

LAUTARO CABRERA

2311 BENJAMIN BUILDING
UNIVERSITY OF MARYLAND, COLLEGE PARK, MD 20742
CABRERA1@TERPMAIL.UMD.EDU

EDUCATION

2016 – 2021	Ph.D.	Teaching and Learning, Policy and Leadership Specialization in Technology, Learning, and Leadership <i>University of Maryland, College Park</i> GPA: 3.91
2012 - 2015	B.A.	Psychology Studio Art Minor <i>Ohio Wesleyan University, Delaware, OH</i> Magna Cum Laude GPA: 3.89

PROFESSIONAL EXPERIENCE

08/2021 – Present	Post-doctoral Researcher – Accessible Computational Thinking in Elementary Science Classes within and across Culturally and Linguistically Diverse Contexts <i>University of Maryland, College Park – College Park, MD</i>
	<ul style="list-style-type: none">• Assisted in writing of NSF proposal, IRB applications for multiple universities and school counties• Co-constructed the study’s logic model, project evaluation plan, and professional development series design.• Led research instrument design—observation and interview protocols• Oversaw doctoral students in their contributions to the project and development as scholars
08/2017 – 08/2021	Graduate Research Assistant – Computational Thinking in Preservice Education <i>University of Maryland, College Park – College Park, MD</i>
	<ul style="list-style-type: none">• Designed and implemented professional development sessions with elementary school in-service teachers• Co-instructed a 3-lesson module in the Science methods course within the undergraduate pre-service teacher education program• Designed and implemented qualitative and quantitative data collection protocols• Analyzed qualitative and quantitative data to co-author multiple conference and journal publications

08/2016 – 08/2018

Graduate Research Assistant – Science Everywhere

University of Maryland, College Park – College Park, MD

- Designed and facilitated after-school learning sessions with K-12 students.
- Developed interview and observation protocols for data collection
- Collected and analyzed quantitative and qualitative data in preparation of manuscripts

01/2016 – 08/2016

Research Assistant at The Research Institute, Biobehavioral Health

Nationwide Children’s Hospital – Columbus, OH

- Conducted study visits involving consent, interviewing and data collection
- Prescreened potential participants based on existing health records
- Managed study databases and designed systems for automating data entry
- Designed study newsletters, materials, and informational video

08/2013 – 12/2016

Student Teacher Aide

Ohio Wesleyan University Early Childhood Center – Delaware, OH

- Assisted with pre-K classroom organization, lessons, and supported the main teacher in her daily activities
- Provided specific assistance to ELL student

08/2014 – 05/2015

Resident Assistant

Ohio Wesleyan University – Delaware, OH

- Assisted residents with Hall issues
- Organized community-building programs
- Mediated conflict resolutions
- Handled administrative issues for students

08/2013 – 05/2014

Student Representative

Adobe Systems, Inc. – Delaware, OH

- Responsible for driving awareness, engagement, and excitement for Adobe Creative Cloud within the Ohio Wesleyan community through strategic partnerships, sponsored events, workshops and word-of-mouth.
- Conducted 5 workshops on Adobe software for students.

CONSULTING

October 2021

Digital Promise

Computational Thinking of an Inclusive World: A Resource for Educators to Learn and Lead

- Contributed to report by editing and sharing insights about the role of Computer Science and Computational Thinking in disciplinary learning.

MANUSCRIPTS UNDER REVIEW

- Cabrera, L.**, Ketelhut, D. J., Mills, K., Killen, H., Coenraad, M., Byrne, V., & Plane, J. (Under Review). Designing a Framework for Teachers' Integration of Computational Thinking into Elementary Science.
- Coenraad, M., **Cabrera, L.**, Byrne, V., Killen, H., Ketelhut, D. J., Mills, K. M., & Plane, J. (Under Review). STIG^{CT}: The Design of a Science Teaching Computational Thinking Inquiry Group to Promote CT Integration in Elementary Science.

INVITED MANUSCRIPTS

- Ketelhut, D. J., & **Cabrera, L.** (2020). *Computational Thinking in Early Childhood and Elementary Science and Engineering Education*. Report for the National Academies of Sciences, Engineering and Education committee on Enhancing Science and Engineering in Prekindergarten through Fifth Grade.
- Cabrera, L.** (In Press). Sphero Struggle: Productive or Demoralizing? In S. (S. K.) Jeong, L. A. Bryan, D. J. Tippins, and C. M. Sexton (Eds.) *Science Classroom cases of elementary science teaching and learning – Navigating the challenges and contemplating actions in the 21st century*. Springer.

PEER-REVIEWED JOURNAL PUBLICATIONS

- Cabrera, L.**, Byrne, V., Ketelhut, D. J., Coenraad, M., Killen, H., & Plane, J. (2021). Measuring Teacher Self-Efficacy for Integrating Computational Thinking in Science (T-SELECTS). *Educational Innovations and Emerging Technologies (EIET)*, 1(1), 3–14.
- Coenraad, M., **Cabrera, L.**, Killen, H., Plane, J., & Ketelhut, D.J. (2021). Computational thinking integration in elementary teachers' science lesson plans. *Computational Thinking in PreK-5: Empirical Evidence for Integration and Future Directions*, 11-18.
- McGinnis, J. R., Hestness, E., Mills, K., Ketelhut, D. J., **Cabrera, L.**, & Jeong H. (2020). Preservice science teachers' beliefs about computational thinking following a curricular module within an elementary science methods course. *Contemporary Issues in Technology and Teacher Education*, 20(1).
- Cabrera, L.** (2019). Teacher Preconceptions of Computational Thinking: A Systematic Literature Review. *Journal of Technology and Teacher Education*, 27(3), 305-333. Waynesville, NC USA: Society for Information Technology & Teacher Education. Retrieved January 3, 2020 from <https://www.learntechlib.org/primary/p/210234/>.
- Ketelhut, D. J., Mills, K., Hestness, E., **Cabrera, L.**, Plane, J., & McGinnis, J. R. (2019). Teacher Change Following a Professional Development Experience in Integrating Computational Thinking into Elementary Science. *Journal of Science Education and Technology*, (Computational Thinking from a Disciplinary Perspective), 1–15. <https://doi.org/10.1007/s10956-019-09798-4>
- Mills, K., Bonsignore, E., Clegg, T., Ahn, J., Yip, J., Pauw, D., **Cabrera, L.**, Hernly, K., Pitt, C. (2019). Connecting Children's Scientific Funds of Knowledge Shared on Social Media to Science Concepts. *International Journal of Child-Computer Interaction*. doi.org/10.1016/J.IJCCI.2019.04.003

Golbeck, J., Auxier, B., Bickford, A., **Cabrera, L.**, Conte McHugh, M., Moore, S., ... Zimmerman, J. (2018). Congressional twitter use revisited on the platform's 10-year anniversary. *Journal of the Association for Information Science and Technology*, 69(8), 1067–1070.

PEER REVIEWED CONFERENCE PROCEEDINGS

Cabrera, L., Coenraad, M., Byrne, V., Killen, H., & Ketelhut, D. J. (2021). Integrating Computational Thinking into Elementary Science Online in *Proceedings of the 15th International Conference of the Learning Sciences (ICLS 2021)*. Bochum, Germany: International Society of the Learning Sciences. 885-886.

Cabrera, L., Maloney, J. H., & Weintrop, D. (2019). Programs in the Palm of your Hand: How Live Programming Shapes Children's Interactions with Physical Computing Devices. In *ACM Interaction Design and Children (IDC)*. Boise, ID: Association for Computing Machinery. <https://dl.acm.org/citation.cfm?id=3311927.3323138>

Ketelhut, D. J., Hestness, E., **Cabrera, L.**, Jeong, H., Plane, J., & McGinnis, J. R. (2019). Examining the Role of Mentor Teacher Support in a Professional Learning Experience for Preservice Teachers on Integrating Computational Thinking into Elementary Science Education. In K. Graziano (Ed.), *Proceedings of Society for Information Technology & Teacher Education International Conference (SITE) 2019* (pp. 2281–2285). Las Vegas, NV, United States: Association for the Advancement of Computing in Education (AACE). Retrieved from <https://www.learntechlib.org/p/207966>

Cabrera, L., Ahn, J., Yip, J. C., Clegg, T., Hernly, K., Bonsignore, E., ... Pauw, D. (2018)*. Exploring Practices on the Move: Facilitating Learning Across a Neighborhood. In *Proceedings 13th International Conference of the Learning Sciences (ICLS)*, 705–712. <https://repository.isls.org/handle/1/487>
*[Best Student Paper Nominee]

Hestness, E., Jass Ketelhut, D., McGinnis, J.R., Plane, J., Razler, B., Mills, K., **Cabrera, L.** & Gonzalez, E. (2018). Computational Thinking Professional Development for Elementary Science Educators: Examining the Design Process. In E. Langran & J. Borup (Eds.), *Proceedings of Society for Information Technology & Teacher Education International Conference 2018* (pp. 1904-1912). Chesapeake, VA: Association for the Advancement of Computing in Education (AACE). <https://www.learntechlib.org/primary/p/182789/>

Ahn, J., Clegg, T., Yip, J., Bonsignore, E., Pauw, D., **Cabrera, L.**, ... Marr, R. (2018). Science Everywhere: Designing Public, Tangible Displays to Connect Youth Learning Across Settings. In *Proceedings of SIGCHI Human Factors in Computing Systems (CHI 2018)*. New York, NY: ACM., 1–12. <https://doi.org/10.1145/3173574.3173852>

INVITED CONFERENCE PRESENTATIONS

Killen, H., Coenraad, M., **Cabrera, L.**, Byrne, V., & Ketelhut, D.J. (2021). Integrating Computational Thinking into Elementary Inquiry-Based Science Instruction: Affordances of a Community of Practice Model. *Presented at the NARST 94th Annual International Conference*.

- Cabrera, L.**, Byrne, V., Killen, H., Coenraad, M., Ketelhut, D. J., & Plane, J. (2021). Facilitation as Assessment of Teacher's Computational Thinking Knowledge during Lesson Co-Design. *Presented at the American Educational Research Association Conference 2021.*
- Killen, H., Coenraad, M., Byrne, V., **Cabrera, L.**, Ketelhut, D. J., & Plane, J. (2021). Benefits of Expanded Mentorship in a Community of Practice Model for Computational Thinking Professional Development. *Presented at the American Educational Research Association Conference 2021.*
- Coenraad, M., Byrne, V., Ketelhut, D. J., Plane, J., **Cabrera, L.**, Killen, H., & Mills, K. M. (2021). Designing the Science Teaching Computational Thinking Inquiry Group: Professional Development for CT-Integrated Elementary Science. *Presented at the American Educational Research Association Conference 2021.*
- Cabrera, L.**, Coenraad, M., Mills, K., McGinnis, J. R., Jass Ketelhut, D. (2020). Preservice Teachers' Self-Efficacy and Computational Thinking: A Mixed-Methods Approach. *Division C Outstanding Graduate Student Research Posters session at the American Educational Research Association Conference 2020 (AERA).* San Francisco, CA.
- Killen, H., Mills, K., **Cabrera, L.**, Coenraad, M., Jass Ketelhut, D., McGinnis, J. R., Plane, J. (2020). Computational Thinking in Elementary Education: A Framework to Develop a CT Language Roadmap. To be presented at the *American Educational Research Association Conference 2020 (AERA).* San Francisco, CA.
- Mills, K., Coenraad, M., **Cabrera, L.**, Killen, H., Jass Ketelhut, D., McGinnis, J. R. (2020). A Design Based Research Approach to Integrating Computational Thinking into Elementary Science Teacher Education. To be presented at a roundtable at the *American Educational Research Association Conference 2020 (AERA).* San Francisco, CA.
- Cabrera, L.**, Jass Ketelhut, D., Hestness, E. E., Mills, K., & McGinnis, J. R. (2019). Effects of a Computational Thinking Module on Preservice Teachers' Knowledge and Beliefs. Presented at a roundtable at the *American Educational Research Association Conference (AERA).* Toronto, ON.
- Mills, K., Bonsignore, E., Pauw, D., Pitt, C., Hernly, K., **Cabrera, L.**, ... Clegg, T. (2019). Eliciting Scientific Funds of Knowledge Through Social Media Sharing in Formal Learning Environments. Presented at the *American Educational Research Association Conference (AERA).* Toronto, ON.
- Hestness, E. E., Mills, K. M., McGinnis, J. R., Ketelhut, D. J., Jeong, H., & **Cabrera, L.** (2019). Preservice Teachers' Beliefs About CT Integration in Elementary Science Instruction. In *NARST 92nd Annual International Conference.* Baltimore, MD.
- Cabrera, L.**, McGinnis, J. R., Ketelhut, D. J., Hestness, E. E., Mills, K. M., & Jeong, H. (2019). Preservice Teachers' Changes in Self-Efficacy Regarding Computational Thinking. In *NARST 92nd Annual International Conference.* Baltimore, MD.
- McGinnis, J. R., Ketelhut, D. J., Hestness, E. E., Mills, K. M., Jeong, H., & **Cabrera, L.** (2019). An Examination of Preservice Teachers' Integration of Computational Thinking in Their Elementary School Lesson Plans. In *NARST 92nd Annual International Conference.* Baltimore, MD.

Cabrera, L., Ahn, J., Yip, J. C., Clegg, T., Hernly, K., Bonsignore, E., ... Pauw, D. (2018). Exploring Practices on the Move: Facilitating Learning Across a Neighborhood. *Presented at the Human-Computer Interaction Lab 35th Annual Symposium*. University of Maryland, College Park.

HIGHLIGHTED SKILLS

Quantitative Research Methods	Descriptive statistics; perform: T-tests and ANOVA; linear multiple and logistic regression; propensity matching.
Qualitative Research Methods	Conducting observations and interviews; analyzing video data and artifacts; qualitative coding with NVivo.
Instrument Development	Developing surveys and measuring their validity and reliability; creating and employing observation and interview protocols.
Programming	R for statistics; basic Javascript; Visual Basic for Access; NETLogo, Scratch for educational applications.
Facilitation	Teaching in diverse contexts such as informal after-school programs, undergraduate teacher education courses, graduate level courses, and professional development programs.
Languages	Spanish (Native), English (Bilingual)

TEACHING EXPERIENCE

Spring 2021	<p>Integrating Computational Thinking (CT) into Elementary Science Online and Face-to-Face: How to run a successful PD for pre-service and in-service teachers with a proven framework, tech tools, and strategies.</p> <p><i>Workshop conducted at the NARST Conference 2021</i></p>
Spring 2019, 2020	<p>Foundations of Education Research II Teaching Assistant</p> <p>This course focuses on how to plan, develop, and execute a systematic literature review in a specific area determined by the student in consultation with his/her academic advisor.</p> <p>Co-planned and executed face-to-face and online class sessions on:</p> <ul style="list-style-type: none">• Finding academic sources and databases using Boolean logic• Crafting research questions and literature search procedures• Using theoretical frameworks to motivate and situate research• Communicating findings in a conference presentation format

Fall 2018, 2019

Foundations of Education Research I

Co-Instructor & Teaching Assistant

This course is an introduction to the field of education research. It addresses a range of conceptual, methodological, ethical and political challenges that education researchers confront, and requires students to read broadly and think critically about their own work and that of others.

- Designed and led lessons based on required readings for the course
- Assisted in the creation of grading rubrics for diverse assignments
- Managed student submissions and student-instructor correspondence
- Facilitated opportunities for course feedback beyond mandatory evaluations

Fall 2017, 2018

Curriculum and Instruction in Elementary Education: Science

Guest Lecturer

- Led portions of a 3-class module to integrate computational thinking in elementary science education
- Facilitated robotics activities with preservice teachers
- Facilitated discussions of computational thinking frameworks and reflections on its integration into elementary science

2013 – 2015

Ohio Wesleyan University Early Childhood Center

Preschool Student Teacher Aide

- Assisted with pre-K classroom organization, lessons, and supported the main teacher in her daily activities
- Provided specific assistance to ELL student

HONORS & AWARDS

Fall 2020

Wylie Dissertation Fellowship

The Graduate School – University of Maryland, College Park

The Ann G. Wylie Dissertation Fellowship is a university-wide competitive fellowship that aims to support University of Maryland doctoral candidates who are in the latter stages of writing their dissertations.

Awardees are selected by a 12-Member multi-disciplinary panel from The Graduate School who review and evaluate all of the Semester Dissertation Fellowship proposals.

June 2018 **Best Student Paper Nomination**
International Conference of Learning Sciences (ICLS)
Our paper titled “Exploring Practices on the Move: Facilitating Learning Across a Neighborhood” was nominated for best student paper, as I was the first author as a graduate student.

2016, 2017, 2018 **Dean’s Fellowship**
College of Education – University of Maryland, College Park
The Graduate School's Dean's Fellowships are offered by graduate programs in order to create greater flexibility in creating overall support packages for students. Each year, the Graduate School allocates a certain number of Dean’s Fellowships to colleges who then allocate the fellowships to programs. Programs are then responsible for recruiting and retaining outstanding students.

2015 **Outstanding Scholastic Achievement Award**
Psychology Department – Ohio Wesleyan University
The Outstanding Scholastic Achievement Award is presented to the outstanding senior psychology major selected on the basis of academic performance, professional potential and general merit.

2014, 2015 **Top 50 Scholar Athlete**
Ohio Wesleyan University
This award is given to Ohio Wesleyan's top 50 student-athletes by cumulative grade point average.

2012 – 2015 **W.E.B. DuBois Academic Achievement Award**
Office of Multicultural Student Affairs – Ohio Wesleyan University
This award is given to students who successfully obtain a 3.50 or higher GPA for each academic term.

2012 – 2015 **Branch Rickey Scholarship**
Ohio Wesleyan University
In honor of OWU alumnus Branch Rickey, general manager of the Brooklyn Dodgers who led the integration of Major League Baseball when he signed Jackie Robinson in 1945, this scholarship is given to outstanding first-year students.

SERVICE

Faculty Search Committee – Student Member

Teaching and Learning, Policy and Leadership – Tenure Track position for the Technology, Learning and Leadership specialization.

Ad-Hoc Reviewer:

Journal of Technology and Teacher Education (JTATE)

Contemporary Issues in Technology and Teacher Education – Science (CITE [Science])

Computer Human Interaction Conference (CHI)

American Educational Research Association Conference (AERA)

The International Conference of the Learning Sciences (ICLS)

Interaction and Design Conference (IDC)

PROFESSIONAL AFFILIATIONS

American Educational Research Association (AERA)

International Society of the Learning Sciences (ISLS)

Association for Computing Machinery (ACM)