

## Amedee Marchand Martella

### Curriculum Vita

#### Office Information:

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#### Professional Information

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#### Professional Experience

National Science Foundation Graduate Research Fellow, IMPACT X+ Faculty Fellow, and Doctoral Candidate, Purdue University, 2018-2022.

#### Education and Degrees

- Ph.D. Expected Spring 2022, Purdue University, West Lafayette, IN, Cognitive Psychology, Advisors: Drs. Jeffrey Karpicke and Darryl Schneider
- Certificate in Psychological Statistics Expected Spring 2022, Purdue University, West Lafayette, IN, Department of Psychological Sciences
- M.S. 2018, Carnegie Mellon University, Pittsburgh, PA, Cognitive/Developmental Psychology, Advisors: Drs. David Klahr and Marsha Lovett
- B.A. 2016, University of Colorado Boulder, Boulder, CO, *summa cum laude* in Ecology & Evolutionary Biology and Psychology (double major), Concentration in Mathematics, Honors Thesis Advisor: Dr. Barbara Demmig-Adams

#### Fellowships and Scholarships

##### *National Fellowships*

1. *National Science Foundation Graduate Research Fellowship Program*
  - o 2018-2023: Recipient of a doctoral research fellowship funded through the National Science Foundation.

2. *Institute of Education Sciences (IES) Program for Interdisciplinary Education Research (PIER)*
  - 2016-2018: Recipient of a graduate fellowship funded through IES at Carnegie Mellon University.
3. *National Science Foundation Research Experience for Undergraduates Fellowship Program*
  - Summer 2014: Recipient of an undergraduate fellowship funded through the National Science Foundation to conduct research on biology education at the University of Georgia Athens.

### ***University Fellowships***

- *IMPACT X+ Faculty Fellow Program*
  - 2021: Recipient of \$1000 to develop an introductory cognitive psychology summer course through participation in the IMPACT X+ course design program at Purdue University.
- *Ross Fellowship*
  - 2018-2022 (accepted for 2018-2019 academic year due to NSF funding for 2019-2022 academic years): Recipient of a Purdue University merit-based fellowship for doctoral students.

### ***University Scholarships***

- *Norlin Scholarship*
  - 2012-2016: Selected for the Norlin Scholarship Program as part of the Undergraduate Enrichment Programs at the University of Colorado Boulder.
- *Chancellor's Achievement Scholarship*
  - 2012-2016: Recipient of a University of Colorado Boulder merit-based scholarship for incoming non-resident undergraduate students.
- *CU Parents Association Scholarship for Continuing CU Boulder Students*
  - 2014-2016: Recipient of the University of Colorado Boulder Parents Association merit-based scholarship.

### **Scholarship**

#### ***Refereed Articles***

1. **Martella, A. M., Lovett, M. C., & Ramsay, L. (2021).** Implementing active learning: A critical examination of sources of variation in active learning college science courses. *Journal on Excellence in College Teaching*, 32(1), 67-96.

2. **Martella, A. M.**, Yacilla, J., Martella, R. C., Marchand-Martella, N. E., Karatas, T., Ozen, Z., Park, H., Simpson, A., & Karpicke, J. D. (2021). Quotation accuracy matters: An examination of how an influential meta-analysis on active learning has been cited. *Review of Educational Research, 91*(2), 272-308. [Impact Factor: 8.241]
3. **Martella, A. M.**, Klahr, D., & Li, W. (2020). The relative effectiveness of different active learning implementations in teaching elementary school students how to design simple experiments. *Journal of Educational Psychology, 112*(8), 1582-1596. [Impact Factor: 5.178]
4. **Martella, A. M.**, & Demmig-Adams, B. (2018). Combining effective instructional approaches in a large introductory biology classroom: A research review and illustrative case study. *Journal on Excellence in College Teaching, 29*(2), 121-146.
5. Brickman, P., Gormally, C., & **Martella, A. M.** (2016). Instructional feedback: Is it making the grade? *CBE—Life Sciences Education, 15*(4), 1-14. [Impact Factor: 2.380]
6. Marchand-Martella, N.E., Martella, R. C., **Martella, A. M.**, & Cleanthous, C. (2015). What does the research say about teaching students to think like scientists and historians: Developing content-area literacy skills aligned to the common core. *The WERA Educational Journal, 7*(2), 42-49.
7. **Martella, A. M.** (2009, October). A high school student's perspective on homework. *ASCD Express, 4*(26), 1-2.  
\*Reprinted in *SpringBoard English Language Arts – Grade 6*, The College Board, 2018.

### ***Monographs, Research Brochures, Newsletters***

1. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2017). *Wordly Wise® (4<sup>th</sup> ed.). Research-based vocabulary instruction: A focus on online instruction*. Boston, MA: Educators Publishing Service (EPS).
2. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2017). *Wordly Wise i3000®. Research-based vocabulary instruction: A focus on print-based instruction*. Boston, MA: Educators Publishing Service (EPS).
3. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2014, Winter). Explicit instruction: The key to effective differentiated instruction. *The Michigan Psych Report, 42*(2), 1-4.

### ***Acknowledgement of Contributions to Published Paper***

1. Knight J. K., Wise S. B., Rentsch J., & Furtak, E. M. (2015). Cues matter: Learning assistants influence introductory biology student interactions during clicker question discussions. *CBE—Life Sciences Education, 14*(4), 1-14. [Acknowledgement of assistance made in manuscript].

### ***Manuscripts Under Review***

1. **Martella, A. M.**, Yacilla, J., Park, H. Marchand-Martella, N. E., & Martella, R. C. (2021). Investigating the active learning landscape through a bibliometric analysis of an influential meta-analysis on active learning. *SN Social Sciences*

### ***Manuscripts in Preparation***

1. **Martella, A. M.**, & Schneider, D. W. (2021). *The ACTIVATED learning framework: Interweaving effective learning and instructional strategies to promote dynamic active learning environments*. [Manuscript in preparation]. Department of Psychology, Purdue University.
2. **Martella, A. M.**, Kowalkowski, A. D., & Karpicke, J. D. (2021). *Direct comparison of concept mapping and knowledge mapping for promoting learning*. [Manuscript in preparation]. Department of Psychology, Purdue University.
3. Shannon, E. N., Kang, S., Voorhis, C., **Martella, A. M.**, Martella, R., C. (2021). *A systematic quality review of early intervention parent training for children with autism spectrum disorder*. [Manuscript in preparation]. Department of Educational Studies, Purdue University.

### ***Research Projects in Progress***

1. **Martella, A. M.**, Schneider, D. W., & Karpicke, J. D. (2021). *An experimental analysis of lecture and active learning: How dosage amount and dosage schedule affect student learning*. [Experiment in progress]. Department of Psychology, Purdue University.
2. **Martella, A. M.**, Martella, R. C., Yacilla, J., & Li, W. (2021). *Eliminating the dichotomy between lecture and active learning: A meta-analysis*. [Meta-analysis in progress]. Department of Psychology and College of Education, Purdue University.
3. Martella, R. C., **Martella, A. M.**, Shannon, E. N., Voorhis, C., Newson, A., & Yacilla, J. (2021). *Assessing the State of Active Learning Research*. [Systematic review in progress]. Department of Psychology and College of Education, Purdue University.

### **Grants**

#### ***Funded Federal Grants***

1. **Martella, A. M.** (September, 2018). *A comparison of student outcomes in two active learning STEM courses: Does proportion of class time spent on lecture versus student activities matter?* Graduate Research Fellowship Program, National Science Foundation.

## Presentations

### *Conference Presentations*

1. **Martella, A. M.** (2021, May). *Active learning through the lens of cognitive psychology: A critical evaluation of active learning and a proposal of ACTIVATED learning*. Flash talk given at the Association for Psychological Science 33<sup>rd</sup> Annual Convention, Virtual.
2. **Martella, A. M.**, & Karpicke, J. D. (2020, November). *Direct comparison of concept mapping and knowledge mapping for promoting learning*. Poster presented at the Psychonomic Society 61<sup>st</sup> Annual Meeting, Virtual.
3. Desmet, O., Pereira, N., & **Martella, A. M.** (2020, November). *Can small-group discussions help reverse underachievement?* Poster presented at the National Association for Gifted Children 67<sup>th</sup> Annual Conference, Virtual.
4. **Martella, A. M.**, Yacilla, J., Martella, R. C., Marchand-Martella, N. E., Karatas, T., Ozen, Z., Park, H., & Simpson, A. (2020, May). *Going back to the source: A critical, in-depth context citation analysis of the Freeman et al. (2014) meta-analysis on active learning*. Poster presented at the Association for Psychological Science 32<sup>nd</sup> Annual Convention, Chicago, IL.
5. **Martella, A. M.**, Yacilla, J., Martella, R. C., Marchand-Martella, N. E., Karatas, T., Ozen, Z., Park, H., & Simpson, A. (2020, May). *Active learning investigations citing Freeman et al. (2014): A critical analysis of citation accuracy and reporting*. Poster presented at the Association for Behavior Analysis International Forty-Sixth Annual Convention, Washington, DC.
6. **Martella, A. M.**, Lovett, M., & Ramsay, L. (2019, May). *Implementing active learning: A critical examination of sources of variation in active learning science courses*. Poster presented at the Association for Psychological Science 31<sup>st</sup> Annual Convention, Washington DC.
7. **Martella, A. M.**, & Klahr, D. (2019, May). *The relative effectiveness of different active learning implementations in teaching elementary school students how to design simple experiments*. Poster presented at the Association for Psychological Science 31<sup>st</sup> Annual Convention, Washington DC.
8. **Martella, A. M.**, & Klahr, D. (2018, April). *Teaching the control-of-variables strategy (CVS) through different forms of active learning*. Poster presented at the Annual Innovation with Impact Research Exhibition, Carnegie Mellon University, Pittsburgh, PA.
9. **Martella, A. M.**, & Klahr, D. (2017, October). *Teaching the control-of-variables strategy (CVS) through different forms of active learning*. Poster presented at the Annual Teaching and Learning Summit, Carnegie Mellon University, Pittsburgh, PA.

10. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2017, May). *The elements of effective instruction*. Presentation given at the Association for Behavior Analysis International Forty-Third Annual Convention, Denver, CO.
11. **Martella, A. M.** (2016, April). *Effective instructional approaches in a large introductory biology classroom: A research review and illustrative case study*. Poster presented at the Special Undergraduate Enrichment Program (SUEP) 2016 Scholars Conference, University of Colorado, Boulder, CO.
12. Brickman, P., Gormally, C., & **Martella, A. M.** (2015, July). *Instructional feedback: Is it making the grade?* Presentation given at the Society for the Advancement of Biology Education Research (SABER) National Meeting, University of Minnesota, Minneapolis, MN.
13. **Martella, A. M.** (2015, May). *The evolution of superstitious behavior*. Poster presented at the Forty-First Annual Association for Behavior Analysis International Convention, San Antonio, TX.
14. Brickman, P., Gormally, C., & **Martella, A. M.** (2015, March). *Instructional feedback: Is it making the grade?* Presentation given at the Fourth Annual UGA STEM Institute on Teaching and Learning, University of Georgia, Athens.
15. **Martella, A. M.**, Conaway, E. P., Dolan, E. L., & Andrews, T. C. (2014, July). *Faculty perceptions of how the department influences their teaching*. Poster presented at the University of Georgia Undergraduate Biology Research Experience Symposium, Athens, GA.
16. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2013, April). *SRA FLEX Literacy*. Program overview presented at the Council for Exceptional Children Eighty-Ninth Annual Convention, San Antonio, TX.
17. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2012, May). *Effective reading strategies for adolescent learners*. Workshop presented at the Association for Behavior Analysis International Thirty-Eighth Annual Convention, Seattle, WA.
18. Marchand-Martella, N. E., Martella, R. C., & **Martella, A. M.** (2012, April). *Critical elements of adolescent learners*. Paper presented at the Council for Exceptional Children Eighty-Eighth Annual Convention, Denver, CO.

### ***Colloquium Presentations***

1. **Martella, A. M.** (2019, December). *Going back to the source: A critical, in-depth context citation analysis of the Freeman et al. (2014) meta-analysis on active learning*. Presentation given at the Cognitive Psychology Colloquium, Purdue University, West Lafayette, IN.

2. Lovett, M. C., & **Martella, A. M.** (2019, February). *What is “active learning?” What kinds are best...and for whom.* Presentation given at the University of Pittsburgh Psychology Colloquium Series, University of Pittsburgh, Pittsburgh, PA.
3. **Martella, A. M.** (2018, May). *Investigating the active learning umbrella: A descriptive analysis.* Presentation given at the Annual Psychology Graduate Student Colloquium, Carnegie Mellon University, Pittsburgh, PA.
4. **Martella, A. M.** (2017, May). *Is all active learning created equal? Teaching the control-of-variables strategy (CVS) through active learning.* Presentation given at the Annual Psychology Graduate Student Colloquium, Carnegie Mellon University, Pittsburgh, PA.

## Teaching Experience

### Teaching Certificate

- *Certificate of Foundations in College Teaching*
  - Certificate awardee, Summer 2021: Completed a 4-week-long certificate workshop series program on evidence-based teaching practices and strategies for accessible, learner-centered, and effective learning environments. Purdue University.

### Course Design Training

- *IMPACT X+, Instruction Matters: Purdue Academic Course Transformation Program*
  - Faculty Fellow, Spring 2021: Completed a medium-touch, two-week-long course development program that goes deep into course design and development to allow instructors to build and design resilient, flexible, engaging, equitable, and student-centered courses. Purdue University.

### Course Teaching

- *PSY 20000: Introduction to Cognitive Psychology*
  - Instructor, Summer 2021: Developed and taught introductory course in cognitive psychology. Department of Psychological Sciences, Purdue University.
- *PSY 39000: Undergraduate Research Opportunities*
  - Graduate Teaching Assistant, Fall 2019, Spring 2020, Fall 2020, and Spring 2021: Developed and presented professional development presentations for undergraduate research assistant course, supervised undergraduate research activities, and assisted in biweekly reading group sessions. Department of Psychology, Purdue University.
- *PSY 85-102: Introduction to Psychology*
  - Recitation Instructor, Spring 2018: Assisted in recitation material development and taught two recitation sections. Department of Psychology, Carnegie Mellon University.

- Teaching Assistant, Spring 2018: Assisted in rubric development and grading. Department of Psychology, Carnegie Mellon University.
- *EBIO 1210: General Biology I*
  - Undergraduate Teaching Assistant, Fall 2013 and Spring 2014: Assisted students in class lecture think-pair-sharing activities. Department of Ecology & Evolutionary Biology, University of Colorado Boulder.

### ***Invited Guest Lecturing***

- *Purdue Honors College*
  - Spring 2021 (April): Invited to present on applying to graduate school for honors students. Purdue Honors College, Purdue University.
- *EDCI 21100: DeVito Scholarship Program II*
  - Spring 2021 (March): Invited to present on and discuss a recent publication with students in an undergraduate teacher education and research class. College of Education, Purdue University.

### ***Tutoring***

- *High School Algebra and Geometry.*
  - 2020-2021: Virtual tutor, Purdue Polytechnic High School, Indianapolis, IN.
- *Middle School Math and English*
  - 2020: Tutor, Bauer Family Resources After School Program, Sunnyside Intermediate School, Lafayette, IN.
- *High School Math and Science*
  - 2015: Tutor, *I Have A Dream* program at Boulder High School, Boulder, CO.
- *College Algebra*
  - 2015: Tutor, Eastern Washington University, Cheney, WA
- *English Language*
  - 2014: Tutor, *Student Worker Alliance* program at the University of Colorado Boulder, Boulder, CO.
- *College Calculus and Biology*
  - 2012-2014: Tutor, University of Colorado, Boulder, CO.

### ***Internship Experience***

- Educators Publishing Service (EPS) Literacy and Intervention
  - Subject Matter Resource Expert in Mathematics, 2016: Reviewed curriculum lessons for a prototype mathematics program. Boston, MA.



## Service

### *Department/University Support*

- *Cognitive Program Graduate Student Representative*
  - 2020: Discussed the cognitive psychology graduate program at Purdue University with prospective students. Midwest Graduate School Summit.
- *Graduate Student Panelist*
  - 2020: Served on a graduate student panel to discuss graduate school with Psi Chi International Honor Society in Psychology student members. Purdue University.
  - 2019: Served on three graduate student panels to discuss graduate school with Purdue Psychology undergraduate students. Department of Psychology, Purdue University.
- *2<sup>nd</sup> Year Graduate Student Representative*
  - 2017-2018: Represented graduate students who entered the program in 2016 by meeting with graduate program director and administrative assistant regarding student feedback, concerns, ideas, etc. Department of Psychology, Carnegie Mellon University.
- *Graduate Student Advocate*
  - 2017-2018: Served as a confidential intermediary between graduate students and the graduate program director. Department of Psychology, Carnegie Mellon University.
- *Invited Advisory Committee Student Member*
  - 2015: Offer student perspective for program designed to enhance teaching mission of College of Arts and Sciences by providing support for development and use of instructional technology. Arts and Sciences Support for Education Through Technology (ASSETT), University of Colorado Boulder

### *Academic Mentoring*

- *NSF GRFP Application Guide/Mentor*
  - 2018-2022: Provide doctoral students in Psychology with assistance with their NSF GRFP application by providing guidance on the application process and assisting with the development of their research and personal statement. Department of Psychological Sciences, Purdue University; Department of Psychology, Carnegie Mellon University.
- *Psi Chi International Honor Society in Psychology Graduate Student Co-Advisor*
  - 2020-2022: Oversee Psi Chi Purdue chapter and assist undergraduate officers with events, logistics, and other Psi Chi tasks. Department of Psychology, Purdue University.

- *Norlin Scholar Mentor*
  - 2013-2014: Provided mentoring to students in the Norlin Scholars Program. Norlin Scholars Program, University of Colorado Boulder.

### ***Peer Mentoring***

- *Psychology Undergraduate and Graduate Membership Program Sponsored by the Grad Student/Post Doc Diversity, Equity, and Inclusion Committee*
  - 2021-2022: Mentor undergraduate and graduate students during their programs in Psychology. Department of Psychological Sciences, Purdue University.

### ***STEM Mentoring and Support***

- *Science Fair Judge*
  - 2017: Served as a judge of high school science fair posters in the area of Biology and spoke with students about their research and career interests in science. Pittsburgh Regional Science and Engineering Fair, Senior Biology Division, Pittsburgh, PA.
- *Science Fair Judge*
  - 2017: Served as a judge of elementary and middle school science fair posters in general science domains and spoke with students about their interests in science. Pittsburgh Science and Technology Academy, Pittsburgh, PA.
- *Expand Your Horizons (EYH) Boulder Conference Volunteer*
  - 2014: Volunteered at a conference to motivate middle school girls to investigate careers in STEM-related fields.

### ***Research Mentoring***

\*Published with this undergraduate mentee

\*\*Published with this graduate mentee

\*\*\*Manuscript in preparation with this mentee

- Anthony Kowalkowski\*\*\*, Current lab manager and 2019 Graduate, Purdue University
- Defne Karakullukcu, Current undergraduate student, Purdue University
- Marilyn Kolpien, Current undergraduate student, Purdue University
- Tugce Karatas\*\*, Current graduate student, Purdue University
- Zafer Ozen\*\*, Current graduate student, Purdue University
- Helen Park\*, 2021 Graduate, Purdue University
- Logan Boyer, 2021 Graduate, Purdue University
- Alexandra Simpson\*, 2019 Graduate, Purdue University
- Lynnette Ramsay\*, 2018 Graduate, Carnegie Mellon University

***Invited Journal Reviewer***

- *Review of Educational Research* (2021)
- *Educational Research Review* (2021)
- *International Journal of STEM Education* (2020).
- *Developmental Psychology* (2017).
- *Education and Treatment of Children* (2017).

**Memberships**

- Psychonomic Society
- Association for Psychological Science (APS)
- American Educational Research Association (AERA)