

Jingyi Chen

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Research Interest: As a passionate educator, I aim to design inquiry-based, authentic, and fun mathematical learning experiences for young math learners. I am interested in integrating mathematical learning with art, technology, other disciplines in STEM, cultural practices, and social justice. I am also interested in how teachers support autonomous math learning through play.

Research Method: Ethnography Research, Qualitative Research, Thematic Analysis, Interaction Analysis

EDUCATION

Ph.D Student in Learning, Teaching and Diversity

2024-Present

Vanderbilt University

Nashville, Tennessee

Advisor: Dr. Melissa Gresalfi

M.Ed, Learning and Design

2022-2023

Vanderbilt University

Nashville, Tennessee

Relevant Coursework: ‘Design for Context’, ‘Mathematics Literacies’, ‘Computers, Teaching and Math Visualization’

Capstone Project: How can geometry and collective learning support the development of algebraic reasoning in 5th grade Classroom?

B.S., Mathematics

2017-2019

University of Wisconsin, Madison

Madison, Wisconsin

B.A., Mathematics (transferred to UW-Madison to finish)

2015-2017

Agnes Scott College

Decatur, Georgia

Honors: Received France Walters Winship Scholarship for academic merit

International Student Exchange Program at University of Oulu, Finland

PEER-REVIEWED JOURNAL ARTICLES

- Parks, A., Gresalfi, M., Vescio, J., **Chen, J.**, & Underwood, K. (Under Review). Logics of Play and Control in Kindergarten Mathematics Classrooms.
- Smith, B. E., Carlone, H. B., Ziegler, H., Janumyan, Y., Conley, Z., **Chen, J.**, & Jen, T. (2025). Youths’ investigations of critical urban forestry through multimodal sensemaking. *Journal of Science Education and Technology*, 34(3), 489-502.
- Janumyan, Y., Conley, Z. C., Carlone, H., Ziegler, H. H., Jen, T., Zhang, L., & **Chen, J.** (2024). Ecology in Urban Spaces: Contributions of Urban Green Spaces to Ecological and Community Health. *Science Scope*, 47(4), 48-55.

PEER-REVIEWED CONFERENCE PROCEEDINGS AND PRESENTATIONS

- **Chen., J.** (2026, November) Mapping Playworld Pedagogy: An Ordered Network Analysis of Discourse in Professional Development and Classroom Instruction for a Place-Value Unit *International Conference of Quantitative Ethnography (ICQE) Hiroshima, Japan*.
- **Chen., J** & Gresalfi, M. (2026, June) Negotiating Tensions as Sites of Learning: Teacher-child Interactions During Mathematical Play. *International Society of the Learning Sciences (ISLS) Irvine, CA*.
- **Chen, J.** (2026, April) Beyond Balance: Dynamic Interactions and Mathematical Learning in a Play-based Kindergarten Classroom. Paper presented at *the annual meeting of the American Education Research Association (AERA)*. Los Angeles, LA
- Vescio, J., **Chen, J.**, Underwood, K., & Love, C. (2026, April) Not Enough Math to Play With: Constructing Playworlds in K-12 Schools. Paper presented at *the annual meeting of the American Education Research Association (AERA)*. Los Angeles, LA

- **Chen, J.,** Carlone, H., Ziegler, H., Conley, Z., Janumyan, Y., Zhang, L., Jen, T., & Tanner, Q. (2024, April). Middle Schoolers as Critical Inquirers and Advocates in an Urban Forestry Unit: Possibilities and Uncertainties. Paper presented at *the annual meeting of the American Education Research Association (AERA)*. Philadelphia, PA.

RESEARCH EXPERIENCE

Graduate Research Assistant

January 2024 - Present

Playful Learning Project

Peabody College, Vanderbilt University

- Designed math play activities and supported professional development for K–2 teachers on classroom implementation
- Collected classroom video data and conducted structured observations
- Analyzed data, presented findings at research meetings, and contributed to publications

Research Associate

June 2023 - July 2024

T-ReCS Project

Peabody College, Vanderbilt University

- Conducted archival research and built community partnerships for T-ReCS pilot and a two-week summer camp
- Co-design eco-justice/digital storytelling curriculums for summer camp Supported grant writing, IRB processes, and research protocol development
- Facilitated lessons, collected multimodal data, conducted student interviews, and managed research equipment and training

Graduate Research Assistant

August 2022- May 2023

Dr. Carlone's Lab

Peabody College, Vanderbilt University

- Co-designed “Tree Canopy Coverage: A Critical Place-based Science Unit” with the research team and teachers from a STEM outreach program
- Collected data, facilitated lesson plans, and conducted individual interviews and focused group interviews with students
- Organized data, including pictures, audio, field notes, student work, and transcripts
- Analyzed data, presented key findings at research meetings, and wrote for publications

WORK EXPERIENCE

High School Geometry Teacher

Aug 2021- June 2022

New Heights Academy Charter School

New York City, New York

- Taught high school geometry to 85 students, including students with IEP and selected 10th graders in an accelerated program
- Researched students' needs and incorporated students' interests in lesson planning
- Created thoughtful class packets and designed various performance tasks and weekly geometry projects that support students' learning
- Developed, administrated, and graded quizzes, unit assessments, and End-of-Quarter assessments
- Ran parent-teacher conferences and ongoing communication with families

Online K-2 Math Teacher

July 2021- July 2022

Wukong Education

New York City, New York

- Delivered interactive online math classes to Chinese immigrant children across three different classes and expanded the class size from an average of ten students to thirty students
- Diversified teaching techniques, utilized teaching aids, and designed simple experiments to help children develop number sense, logical reasoning skills, and spatial reasoning skills
- Fostered a positive, welcoming, and encouraging classroom culture
- Provided weekly feedback and suggestions to the Department of Curriculum based on students' learning outcome

Math Special Education Specialist

October 2019-August 2021

Uncommon Schools

New York City, New York

- Analyzed curriculum and student needs to differentiate math instructions for thirty students with IEPs in small groups

- Collaborated with fellow educators for lesson planning and post-assessment data analysis
- Observed and evaluated students' academic and social-emotional growth, completed teacher reports, and presented at annual IEP meetings
- Supported advisory, field trips, morning circle, and other school activities as a home advisor

University Housing Tutor

September 2018-May 2019

University Housing

UW-Madison Madison Madison, Wisconsin

- Dedicated five hours per week to offer drop-in math tutoring services for courses at and below Multivariable Calculus

- Worked closely with students on weekly assignments, quiz preparation, and exam reviews
- Conducted interviews during the tutor hiring process at University Housing

Peer Advisor March

September 2016-December 2016

Summit Program

Agnes Scott College Decatur, Georgia

- Participated in a series of leadership training sessions in preparation for mentoring and supporting fellow students
- Took the lead on planning and holding bi-weekly workshops to support 18 freshman students with academic performances and mental health
- Fostered strong and meaningful connections with advisees through regular communications