination of self-efficacy*. Poster presented at the 58th Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.

39) [G] Jamal-Orozco, N. P., [U] Russo, G., **Nokes-Malach T. J.**, & Galla, B. M. (2017, November). *Breathe, think, learn: The effects of mindfulness training on students' robust learning*. Poster presented at the 58th Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.

40) [G] Zepeda, C. D., & **Nokes-Malach T. J.** (2017, November). *Metacognitive awareness: The type of retrospective question matters*. Poster presented at the 58th Annual Meeting of the Psychonomic Society, Vancouver, BC, Canada.

41) [G] Boden, K. K., [P] Kuo, E., **Nokes-Malach, T. J.**, Wallace, T. L., & Menekse, M. (2017, July). *What is the role of motivation in procedural vs. conceptual transfer?* Poster presented at the Physics Education Research Conference, Cincinnati, OH.

42) **Nokes-Malach, T. J.**, [P] Marshman, E., [G] Kalender, Y., Schunn, C., & Singh, C (2017, July). *Investigating attitudes and performance of students in introductory physics courses: Gender differences*. Poster presented at the Physics Education Research Conference, Cincinnati, OH.

43) **Nokes-Malach, T. J.**, [P] Marshman, E., [G] Kalender, Y., Schunn, & C., Singh, C (2017, July). *Investigating attitudes and performance of students in introductory physics courses: Gender differences*. Paper presented at the Annual Meeting of the American Association of Physics Teachers, Cincinnati, OH.

44) [G] Kalender, Y., [P] Marshman, E., Schunn, C., **Nokes-Malach, T. J.**, & Singh, C (2017, July). *Investigating attitudes and performance of students in introductory physics courses: Racial and ethnic minorities*. Paper presented at the Annual Meeting of the American Association of Physics Teachers, Cincinnati, OH.

45) [G] Boden, K. K., & **Nokes-Malach, T. J.** (2016, April). Examining classroom support of achievement goals through talk. In T. Wallace (Chair), *Investigating cognition and motivation at the classroom level*. Symposium conducted at the annual meeting of the American Educational Research Association, Washington, DC.

46) [G] Richey, J. E., [U] Walker, T., [U] Green, C., & **Nokes-Malach, T. J.** (2016, April). Relational mapping: An interactive perspective on classroom-level analogy support. In T. Wallace (Chair), *Investigating cognition and motivation at the classroom level*. Symposium conducted at the annual meeting of the American Educational Research Association, Washington, DC.

47) [G] Zepeda, C. D., [U] Hlutkowsky, C. O., [U] Partika, A. C., & **Nokes-Malach T. J.** (2016, April). Identifying teachers' supports of metacognition in the classroom. In T. Wallace (Chair), *Investigating cognition and motivation at the classroom level*. Symposium conducted at the annual meeting of the American Educational Research Association, Washington, DC.

48) [G] Zepeda, C. D., & **Nokes-Malach, T. J.** (2015, July). *Capturing the relations between metacognition, self-explanation, and analogical comparison: An exploration of two methodologies*. Poster presented at the Thirty-Seventh Annual Conference of the Cognitive Science Society, Pasadena, CA.

49) [G] Chan, J., & **Nokes-Malach, T. J.** (2014, July). *The impact of physical spaces on divergent and convergent problem-solving performance*. Poster presented at the Thirty-Sixth Annual Conference of the Cognitive Science Society, Quebec City, Quebec, Canada.

50) [U] Ferrara, A. M., [G] Zepeda, C., & **Nokes-Malach, T. J.** (2014, July). *Investigating the relationship between mindfulness and learning*. Poster presented at the Thirty-Sixth Annual Conference of the Cognitive Science Society, Quebec City, Quebec, Canada.

51) [U] Wallace, A., [G] Richey, J. E., & **Nokes-Malach, T. J.** (2014, July). *Changing achievement goals and grades*. Poster presented at the Thirty-Sixth Annual Conference of the Cognitive Science Society, Quebec City, Quebec, Canada.

52) [P] Bernacki, M. L., Aleven, V., & **Nokes-Malach, T. J.** (2014, April). *An examination of self-efficacy during a learning episode: Initial levels, changes and associations with learning*. Poster presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

53) [P] Bernacki, M. L., **Nokes-Malach, T. J.**, Aleven, V., & [U] Glick, J. (2014, April). *Intelligent tutoring systems promote achievement in middle school mathematics, especially for students with low interest.* Paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.

54) **Nokes-Malach, T. J.**, Mestre, J. P., & [G] Belenky, D. M. (2013, April). *A theoretical framework for transfer as sense-making: Applications and examples*. Poster presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

55) [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2013, April). *Task-based vs. course-level achievement goals: An experimental investigation of mastery-approach goals and knowledge transfer*. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

56) [G] Zepeda, C., [G] Richey, J. E., Ronevich, P., **Nokes-Malach, T. J.** (2013, April). *Explicit instruction of metacognition in a middle school science class leads to metacognitive, academic and motivational benefits*. Poster presented at the biennial meeting of the Society for Research on Child Development, Seattle, WA.

57) [G] Zepeda, C., [G] Richey, J. E., Ronevich, P., & **Nokes-Malach, T. J.** (2012, October). *Explicit instruction of metacognition and its benefits to motivation and science learning*. Poster presented at the 2012 Annual Meeting of the Advancing Hispanics/Chicanos & Native Americans in Science, Seattle, WA.

58) [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2012, April). *How mastery-approach goal motivations interact with discovery by contrasting cases to facilitate transfer.* Paper presented at the annual meeting of the American Educational Research Association, Vancouver, BC, Canada.

59) [P] Bernacki, M. L., **Nokes-Malach, T. J.,** & Aleven, V. (2012, April). *Investigating stability and change in task-specific achievement goals and their effects on math learning with intelligent tutors*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, BC, Canada.

60) [G] Richey, J. E., [P] Bernacki, M. L., [G] Belenky, D. M., & **Nokes-Malach, T. J.** (2012, April). *Predicting performance with a task-based behavioral measure of achievement goals*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, BC, Canada.

61) [G] Li, M., Frieze, I., & **Nokes-Malach, T.** (January, 2012). *Place matters: The influence of place attachment in motivation for learning*. Poster presented to the Thirteenth Annual Meeting of the Society for Personality and Social Psychology, San Diego, CA.

62) [P] Alfieri, L., **Nokes, T. J.**, & Schunn, C. D. (2011, September). *Aligning the structural components across learning tasks of case comparisons*. Paper presented at the Annual Meeting of the Society for Research on Educational Effectiveness, Washington, DC.

63) [G] Belenky, D. M., **Nokes, T. J.**, & [P] Bernacki, M. L. (2011, August). *Achievement goals over time: How changes in mastery and performance-approach predict deep knowledge*. Paper presented at the 14th Biennial European Association for Research on Learning and Instruction Conference, Exeter, UK.

64) [G] Belenky, D. M., **Nokes, T. J.**, & [P] Bernacki, M. L. (2011, August). *Achievement goals and learning in a lecture course: Moving towards mastery goals predicts deeper learning.* Poster presented at the Thirty-Third Annual Conference of the Cognitive Science Society, Boston, MA.

65) [G] Belenky, D. M., [U] Potter, S. J., & **Nokes, T. J.** (2011, March). *The effect of expected test pressure on learning*. Poster presented at the Fourth Annual Inter-Science of Learning Center Student and Post-Doc Conference, Washington, DC.

66) [G] Richey, J. E., [P] Chang, A., **Nokes, T. J.**, & Schunn, C. D. (2010, August). *Using analogical learning in science to improve conceptual understanding*. Poster presented at the Thirty-Second Annual Conference of the Cognitive Science Society, Portland, OR.

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

68) **Nokes, T. J.,** Levine, J. M., [G] Belenky, D. M., [G] Gadgil, S. (2010, July). *Investigating the impact of dialectical interaction on engagement, affect, and robust learning*. Paper presented at the 2010 International Conference of the Learning Sciences, Chicago, IL.

69) **Nokes, T. J.**, Mestre, J. P., Ross, B. H., [G] 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.

70) **Nokes, T. J.**, & [G] Gadgil, S. (2010, May). Analogical comparison supports collaborative learning in physics. In W. Hirst and S. Rajaram (Chairs), *Collaborative learning and remembering, Part: 1*. Symposium conducted at the 22nd Annual Convention for the Association for Psychological Science, Boston, MA.

71) **Nokes, T. J.**, Mestre, J., Ross, B. H., & [G] Richey, J. E. (2010, May). Conceptual analysis and student learning in physics. In C. L. O'Donnell and E. Albro (Chairs), *Solving problems in school: Concepts, procedures, and instruction to support learning*. Symposium conducted at the 22nd Annual Conference for the Association for Psychological Science, Boston, MA.

72) [G] Belenky, D. M., [G] Gadgil, S., **Nokes, T. J.**, & Levine, J. (2010, May). *Dialectical interaction, arousal, and learning*. Paper presented at the Third Annual Inter-Science of Learning Center Student and Post-Doc Conference, Boston, MA.

73) [G] Gadgil, S., [G] Belenky, D. M., **Nokes, T. J**., & Levine, J. (2010, May). *Assessing transfer in learning from dialectical interaction*. Poster presented at the Third Annual Inter-Science of Learning Center Student and Post-Doc Conference, Boston, MA.

74) Schunn, C. D., Merlino, J., Cromley, J., Massey, C., Newcombe, N., & **Nokes, T. J.** (2010, April). *Translational science of cognitive science in middle school science curricula*. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

75) [G] Belenky, D. M., & **Nokes, T. J.** (2009, November). *How achievement goals and instructional activities interact to promote or hinder transfer of knowledge*. Poster presented at the 50th Annual Meeting of the Psychonomic Society, Boston, MA.

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

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

78) [P] Hausmann, R. G. M., **Nokes, T. J.**, VanLehn, K., & Gershman, S. (2009, July). *Revising models or filling gaps? The impact of prompting on self-explanation and robust learning*. Paper presented at the 13th Biennial European Association for Research on Learning and Instruction Conference, Amsterdam, The Netherlands.

79) Ross, B. H., Mestre, J. P., **Nokes, T. J.**, [P] Brookes, D. T., [G] Feil, A., & [G] Smith A. D. (2009, June). *Conceptual analysis and student learning in physics*. Poster presented at the 2009 Institute for Education Sciences Research Conference, Washington, DC.

80) **Nokes, T. J.**, Mestre, J. P., Ross, B. H., [G] Feil, A., [P] Brookes, D., & [G] Smith, A. (2009, April). *Conceptual analysis promotes learning and transfer in physics*. Poster presented at the annual meeting of the American Educational Research Association, San Diego, CA.

81) [G] Gadgil. S., & **Nokes, T. J.** (2009, February). *Analogical scaffolding in collaborative learning*. Poster presented at the Second Annual Inter-Science of Learning Center Student and Post-Doc Conference, Seattle, WA.

82) [P] Hausmann, R. G. M., & **Nokes, T. J.** (2009, February). *Evidence of transfer in a Physics 1 Course: An educational data-mining project*. Poster presented at the Second Annual Inter-Science of Learning Center Student and Post-Doc Conference, Seattle, WA.

83) [G] Belenky, D. M., & **Nokes, T. J.** (2008, November). *Interest and depth of processing: Examining the role of metacognitive prompts in learning*. Poster presented at the 49th Annual Meeting of the Psychonomic Society, Chicago, IL.

84) [G] Belenky, D. M., & **Nokes, T. J.** (2008, November). *Use of metacognitive prompts and manipulatives promotes learning and transfer*. Poster presented at the Purdue Winer Memorial Lectures: New Perspectives in Human Problem Solving, West Lafayette, IN.

85) [G] Belenky, D. M., & **Nokes, T. J.** (2008, July). *The effect of concrete and abstract manipulatives on efficient and innovative learning*. Poster presented at the Thirtieth Annual Conference of the Cognitive Science Society, Washington, DC.

86) **Nokes, T. J.**, VanLehn, K., & [G] Belenky, D. M. (2008, July). *Coordinating principles and examples through analogy and explanation*. Poster presented at the Thirtieth Annual Conference of the Cognitive Science Society, Washington, DC.

87) Mestre, J. P., Ross, B. H., **Nokes, T. J.**, [P] Brookes, D., & [G] Feil, A. (2008, June). *Conceptual analysis and student learning in physics*. Poster presented to the 2008 Institute for Education Sciences Research Conference, Washington, DC.

88) **Nokes, T. J.** (2008, February). *Professional development: Job hunting* (with Natasha Tokowicz). Workshop given at the First Annual Inter-Science of Learning Center Student and Post-Doc Conference, Pittsburgh, PA.

89) **Nokes, T. J.**, & Ross, B. R. (2007, August). *Near-miss versus surface-different comparisons in analogical learning and generalization*. Poster presented at the Twenty-Ninth Annual Conference of the Cognitive Science Society, Nashville, TN.

90) Meade, M. L., **Nokes, T. J.**, & Morrow, D. G. (2006, November). *The role of expertise in collaborative memory*. Poster presented at the 47th Annual Meeting of the Psychonomic Society, Houston, TX.

91) Morrow, D. G., Meade, M. L., **Nokes, T. J.**, & Stine-Morrow, E. A. L. (2006, August). *Expertise predicts collaborative success on memory and problem solving tasks*. Paper presented at the American Psychological Association's Annual Convention, New Orleans, LA.

92) **Nokes, T. J.**, Meade, M. L., Morrow, D. G., & Stine-Morrow, E. A. L. (2006, July). *Investigating the effect of domain knowledge on collaborative problem solving*. Poster presented at the Twenty-Eighth Annual Conference of the Cognitive Science Society, Vancouver, BC, Canada.

93) **Nokes, T. J.** (2005, November). *Transfer of training for cognitive skills: An investigation of use-specificity*. Poster presented at the 46th Annual Meeting of the Psychonomic Society, Toronto, ON, Canada.

94) **Nokes, T. J.** (2005, May). *Knowledge transfer: An investigation into the adaptive shifting hypothesis*. Paper presented at the Seventy-Seventh Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

95) **Nokes, T. J.**, & Ohlsson, S. (2003, May). *Comparing practice to instruction in learning complex concepts: What is learned and where does it transfer?* Poster presented at the 15th Annual Convention of the American Psychological Society, Atlanta, GA.

96) Ash, I. K., & **Nokes, T. J.**, (2003, May). *Does attention matter for implicit learning?* Paper presented at the Seventy-Fifth Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

97) **Nokes, T. J.**, Ohlsson, S., & Corrigan-Halpern, A. (2002, August). *Learning by analogy versus learning by instruction: Same knowledge, different representations*. Paper presented at the Eighth Annual ACT-R Workshop, Carnegie Mellon University, Pittsburgh, PA.

98) **Nokes, T. J.**, & Ohlsson, S. (2002, May). *The effect of schema articulation vs. schema detection on concept acquisition and problem solving performance*. Paper presented at the Seventy-Fourth Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

99) **Nokes, T. J.**, & Ash, I. K. (2002, May). *An examination of the role of attentional focus in implicit learning*. Paper presented at the Seventy-Fourth Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

100) Ohlsson, S., Kershaw, T., **Nokes, T.**, Orr, M., & Halpern, A. (2002, January). *Creating novel knowledge structures: Knowledge and practice in abstraction, feedback, insight, and perception*. Poster presented at the UIC Poster Fair for Learning, Teaching, Technology & Teacher Development, Chicago, IL.

101) **Nokes, T. J.**, & Ohlsson, S. (2001, May). *An investigation into the effect of implicit vs. analogical training on problem solving performance*. Paper presented at the Seventy-Third Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

102) Cupal, J., Gonzalez-Marquez, M., & **Nokes, T. J.** (2000, July). *A neural network for learning to use "integral" versus "non-integral" verbs in Spanish sentences*. Paper presented at the Santa Fe Institute Student Paper Symposia, Santa Fe, NM.

103) **Nokes, T. J.**, & Ohlsson, S. (2000, May). *Implicit learning and its effect on deliberate problem solving: Transfer of abstract or domain specific knowledge?* Paper presented at the Seventy-Second Annual Meeting of the Midwestern Psychological Association, Chicago, IL.

104) **Nokes, T. J.**, Halpern, A. D., & Ohlsson S. (1999, August). *Implicit learning and deliberate problem solving: What is the connection?* Poster presented at the Twenty-First Annual Conference of the Cognitive Science Society, Vancouver, BC, Canada.

105) Aks, D. J., **Nokes, T.**, Sprott, J. C., & Keane, E. (1998, November). *Resolving perceptual ambiguity in the necker cube: A dynamical systems approach*. Paper presented at the 39th Annual Meeting of the Psychonomic Society, Dallas, TX.

106) Aks, D. J., **Nokes, T.**, Sprott, J. C., & Keane, E. (1998, August). *Resolving perceptual ambiguity in the necker cube: A dynamical systems approach*. Paper presented at The Society for Chaos Theory in Psychology & Life Sciences Eighth Annual International Conference, Boston, MA.

WORKSHOPS and SYMPOSIA (External)

1) **Nokes-Malach, T. J.,** & Peterson, M. A. (2022, November). *Facilitating belonging, inclusion, and equity in STEM (Special Symposium)*. Symposium organized and given at the 63rd Annual Meeting of the Psychonomic Society, Boston, MA.

2) **Nokes-Malach, T.,** Kalender, Z., Binning, K., & Singh, C. (2019, July). *Using social psychological interventions to make STEM classrooms inclusive and improve learning*. Workshop given at the Annual Physics Education Research Conference, Provo, UT.

3) Marshman, E., Kalender, Z., **Nokes-Malach, T.,** Binning, K., & Singh, C. (2018, July). *Using social psychological interventions to improve learning of all students*. Workshop given at the summer meeting of the American Association for Physics Teachers Conference, Washington, DC.

WORKSHOPS and SYMPOSIA (Internal)

1) **Nokes-Malach, T. J.** (2019, December). *Lunch and learn – identity*. Workshop given to the Cognitive Psychology Brown Bag.

2) **Nokes-Malach, T. J.** (2019, October). *Strategies to enhance learning and motivation based on principles of cognitive science*. Swanson School's Engineering Academic Resource Center's Workshop Series.

3) **Nokes-Malach, T. J.**, Kalender, Y., Marshman, E., Schunn, S., Binning, K., & Singh, C. (2019, July). *Using social psychological interventions to make STEM classrooms inclusive and improve learning*. Workshop given to the Discipline-Based Science Education Research Center.

4) **Nokes-Malach, T. J.** (2022, February; 2019, March; 2018, October) *Study smarter, not harder with strategies supported by cognitive science*. Swanson School's Engineering Academic Resource Center's Workshop Series.

5) **Nokes-Malach, T. J.** (2018, March, February; 2014, February). *Study smarter, not harder with strategies supported by cognitive science*. Arts & Sciences Academic Resource Center's Workshop Series.

TEACHING EXPERIENCE

University of Pittsburgh

- PSY 0005: *Introduction to Cognitive Science (2)*
  - Fall, 2010; Fall, 2012
- PSY 420/421/422: *Cognitive Psychology (16)*
  - Fall, 2007; Spring, 2008; Fall, 2009; Spring 2010; Fall 2011; Spring 2013; Fall 2013; Spring 2015; Fall 2015; Spring 2016; Fall 2016; Spring 2018; Fall 2018; Spring 2019; Spring 2020; Fall 2020; Spring 2023
- PSY 2476: *Topics in Cognitive Psychology: Talk Series, Coordinator (7)*
  - Spring, 2010; Fall, 2010; Spring, 2011; Fall, 2012; Spring, 2013; Fall, 2013; Spring, 2014
- PSY 2476: *Topics in Cognitive Psychology: Knowledge Transfer (5)*
  - Fall, 2008; Fall 2011; Fall 2015; Spring 2018; Fall 2022

- PSY 2476: *Topics in Cognitive Psychology: Learning and Motivation (3)*
  - Spring, 2011; Spring 2017; Spring 2022
- PSY 2476: *Topics in Cognitive Psychology: Metacognition (1)*
  - Spring, 2014

Network of Academic Programs in the Learning Sciences (NAPLeS)

- Webinar – Situative Cognition (w/ James Greeno, March 4th, Spring 2014)

LearnLab Summer School

- InVivo Track Instructor, Summer, 2009, 2013, 2014

University of Illinois at Urbana-Champaign

- PSYCH 523: *Problem Solving & Cognitive Skill Acquisition*
  - Spring, 2006

University of Illinois at Chicago

- PSCH 320: *Developmental Psychology*
  - Co-taught with Andrew Corrigan-Halpern, Summer, 2004
  - Co-taught with Trina Kershaw, Summer, 2003
- PSCH 343: *Statistics in Psychological Science*
  - Spring, 2002

POSTDOCTORAL MENTORING

Current

- Tessa Benson-Greenwald (co-mentored with Brian Galla)

Alumni

- Louis Alfieri (Instructional Designer at Vertex Education)
- Matthew L. Bernacki (Associate Professor of Learning Sciences, University of North Carolina at Chapel Hill)
- Alicia Chang (User design at Google)
- Robert G. M. Hausmann (Assessment and Learning Architect at Proofpoint)
- Nikki Lobczowski (Assistant Professor of Learning Sciences, McGill University)
- Eric Kuo (Assistant Professor of Physics, University of Illinois at Champaign-Urbana)
- Emily Marshman (Associate Professor of Physics, Community College of Allegheny County)

GRADUATE STUDENT MENTORING

Current

- Nabila Jamal-Orozco (6th year)
- Sara Jaramillo (3rd year, co-advisor w/ Ben Rottman)
- Quentin King-Shepard (4th year)
- Avital Pelakh (3rd year)

Alumni

- Brendan Barstow, MA (Research Specialist at Pitt)
- Daniel M. Belenky, PhD (Director of Student Success and Advising at Outlier)
- Kelly K. Boden, PhD (Research Scientist at Macmillan Learning)
- Soniya Gadgil, PhD (Senior Design Researcher at Microsoft)
- Yasemin Kalender, PhD (Assistant Professor of Physics, Rochester Institute of Technology)
- J. Elizabeth Richey, PhD (Visiting Lecturer at University of Pittsburgh)

- Cristina Zepeda, PhD (Assistant Professor of Psychology and Human Development, Vanderbilt University)

STUDENT COMMITTEES

University of Pittsburgh

- ***Dietrich School of Arts and Sciences***
  - *Psychology*
    - Cognitive
      - Bankson, Brett (Specialty Exam)
      - Barstow, Brendan (Mentoring, MA Thesis)
      - Bathgate, Meghan (Mentoring; Specialty Exam, Dissertation)
      - Belenky, Daniel (Mentoring; MA Thesis Chair; Specialty Exam; Dissertation Chair)
      - Bernstein, Deborah (Specialty Exam; Dissertation)
      - Boden, Kelly (Mentoring; MA Thesis Chair; Specialty Exam; Dissertation Chair)
      - Braham, Emily (Dissertation)
      - Buckser, Rae (Mentoring)
      - Caddick, Zac (Mentoring; MA Thesis; Specialty Exam)
      - Chan, Joel (Mentoring; MA Thesis; Specialty Exam; Dissertation)
      - Colvin, Michelle (Mentoring)
      - Derringer, Cory (Mentoring; MA Thesis; Specialty Exam; Dissertation)
      - Duong, Shirley (Mentoring)
      - Gadgil, Soniya (Mentoring; MA Thesis Chair; Specialty Exam; Dissertation Chair)
      - Gebremedhen, Nadait (Mentoring)
      - Harris, Lindsay (Mentoring)
      - Jamal-Orozco, Nabila (Mentoring; MA Thesis Chair)
      - Jang, JooYoung (Mentoring; MA Thesis; Specialty Exam; Dissertation)
      - Jaramillo, Sara (Mentoring; MA Thesis)
      - King-Shepard, Quentin (Mentoring; MA Thesis Chair; Specialty Exam)
      - Koch, Griffin (Dissertation)
      - Liu, Allison (Mentoring; MA Thesis; Specialty Exam)
      - Lobo, Nicole (Mentoring)
      - Palmquist, Sasha (Dissertation)
      - Patchan, Melissa (Mentoring; Comprehensive Exam; Dissertation)
      - Peklah, Avital (Mentoring; MA Thesis Chair)
      - Richey, Elizabeth (Mentoring; MA Thesis Chair; Specialty Exam, Dissertation Chair)
      - Silver, Alex (MA Thesis)
      - Soo, Kevin (Mentoring, MA Thesis; Dissertation)
      - Tremel, Joshua (Dissertation)
      - Wong, Tsunhin (Mentoring; MA Thesis)
      - Willett, Ciara (Dissertation)
      - Zepeda, Cristina (Mentoring; MA Thesis Chair; Specialty Exam, Dissertation Chair)
      - Zhang, Yiwen (Specialty Exam)
    - Developmental
      - Henry, Daphne (Specialty Exam)
      - Koury, Amanda (Specialty Exam)

        - Social
            - Alexander, Kira (Dissertation)
            - Chen, Susie (MA Thesis)
            - Elie, Ketura (MA Thesis)
        - Individualized
            - Li, ManYu (Mentoring; MA Thesis; Dissertation)
    - *Physics*
        - Cwik, Sonja (Dissertation)
        - Santana, Lisabeth (2nd year Milestone)
- ***School of Health and Rehabilitation Sciences***
    - *Communication Sciences and Disorders*
        - Cavanaugh, Robert (Specialty Exam)
        - Hayes, Becca (Dissertation)
        - Meigh, Kimberly (Specialty Exam; Dissertation)
- ***School of Education***
    - *Learning Sciences and Policy*
        - Hecht, Marijke (Milestones 1 and 2)
        - Pierce, Ben (Milestone 1)
        - Quintana, Rafael (Milestone 1)
        - Schuchardt, Anita (Milestone 4 - Dissertation)
        - Walsh, Marguerite (Milestone 4 - Dissertation)
    - *Applied Developmental Psychology*
        - Sung, Hannah (Dissertation)
        - Tumminia, Michael (Dissertation)

Carnegie Mellon University

- ***School of Computer Science***
    - *Human Computer Interaction Institute*
        - Long, Yajin (Dissertation)
        - Nagashima, Tomohiro (Dissertation)
- ***Humanities and Social Sciences***
    - *Psychology*
        - Delahay, Anita (Dissertation)

POST-BACCULARATE MENTORING (Hot Metal Bridge Program)

- Langley, Tyree, 2022-2023
- King-Shepard, Quentin, 2018-2019 (Graduate Student at Pitt)
- Weaver, Alexandria, 2017-2018 (Graduate Student UC Irvine)
- Jamal-Orozco, Nabila, 2015-2016 (Graduate Student at Pitt)
- Zepeda, Cristina, 2011-2012 (Assistant Professor at Vanderbilt)

UNDERGRADUATE STUDENT MENTORING

University of Pittsburgh

Honors Thesis Committees (19); † indicates served as the primary advisor

• Caroline Altaras • Jennifer Bracken • Merete Chaplin† • Cassie Chew • Kara Cohen† • Emily Diamond • Amanda Ferrara† • Tessa Lewis-Whitson† • Karen Garelik • Wyatt Macejka • Dalia Maeroff • Sam Potter† • Xiaoxi Qi • Angela Ranelli • Gaby Russo† • Ori Tamir • Kayla Tupper† • Julia Walker† • Aleza Wallace† •

First Experiences in Research Students (12)

• Lauren Baff • Alex Dowels • Margaret Kelly • Timothy Lee • Alex Harshberger • Ahn Huynh • Nicholas Moellers • Kyrstin Moltner • Nick Oh • Catherine Park • Aleza Wallace • Emma Vogan

Research Assistants (62)

• Dinya Aboud • Jeremy Addison • Amy Adelman • Caroline Altaras • Mike Ansell • Jordann Antoan • Ranem Atia • Merete Chaplin • Max Chiu • Alyssa Chomitzky • Kara Cohen • Sean Cooper • Hannah DeCleene • Evan Devitry • Nicole El Hayek • Christine Ebdlahad • Morgan Endlein • Morgan Everett • Amanda Ferrara • Michelle Francis • Stephen Grivnow • Eliza Gilpin • Julia Glick • Alicia Heim • Sarah Honsaker • Christina Hlutkowsky • Alessandra Karam • Jonas Kerner • Alex Kunisky • Adrienne Lee • Tessa Lewis-Whitson • Keely Lombardi • Kylene Lovell • Jing Liu • Max Lichtenstein • Diksha Mishra • Alex Matrolonardo • Connor McGrath • Brennon Paik • Darren Pifer • Sam Potter • Austin Rosenkrans • Ava Salimnejad • Kristen Sawl • Emily Schimdt • Spencer Schimdt • Julianna Sincavage • Madeline Sharmat • Amanda Sheller • Courtney Stein • Douglas Stouch • Alyssa Thatcher • Kayla Tupper • Breanna Walbaum • Tatum Walker • Linnea Warren • Emily Wenz • Nolan Weinlader • Mark Wertz • Christopher Wiltrout • Qingqing Yang • Alexi Zukas •

Paid Summer Interns, Funded through the LearnLab (7), Funded through LRDC (4)

• Aliya Blackwood (Carnegie Mellon University) • Greg Cox (University of Maryland) • Fred Diego (Indiana University) • Corinne Green (The University of Houston) • Emily Greenwood (University of Chicago) • Norah Hass (Norte Dame) • Nicole Nunez (University at Albany, SUNY) • Anne Partika (The College of Wooster) • Kelly Rivers (Carnegie Mellon University) • Bryan Tapia (Cal-Poly Pomona) • Aliah Zewail •

Teaching Assistants (51)

• Maham Ahmed • Toyin Ajayi • Ryann Bailey • Andrew Belko • Victoria Bittone • Margaret Boldry • Amanda Braniecki • Courtney Brown • Chi Bui • James Burke • Merete Chaplin • Elizabeth DeFazio • Twany Duliba • Elisabeth Estes • Morgan Everett • Emily Faust • Christina Fasolas • Lindsey Gorman • Ashley Griffin • Andrew Grimes • Heather Jackson • Lauren Kraft • Rachel Haak • Rachel Hines • Gwen Hoeffgen • Amanda Hopcroft • Alessandra Karam • Erin Karahuta • Monica Kim • Emily Kosenske • Rosemary Li • Jenny Ly • Jessica Nederlanden • Paige Ottaviano • Chelsea Proulx • David Raboy • Angela Ranelli • Reena Shepard • Austin

Rosenkrans • Mark Ruffalo • Victoria Scott • Haley Shuford • Brandon Sibbach • Alexa Smith • Ashley Starry • Rachel Tang • Tania Vas • Emory Verstraete • Emily Wenz • Nicole Willis • Sarah Witter •

University of Illinois

- I supervised a total of 27 undergraduates in directed research (16 students for one semester and 11 students for two).

SERVICE

REVIEWING

Journals

- Editorial Boards:
  - *Journal of Experimental Psychology: Applied (*2016-present*)*
  - *Journal of Educational Psychology* (2016-2018)

- Ad hoc Reviewer for 26 Journals
  (1) *American Journal of Psychology*; (2) *Cognitive Science*; (3) *Cognition*; (4) *Cognition and Instruction*; (5) *Cognitive Research: Principles & Implications*; (6) *Current Directions in Psychological Science*; (7) *Educational Psychology*; (8) *Educational Psychologist*; (9) *Educational Psychology Review*; (10) *Group Processes & Intergroup Relations*; (11) *Human Factors*; (12) *Instructional Science*; (13) *Learning and Instruction*; (14) *The Journal of Experimental Education*; (15) *Journal of Educational Psychology*; (16) *Journal of Experimental Psychology: Applied*; (17) *Journal of Experimental Psychology: General*; (18) *Journal of Experimental Psychology: Learning, Memory, and Cognition;* (19) *The Journal of Genetic Psychology*; (20) *The Journal of Problem Solving*; (21) *International Electronic Journal of Elementary Education*; (22) *International Journal of Creativity and Problem Solving*; (23) *Learning and Individual Differences*; (24) *Memory & Cognition*; (25) *Physical Review Special Topics – Physics Education Research*; (26) *Psychonomic Bulletin and Review (PB&R)*

Books

- *Variation in Working Memory*
  (Eds., A. R. Conway, C. Jarrold, M. J. Kane, A. Miyake, and J. N. Towse)

Conferences

- (1) American Educational Research Association's Annual Meeting, (2) American Psychological Society Student Caucus; (3) Cognitive Science Society's Annual Conference; (4) International Conference of the Learning Sciences; (5) Physics Education Research Conference; (6) Society for Research on Educational Effectiveness
- Sixth International Workshop on Advanced Learning Sciences Program Committee, 2018
- Cognitive Science Conference Program Committee; Meta-Reviewer (coordinating reviews and making editorial recommendations on approx. 6-9 papers per year), 2010-2015
- Program Committee Member and Reviewer for the Workshop on Non-cognitive Factors & Personalization for Adaptive Learning, Education Data Mining Conference, 2014
- Cognitive Science Conference Committee Member for Modeling Tutorials, 2004

Universities

- *External Review Committee of the Social Sciences of the Minerva Schools at KGI,* 2020
  - Chaired the committee and reviewed the Social Sciences Major curriculum and tracks in Economics, Political Science, and Psychology

Grants

- Reviewer for the Spencer Foundation, 2020
- Reviewer for National Science Foundation, Education and Human Resources (EHR), 2019, 2022, 2023
- Reviewer for Swiss National Science Foundation, 2018
- Reviewer for the Austria Science Fund, 2014, 2016
- Reviewer for the Social Sciences and Humanities Research Council of Canada, 2015
- Reviewer for the National Science Foundation, Social and Economic Sciences (SES), 2015
- Invited to Review for the U.S.-Israel Binational Science Foundation

COMMUNITY

Psychonomic Society

- Member of the *Task Force on Racial Justice,* 2020-2022

National Advisory Boards

- Advisory Committee Member for the NSF project "*Investigating how life science students develop lasting skill in making connections between biology and physics*" by Drs. Gellar and Crouch, 2022-present.
- Advisory Committee Member for the NSF project "*Facilitating teacher learning with video clips of instruction in science*" by Dr. Miray Tekkumru Kisa at Florida State University, 2021-present.
- Advisory Committee Member for the IES project "*Enhancing undergraduate STEM education by integrating mobile learning technologies with Natural Language Processing*" by Dr. Muhsin Menekse at Purdue University, 2018-2022.
- Advisory Committee Member for the NSF project *"Developing Crosscutting Concepts in STEM with Simulation Theaters of Embodied Learning"* by Dr. Robb Lindgren at the University of Illinois at Urbana-Champaign, 2014-2018.

Regional

- Member of the Diversity Committee for the LearnLab, 2012-2016
- Member of the Executive Committee for the LearnLab, 2008-2016
- Motivation and Metacognition Co-Chair for the LearnLab, 2009-2016
- Junior Faculty Representative to the Executive Committee for the LearnLab, 2007-2009

University of Pittsburgh

- ***Dietrich School of Arts and Sciences***
  - Reviewer for Provost Grants programs, 2018, 2020
  - Member of the Tenure Council, 2017, 2018
  - Member of Conflict of Interest Committee, 2016
  - Member of the Mellon Fellowship Selection Committee, 2013

  Psychology
  - Director of the Hot Metal Bridge Program, 2022-present
  - Chair of the Cognitive Program, 2018-2021
  - Member of the Executive Committee, 2018-2021
  - Member of the Graduate Education Committee, 2018-2021
  - Member of the Psychology Teaching Evaluation Project, 2017-2020
  - Member of P&T Committee, 2020

- Chair of P&T Committee, 2017, 2019 (Co-Chaired w/ Tessa Warren)
- Graduate Student Admissions Committee, 2007, 2009, 2011, 2012, 2016, 2018, 2019, 2021, 2022
- Faculty Search Committee Member, 2010, 2012, 2013, 2018, 2022
- Member of the Advising Review Committee, 2016-2017
- Member of the Honors Education Committee, 2015-2016
- Chair of the Dept. Institutional Review Board (IRB) Committee, 2015-2016
- Co-Chair of the Tim Post Award Committee, 2014, 2015, 2016
- Member of the Undergraduate Education Committee (UEC), 2009-2013
- Member of the Colloquium Committee, 2009-2012
- Member of the Tim Post Award Committee, 2007
- Sloan Fellowship Committee, 2007

- ***School of Education***
  - Steering Committee Member, Motivation Center, 2015-2018
  - Faculty Search Committee Member, 2014

- ***School of Computing and Information***
  - Faculty Search Committee Member, 2022
  - Member of P&T committee, School of Information Sciences, 2013

- ***Learning Research and Development Center (LRDC)***
  - Committee on Diversity, Inclusion, and Equity, 2015-present (Co-Chair, 2020)
  - Co-Director, LRDC Undergraduate Summer Internship Program, 2018-present
  - Technology Committee, 2010-present
  - Executive Committee, 2016-2021 (Chair, 2020)
  - Strategic Planning Committee's: Education and Learning Neuroscience, 2014
  - Semi-centennial Steering Committee, 2012-2013
  - Computer Resources Committee, 2009
  - Research-Practice Conference Planning Group, 2009
  - Organizer of the Higher-order Cognition Group Talk Series, 2007-2008

- ***School of Nursing***
  - Member of the Advisory Group to Center for the Scholarship of Teaching and Learning, 2018-2019

University of Illinois Chicago - Psychology

- Diversity Advisory Committee, 2003

ADDITIONAL EDUCATIONAL EXPERIENCES

- **LearnLab Summer School**, June 2007
  Carnegie Mellon University
  Instructor: Ken Koedinger

- **ACT-R Summer School**, July 2002
  Carnegie Mellon University
  Instructors: John R. Anderson and Christian Lebiere

- **Oxford Summer School on Connectionist Modeling**, July 2001
  University of Oxford
  Instructors: Kim Plunkett and Edmond Rolls

- **Complex Systems Summer School**, June 2000

Santa Fe Institute
Supervisor: Melanie Mitchell

- **Soar Programming Tutorial**, May 1999
  University of Michigan
  Instructor: John E. Laird