

Emma Harlan Geller, Ph.D.

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PROFESSIONAL AND ACADEMIC HISTORY

University of California San Diego (2016-present)

Associate Teaching Professor (LSOE), Department of Psychology, 2021-present
Assistant Teaching Professor (LPSOE), Department of Psychology, 2016-2021

University of California Los Angeles (2010-2016)

Ph.D. in Cognitive Psychology, June 2016
Committee: James W. Stigler (chair), Keith J. Holyoak, Robert A. Bjork, Louis Gomez
Dissertation: *Learning from Instructional Video: Theoretical and Empirical Explorations*
M.A. in Cognitive Psychology, March 2012
Committee: Philip J. Kellman (chair), James W. Stigler
Thesis: *Practice with High-Level Cognitive Tasks Produces Changes in Basic Information Extraction*

The George Washington University (2006-2010)

B.A. *Summa Cum Laude*, Psychology, May 2010
Honors Thesis: *Attitude, Structure, and Problem-Solving: An Analysis and Review of Two Teaching Methods for Introductory Physics*
Advisors: Cornelius Bennhold, Gerald Feldman

TEACHING EXPERIENCE

University of California San Diego (UCSD)

Undergraduate Courses

Research Methods in Psychology (PSYC 70)
Laboratory in Psychological Research Methods (PSYC 71)
Research Methods I & II (PSYC 111AB, *Psychology Honors Program*)
Cognitive Psychology (PSYC 105)
Introduction to Psychology (PSYC 1)

University of California Los Angeles (UCLA)

Courses Taught as Primary Instructor

Introduction to Psychology (PSYCH 10)
Freshman Seminar with Writing credit (GE 73C)
Title: *Hack Your Brain: Using Cognitive Psychology to Become a Better Learner*

UCLA Graduate Teaching Assistant

Psychological Statistics (PSYCH 100A)
Research Methods in Psychology (PSYCH 100B)

Introduction to Cognitive Psychology (PSYCH 120A)
Cognitive Laboratory (PSYCH 121)
Mind Over Matter: History, Philosophy and Science of the Brain (GE 73AB)

Guest Lectures

Expertise and Learning (UCLA, Cognitive & Linguistic Development, PSYCH 240A)
Problem Solving (UCLA, Introduction to Cognitive Psychology, PSYCH 120A)

RESEARCH INTERESTS

- Conceptual development in math and science
- Applications of cognitive theory to educational practices
- Measurement of learning and instructional outcomes
- Multimedia learning
- Instructional video

RESEARCH EXPERIENCE

2017-present	UCSD Learning and Instruction in Multimedia Environments (LIME) Lab <i>Principal Investigator</i> https://www.lime-lab-ucsd.com/
2011-2016	UCLA Teaching and Learning Lab (<i>PI: James Stigler</i>)
2010-2012	UCLA Human Perception Lab (<i>PI: Phil Kellman</i>)
2008-2010	GWU Physics Department (education research) (<i>PI: Cornelius Bennhold</i>)

GRANTS & AWARDS

2023	UCSD Course Development and Instructional Improvement Program (PI) Project title: <i>A Modern Guide to Understanding and Conducting Research in Psychology</i> (Award: \$30,956)
2022	APA Sponsorship (\$10K total) of annual virtual conference on teaching of research methods and statistics (<i>PsychTERMS: Teaching to Enhance Research Methods and Statistics in Psychology</i>): https://www.psychterms.com/
2021	UCSD Academic Senate <i>Distinguished Teaching Award</i>
2021	APA Board of Educational Affairs Conference Grant Project title: <i>A California Virtual Conference on Equitable Teaching Practices in Psychological Research Methods and Statistics</i> (Award: \$1,000)
2020 – 2021	UCSD Course Development and Instructional Improvement Program (co-PI) Project title: <i>Enhancing the Psychology core methods curriculum: A new emphasis on computational literacy, open-science practices, and project-based collaboration</i> (Award: \$39,000)

2012 – 2014	Advanced Quantitative Methods in Education Research, Two-Year Fellow Funded by IES Grant R305B080016 to the University of California, Los Angeles (\$60,000 in stipends, travel funds, fee remissions)
2012 – 2013	UCLA Graduate Research Mentorship (\$23,000)
2011 & 2012	UCLA Graduate Summer Research Fellowship (\$4,600 & \$6,000)
2010 – 2011	UCLA University Fellowship (\$20,000)
2009	Phi Beta Kappa member
2008	GWU Luther Rice Fellowship (\$5000)

PUBLICATIONS

**underlined names indicate student authors*

Woods, V., **Geller, E.H.**, & Cross, V. (2021) An Adventure in Remote Instruction: Research Methods in Psychology. *Teaching Psychology Online*. [eBook chapter] American Psychological Society, Society for Teaching of Psychology.

Givvin, K. B., **Geller, E. H.**, & Stigler, J. W. (2019) How teachers introduce algebra and how it might affect students' beliefs about what it means to "do" mathematics. In Kilhamn, C. & Säljö, R. (Eds.) *Encountering Algebra: A Comparative Study of Classrooms in Finland, Norway, Sweden, and the USA* (pp.139-163). Cham, Switzerland: Springer.

Geller, E. H., Son, J. Y., & Stigler, J. W. (2017) Conceptual explanations and understanding fraction comparisons. *Learning and Instruction*, 52: 122-129

Stigler, J. W., **Geller, E. H.**, & Givvin, K. B. (2015) Zaption: A platform to support teaching, and learning about teaching, with video. *Journal of e-Learning and Knowledge Society*, 11(2): 13-25.

Bufford, C. A., Mettler, E., **Geller, E. H.**, & Kellman, P. J. (2014) The psychophysics of algebra expertise: Mathematics perceptual learning interventions produce durable encoding changes. *Proceedings of the 36th annual meeting of the Cognitive Sciences Society (CogSci)*; 2014 July 23 – 26; Quebec City, Canada.

IN PREPARATION

Cui, L. & **Geller, E. H.** (in preparation). Using comparison and variation in statistics word problems to support learning of deep structure.

Delay, C., Chen, T., & **Geller, E. H.** (under review) Effects of relevant and irrelevant animations on learning from video.

Geller, E.H., Eberhard, J., Wang, J., & Kim, R. (in preparation). The use of adjunct questions in multimedia learning.

Geller, E.H., & Fukuda, K. (in preparation). Surprise, confusion, and conceptual change.

Zhao, F. & **Geller, E.H.** (in preparation) The effect of feedback on multimedia learning with adjunct questions.

CONFERENCE PRESENTATIONS

Ibrahim, D. & **Geller, E.H.** (2023, November) Effective peer instruction: Evidence for the benefits of peer-to-peer interaction and guided self-explanations in F2F and remote courses. Talk presented at the 64th Annual Meeting of the Psychonomic Society; November 16-19; San Francisco, CA.

Ibrahim, D. & **Geller, E.H.** (2023, October) Effective peer instruction: Evidence for the benefits of peer-to-peer interaction and guided self-explanations in F2F and remote courses. Poster presented at the Society for Teaching of Psychology's 22nd Annual Conference on Teaching; October 5-7, 2023. Portland, OR.

Pilegard, C., Woods, V. E., Ditta, A. S., Cross, V. L., Albada, N. A., Paquette-Smith, M., **Geller, E. H.**, & Rinehart, J. K. (2023, October) Getting by with a little help from your friends (who have jobs like yours): Cultivating an inter-campus community of practice. Symposium presented at the Society for Teaching of Psychology's 22nd Annual Conference on Teaching; October 5-7, 2023. Portland, OR.

Zung, I. & **Geller, E. H.** (2023, August). Implications of adjunct question feedback on learning and metacognitive accuracy. Poster presented at the 14th Biennial meeting of the Society for Applied Research in Memory and Cognition (SARMAC); August 9-12, 2023; Nagoya, Japan.

Widjaja, T. I. & **Geller, E. H.** (2023, May). The effects of refutation and self-explanation on the learning styles misconception. Poster presented at the 32nd Annual UCLA Psychology Undergraduate Research Conference (PURC); May 12, 2023; Los Angeles, CA.

LaTona-Tequida, T., White, I., & **Geller, E. H.** (2023, February) Using refutation to address a graphical misconception in calculus. Poster presented at the 25th Annual Conference on Research on Undergraduate Mathematics Education (Special Interest Group of the Mathematical Association of America); February 23-25; Omaha, Nebraska.

Ibrahim, D. & **Geller, E. H.** (2022, November) The merits of peer discussion and self-explanation in multimedia learning environments. Poster presented at the 63rd Annual Meeting of the Psychonomic Society; November 17-20; Virtual format.

Zung, I. & **Geller, E. H.** (2022, November) Effects of adjunct question feedback on learning and metacognition. Poster presented at the 63rd Annual Meeting of the Psychonomic Society; November 17-20; Virtual format.

Ibrahim, D., Kamura, S. K., & **Geller, E. H.** (2022, May) The influence of peer discussion and attendance modality on student success in remote courses. Poster presented at the 34th Annual Convention of the American Psychological Society (APS); May 26-29; Chicago, IL.

- Yang, H. & **Geller, E. H.** (2022, May) No significant impact of subtitle length or language on video learning among EFL students. Poster presented at the 34th Annual Convention of the American Psychological Society (APS); May 26-29; Chicago, IL.
- Yu, A. M., Geller, E. H., & Dobkins, K. (2022, May) Examining the learning effects of self-explanation in different modalities: Writing, thinking, and speaking. Poster presented at the 34th Annual Convention of the American Psychological Society (APS); May 26-29; Chicago, IL.
- Yu, L. & **Geller, E. H.** (2022, May) Student learning affected by motivation and effort but not feedback on adjunct questions. Poster presented at the 34th Annual Convention of the American Psychological Society (APS); May 26-29; Chicago, IL.
- Zung, I., & **Geller, E. H.** (2022, May) Adjunct question feedback impacts metacognitive accuracy but not learning in instructional video. Poster presented at the 34th Annual Convention of the American Psychological Society (APS); May 26-29; Chicago, IL.
- Geller, E.H.** (2021, November) Designing effective video learning: A classroom study of adjunct questions and feedback in video learning modules. Talk presented at the 62nd Annual Meeting of the Psychonomic Society; November 4-7; Virtual format.
- Pilegard, C. C., **Geller, E. H.,** & Fan, J. E. (2021, October) Converting your research proposal assignment into a preregistration assignment. Talk presented at the Society for Teaching of Psychology's 20th Annual Conference on Teaching; October 14-16, 2021. Virtual format.
- Geller, E. H.** (2012, September) Learning and teaching R with Jupyter notebooks. Talk presented at the 3rd annual UC Psychology Teaching and Learning Conference: Equitable Teaching Practices in Psychological Research Methods and Statistics; September 13-14, 2021. Virtual format.
- Geller, E. H.** (2021, September) Using peer instruction to deepen understanding through discussion of errors. Talk presented at the 3rd annual UC Psychology Teaching and Learning Conference: Equitable Teaching Practices in Psychological Research Methods and Statistics; September 13-14, 2021. Virtual format.
- Salem, J., & **Geller, E. H.** (2021, August). Effects of Combining Refutation and Self-Explanation on Student Learning. In *Proceedings of the Annual Meeting of the Cognitive Science Society* (Vol. 43, No. 43).
- Sheel, S. K. & **Geller, E. H.** (2020, November) Segmenting in multimedia learning. Poster presented at the 61st Annual Meeting of the Psychonomic Society; November 19-22; Virtual format.
- Geller, E. H.** (2020, October) Learning from video: Using cognitive psychology to improve understanding in multimedia lessons. Talk presented at the Society for Teaching of Psychology's 19th Annual Conference on Teaching; October 4-10, 2020. Virtual format.
- Geller, E. H.** & Pilegard, C. (2020, September) Synchronous storytelling: Ideas for large lecture courses. Talk presented at the 2nd annual UC Psychology Teaching and Learning Conference; September 17-18, 2020. Virtual format.

Paquette-Smith, M. & **Geller, E. H.** (2020, September) Reimagining lab/discussion sections: Asynchronous activities. Talk presented at the 2nd annual UC Psychology Teaching and Learning Conference; September 17-18, 2020. Virtual format.

Amiraslani, S. H. & **Geller, E. H.** (2019, May). Drawing to learn abstract scientific concepts. Poster presented at the 28th Annual UCLA Psychology Undergraduate Research Conference (PURC); May 10, 2019; Los Angeles, CA.

Delay, C. & **Geller, E. H.** (2019, May). The effect of “seductive animations” on multimedia learning. Poster presented at the 28th Annual UCLA Psychology Undergraduate Research Conference (PURC); May 10, 2019; Los Angeles, CA.

Zhao, F. & **Geller, E. H.** (2019, May). The effect of feedback on multimedia learning with adjunct questions. Poster presented at the 28th Annual UCLA Psychology Undergraduate Research Conference (PURC); May 10, 2019; Los Angeles, CA.

Eberhard, J. & **Geller, E. H.*** (2018, November). The use of adjunct questions in video learning. Poster presented at the 59th Annual Meeting of the Psychonomic Society; November 15-18; New Orleans, LA. ***presenting author**

Geller, E. H. & Stigler, J. W. (2017, November). What students learn from instructional video: Applications of the cognitive theory of multimedia learning. Poster presented at the 58th Annual Meeting of the Psychonomic Society; November 9-12; Vancouver, BC, Canada.

Cui, L., **Geller, E. H.***, & Stigler, J. W. (2017, May). Using variation and comparison to help students recognize structural features of statistics word problems. Poster presented at the 29th Annual Convention of the American Psychological Society (APS); May 25-28; Boston, MA. ***presenting author**

Geller, E. H. & Stigler, J. W. (2015, July). Using advance organizers to improve learning from video. Poster presented at the 37th Annual Meeting of the Cognitive Science Society (CogSci); July 23-25; Pasadena, CA.

Geller, E. H., Son, J. Y., & Stigler, J. W. (2014, May). Explanations and understanding of fractions. In J. W. Stigler (Chair), *Relational Understanding in Mathematics: Issues and Interventions*. Symposium conducted at the 26th Annual Convention of the American Psychological Society (APS); May 22-25; San Francisco, CA.

Bufford, C. A., Mettler, E., **Geller, E. H.**, & Kellman, P. J. (2014, May). Capturing mathematics perceptual learning through psychophysics. Poster presented at: 26th Annual Convention of the American Psychological Society (APS); May 22-25; San Francisco, CA.

Geller, E. H., Son, J. Y., & Stigler, J. W. (2013, July). Explanation and fractions: How preference for types of explanations affects learning. Poster presented at the 35th Annual Meeting of the Cognitive Science Society (CogSci); July 31 – August 3; Berlin, Germany.

INVITED ADDRESSES

Geller, E. H. (April 2021) Combining Research and Teaching in Psychology. Invited colloquium address for the Human Development, Culture, and Learning Sciences area of the Educational Psychology program at UT Austin.

Geller, E. H. (January 2018) Peer Instruction and Learning from Errors. UCSD Center for Advancing Multidisciplinary Scholarship for Excellence in Education (CAMSEE) meeting.

Geller, E. H. (November 2017) Peer Instruction and Learning from Errors. UCSD Psychology Department *Teaching Talk Series*.

Geller, E. H. (May 2015) Using Cognitive Psychology to Improve Multimedia Instruction. UCLA Library *Talks to Educate the Staff* series.

Geller, E. H. (March 2012) Perceptual Learning & Applications to Education. Psychology in Action outreach event at Palisades Charter Elementary; Pacific Palisades, CA.

PROFESSIONAL ACTIVITY

Curriculum Development

2017 – 2018 UCLA *Better Book Project* (grant funded by the Chan Zuckerberg Initiative)

Ad hoc reviewer

2019 – present *Cognitive Science*
2018 – present *Journal of Cognition and Development*
2018 – present *Educational Psychology*
2017 – present *Computers and Education*
2016 – present *Mathematical Thinking and Learning*

Textbook reviews

2019 *Cognition: Exploring the Science of the Mind, 7e* (Reisberg)
2017 *Research Methods: From Theory to Practice* (Gorvine)

GRADUATE ADVISING

Claire Mason	2023 – present, UCSD Psychology
Alejandro Carranza	2023 – present, UCSD Psychology
Inez Zung	2021 – present, UCSD Psychology
Dania Ibrahim	2021 – present, UCSD Psychology
Isabel White	2020 – present, MSED program, <i>informal participation in lab activities</i>
Talia Latona Tequida	2020 – present, MSED program, <i>informal participation in lab activities</i>
Jacob Salem	2020 – 2022, M.A. UCSD Psychology

UNDERGRADUATE ADVISING

University of California San Diego, Honors Thesis

Iris Huang	AY 2023-2024
Jacquelyn Tsui	AY 2023-2024
Tiffany Widjaja	AY 2022-2023
Keeshia Kamura	AY 2021-2022
Lucinda Yu	AY 2021-2022
Haichen Yang	AY 2021-2022, <i>now MS student at Columbia Teachers College</i>
Alyssa Yu	AY 2021-2022
Athena Lee	AY 2020-2021
Erick Sandoval	AY 2020-2021
Shengxi Jin	AY 2019-2020
Shreya Sheel	AY 2019-2020, <i>now PhD student at Berkeley School of Education</i>
Sarah Amiraslani	AY 2018-2019, <i>graduated with MA at U of Michigan</i>
Fangzheng Zhao	AY 2018-2019, <i>now PhD student at UC Santa Barbara</i>
Janelle Eberhard	AY 2017-2018
Kion Fukuda	AY 2017-2018

SERVICE

Department Service – UCSD Psychology

2021 – present	Research Committee Advisor for Psi Chi Club
2018-2019	Faculty search committee, co-chair
2017-2018	Faculty search committee, co-chair
2016 – present	Undergraduate Affairs Committee

University Service – UCSD

2023	Program review committee member for UCSD/CSUSM Joint Doctoral Program in Educational Leadership
2018 – present	Council on Undergraduate Education (campuswide), Psychology representative

Other Service – UCLA

2012 – 2014	Psychology in Action annual symposium organizer
2011 – 2012	Psychology in Action newsletter editor
2010 – 2013	Psychology in Action graduate student blogger