Qiyang (Minnie) Lin

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Education

Michigan State University (MSU), Lansing, MI   Sept. 2021 - Current
Ph.D. student at Educational Psychology and Educational Technology (EPET)
Advisor: Rand Spiro, *Committees:* Rabindra Ratan, Kui Xie, Joseph Krajcik
Dissertation: Adaptive Thinking in Complex Domain: Investigating AI-Driven Cognitive Flexibility Scaffolding

Michigan State University, Lansing, MI   Sept. 2022 - Current
M.A. Certificate in Serious Game Design and Research

Teachers College, Columbia University, New York, NY   Sept. 2019 - Feb. 2021
M.A. in Cognitive Science in Education
Thesis: The role playful learning approach in the relationship among explanatory learning styles and goal orientation
Advisors: Leslie Frazier, Janet Metcalfe, John Black

University of California, San Diego (UCSD), San Diego, CA   Sept. 2016 - June 2018
B.S. in Psychology, Minor in Business
Thesis: Investigations of the Pretesting Effect and How It Affects Learning
Advisors: Timothy Rickard, Steven Pan

Research Interests

1. *Individual Differences and Learning Contexts:* Study how students' motivations, self-regulated learning, and other individual characteristics interact with environments.
2. *Technology-Enhanced Learning with VR, Games, and AI:* Use virtual reality, game-based learning, and Generative AI to foster engaging and effective learning experiences.
3. *AI-Driven Adaptive Learning Design:* Design AI for students' problem solving and metacognitive skills.

Peer-reviewed Journals and Conference Proceedings

Frazier, M, **Lin, Q.,** Lee, G. A. & Xie, K. (2025). From Space to Place: A Visual Grounded Theory Analysis of How College Students Shape Study Environments. *Learning in Context, 2*(1). https://doi.org/10.1016/j.lecon.2025.100016

Ratan, R., **Lin, Q.,** Lim, C., Park, R., Lover, A., Han, E., Jang, D., Leith, A. P., & Bailenson, J. N. (2025). Time Matters in VR: Students Benefit from Longer VR Class Duration, but Certain Outcomes Decline After 45 Minutes, with Large Individual Variance. *Computers & Education, 235,* 105328. https://doi.org/10.1016/j.compedu.2025.105328

Milik, O., Foxman, M., Jang, D., **Lin, Q.,** Waier, J., Zheng, A., Bouzek, D., Klebig, B., Leith, A., Beyea, D., & Ratan, R. (2024). Beyond meet space: Running a focus group study in VR. In *Proceedings of the Meaningful Play 2024.*

Clifford, C., Paulk, E., **Lin, Q.,** Cadwallader, J., Lubbers, K. & Frazier, L. D. (2024) Relationships among adult playfulness, stress, and coping during the COVID-19 pandemic. *Current Psychology, 43,* 8403–8412 https://doi.org/10.1007/s12144-022-02870-0

Lubbers, K., Cadwallader J., **Lin, Q.,** Clifford, C. & Frazier, L. D. (2023). Adult Play and Playfulness: A Qualitative Exploration of its Meanings and Importance, *Journal of Play in Adulthood, 5*(2), 1-19. https://doi.org/10.5920/jpa.1258

Manuscripts Under Review (*co-first author)

Lin, Q., Li, T. & Spiro, R. Learning Cell Biology through Virtual Reality and Slide-based Instructions. *British Journal of Educational Technology*

Lin, Q.*, Zhao, F.*, Shao Y. & Martella, A.M. How Does AI Impact Student Learning? An Umbrella Review of Promises, Pitfalls, and Research Gaps. *Journal of Computer-assisted Learning*

Lin, Q., He, J. & Xie, K. Predictive and Interactive Roles of Motivation and Situational Learning Activities on Emotional and Cognitive Engagement. *British Journal of Educational Psychology*

Zhao, F.*, **Lin, Q.***, Mayer, R. The Role of Trait Cognitive Flexibility on Game-based Learning: A Media-Comparison Study. *Journal of Computer-assisted Learning*

Grants, Honors & Awards
External
Graduate Research Grants from Psi Chi Honor Society, $364	2024

Internal
Robert Craig Fellowship in Psychological Studies in Education, $2,100	2025
Summer Research Fellowship (SRF), $21,000	2023, 2024, 2025
EPET Program Student Research Funding Fellowship, $750, $450	2024, 2025
Travel Funds from Dept. of CEPSE & EPET Program, $1,900	2022, 2023, 2024
Clifford E. Erickson Memorial Fund, $2,100	2023, 2024
Grace Hoffer Endowed Fund for Graduate Students in the College of Education, $2,900	2023
CEPSE Department Research Fund, $500	2023
Dissertation and Practicum Support (DPHCS) from Dept. of CEPSE, $1,610	2022
Teachers College Scholarship $9,000	2019
Magna Cum Laude at UC San Diego	2018
Dean's and Provost Honors at UC San Diego	2018

Conference Presentations
Paper Presentations

Lover, A., Lim, C., **Lin, Q**., Jang, D., Baxter C., Anuja, A., Han, E., Miller, M., Ratan, R. & Bailenson, J. (2025, June). *Nonverbal Behaviors in a VR Classroom: Examining Associations Between Gaze, Distance, Social Presence, Fatigue, and Learning Outcomes Over Time.* 75th Annual Conference of the International Communication Association (ICA), Denver, CO, United States.

Lin,Q., He, J. & Xie, K. (2025, April). *Predictive and Interactive Roles of Motivation and In-Situ Learning Activities on Emotional and Cognitive Engagement.* 2025 American Educational Research Association (AERA) annual meeting, Denver, CO, United States.

Moglovkin, C., Jang, D., Langston, K., **Lin, Q**., Lover, A. & Ratan, R. (2024, July). *Exploring the Senses: A Comparative Analysis of Human Perception in Virtual Reality and Mixed Reality for Enhanced Physical Education Experiences.* 2024 International Alliance for Health, Physical Education, Dance, and Sport (IAHPEDS) World Congress, Tokyo, Japan.

Lin, Q., Lim, C., Lover, A., Han, E., Park, R., Jang, D., Y., Schultz, Z. & Ratan, R. (2024, April). *Optimizing Learning in the Metaverse: Class Duration in VR Compared to Zoom on Student Outcomes.* "Teaching and Learning with Extended Reality" at 2024 AERA annual meeting, Philadelphia, PA, United States.

Clifford, C., Paulk, E., **Lin, Q.,** Wang, T., & Frazier, L. D. (2021, July). *The coactive influence of playfulness on stress and coping.* The 7th Biennial Meeting of the Association for Research in Personality, online.

Lin, Q. & Frazier, L. (2021, May) *The Role of Playful Learning Approach in The Relationship Among Explanatory Learning Styles and Goal Orientation.* 33rd Association for Psychological Science (APS) Convention, online.

Lin, Q., Kelly, J., Qiu, T., Ray, A. & Geller, E (2018, June). *Differential Effects of a Writing Task on Students' Test Anxiety Coping Strategies.* Psychology Honors Poster session, UCSD, CA, United States.

Poster Presentations

Frazier, M., Lee, G. A., **Lin, Q.,** He, J., Perera, S. N., LeVault, R., Bae, C., & Xie, K. (2025, October). Bridging technology and culturally relevant pedagogy in science education: A systematic review of K–12 research. Association for Educational Communications and Technology (AECT) International Convention, Culture, Learning, and Technology Division, Las Vegas, NV, United States.

Frazier, M., **Lin, Q.,** Lee, G. & Xie, K. (2024, June). *Snapshot Study: Qualitative Analysis of College Students' Study Environments Through Photographs.* 2024 American Psychological Association (APA), Seattle, WA, United States.

Lin, Q., Zhao, F., & Mayer, E. R. (2023, November). *The Role of Cognitive Flexibility in Learning with Games.* Psychonomic Society 64th Annual Meeting, San Francisco, CA, United States.

Clifford, C., Paulk, E., **Lin, Q**., Lubbers, K. G., Cadwallader, J., & Frazier, L. D. (2021, April). *How does playfulness impact stress and coping in the time of the COVID-19 pandemic?* The 43rd Annual Meetings of the Society for Behavioral Medicine, Baltimore, MD, United States.

Lin, Q., Zhao, F., & Geller, E. (2019, May). *The Effect of Emotional Distractors on Online Learning.* The 31st APS Annual Convention, Washington DC, United States.

Lin, Q., Zhao, F., & Geller, E. (2019, April). *The Effect of Emotional Distractors on Online Learning.* The 2019 UCSD Psychology Undergrad Research Conference, UCSD, CA, United States

Symposiums
Lin, Q. & Frazier, L. (2021, June) *The Role of Playful Learning Approach in The Relationship Among Explanatory Learning Styles and Goal Orientation.* The Learning Ideas Conference, online.

Round Table Presentations
Zhao, F. & **Lin, Q.** (2024, April). *Role of Trait Cognitive Flexibility in Learning with Games and Conventional Media*. 2024 AERA annual meeting, Philadelphia, PA, United States.

Lin, Q., Ratan, R., Lover, A., Lim, C., Jang, D., Schultz, Z., Yi, A. & Han, E. (2023, May) *Is Teaching in Virtual Reality Superior to Video Conferencing? Examining the Role of Social Presence.* 73rd Annual ICA, Toronto, Canada.

Lin, Q., Zhao, F. & Mayer. E. R. (2023, April). *The Role of Cognitive Flexibility in Learning with Games*. Research-in-Progress. 2023 AERA Annual Meeting, Chicago, IL, United States.

Invited Talks
Lin, Q. & Spiro, R.J. (2024, October). *Generative AI and Advanced Science Learning for Real-world Knowledge Application.* Invited presenter to share AI applications in an educational context at CREATE Center, MSU, MI.

Rasing, M., **Lin, Q**., Rheem, S., & Miao, S. (2024, October). Funding International Research: Finding and Applying as Doctoral Student. Guest panelists share experiences applying for grants and fellowships. MSU, MI.

Lin, Q., Lim, C. & Lover, A. (2023, August). *Virtual Reality for Teaching and Learning in Higher Education* for Visiting International Professional Program (VIPP). Guest lecturer to share academic experience of VR and education in "Higher Education Teaching and Learning Certificate Workshop Series." MSU, MI.

Lin, Q., Mouzaoir, S., Keane, J. & Lira, K. (2023, April). *EPET at MSU X PTSA at CSULB.* Panelist to share Graduate School Experience with the Psychology Transfer Student Association (PTSA) at California State University, Long Beach (CSULB). Online, MSU, MI.

Galvin, S., Drazin, M. & **Lin, Q.** (2021, November). *Humanizing Instruction: Strategies to Teach with Kindness & Compassion.* Guest lecturer in the professional learning community for graduate student instructors of TE 150, MSU, MI.

Lin, Q. (2021, October). *How to prepare for applying graduate schools?* Guest speaker in the 2021 International Students Psychology Association (ISPA) Alumni Panel, Teachers College, Columbia University, NY.

Media Coverage
"Virtual reality is beneficial for remote instruction, says study, but there's a time limit" - Phys.org   2025
"MSU study: Virtual reality beneficial for remote instruction — but there's a time limit" – MSU Press   2025

Research Experience
CLOUD Lab, Michigan State University, MSU   2025 - Present
Project Lead & Graduate Research Assistant   Supervisor: Dr. Elizabeth Cloude
- Explore how emotion, cognition, self-regulation, and motivation shape learning in complex, technology-enhanced environments using multimodal data (e.g., surveys, think-aloud, facial expression, heart rate).
- Led project funded by the European Commission in the Horizon Europe Programme, titled *Emotional Modelling to Enhance Learning with Games*" to explore the relationship between gameplay strategy and

players' emotions, using feature engineering.

Social and Psychological Approaches to Research on Technology-Interaction Effects Lab (SPARTIE), MSU
2021– Present
Project Lead & Graduate Research Assistant   Supervisor: Dr. Rabindra Ratan
- Led research to evaluate the effectiveness of VR in classroom using Bayesian multilevel analysis.
- Work project *The Future of Virtual Team Meetings: Enhancing Well-Being and Equity for Game* funded by Nature Science Foundation (NSF) conduct user research on "Beyond Meet Space," a self-developed virtual meeting platform, for future classroom teaching.

Research Laboratory for Digital Learning (RLDL), MSU   2023-Present
Project Lead & Graduate Research Assistant   Supervisor: Dr. Kui Xie
- Worked on project *Scaling a Project-Based Curriculum that uses Multiple Literacies to Transform Science Learning in Elementary Schools in the Deep South* funded by Education Innovation and Research Program (EIR) to develop theory-driven motivational prompts for K-12 teacher in STEM programs.
- Worked on project *Hybrid2: Creating Equitable Spaces for Science Discourse in Blended Learning Environments* funded by Institute of Education Science (IES) to enhance cultural relevance pedagogy.
- Led research study on *The Influence of Contextual Features on Learning Engagement in Out-of-Classroom Settings for Academically At-Risk College Students* funded by Spencer Foundation explore students' motivational and cognitive engagement using multilevel analysis.

Rand's Lab, MSU   2021 - Present
Project Lead & Graduate Research Assistant   Supervisor: Dr. Rand Spiro
- Explored the role of cognitive flexibility on game-based learning funded by Psi Chi Society.

Health and Development Lab, Florida International University   July 2020 – June 2021
Research Manager and Data Analyst   Supervisor: Dr. Leslie Frazier
- Led "Play/Playfulness in Adulthood" project examining impact of play and playfulness on adults' learning, mental health and physical well-being to rise the importance of play/playfulness across the lifespan
- Conducted thematic analysis on both qualitative and quantitative data and statistical analysis using R and SPSS
- Led a nine-member team to analyze and visualize data as well as write regular progress reports
- Organized master documents and coordinate volunteers' work and progress

Metacognition and Memory Lab, Columbia University   Sept. 2019 – May 2021
Research Assistant   Supervisor: Dr. Janet Metcalfe
- Designed an experimental study to examine whether a practice test helps the memory retrievals in actual exam
- Performed data collection, integration, and manipulation with R on participants' behavioral data from PsychoPy
- Led in-depth discussions with team members to develop deep domain knowledge and insightful takeaways

Learning and Instruction in Multimedia Environments (LIME) Lab, UCSD   March 2018 - June 2018
Honors Project: Online Learning with Emotional Distractions   Supervisors: Dr. Emma Geller
- Reviewed literature to facilitate study design and manuscript writing
- Prepared an IRB protocol detailing purpose, design, implication, and ethnical aspects of study
- Collected data via Qualtrics, organized data via Excel, and analyzed data via JMP (e.g., ANOVA)
- Co-wrote a paper titled "*The Effect of Emotional Distractors on Text-/Video-based Online Learning*"

Learning and Instruction in Multimedia Environments (LIME) Lab, UCSD   Jan. 2018 - March 2018
Honors Project: Test Anxiety and Coping   Supervisor: Dr. Emma Geller
- Searched information and reviewed literature through EnNote and UCSD library database
- Prepared bibliography for each reference to summarize and organize materials for paper
- Wrote and edited project proposal based on sources and provided public presentations
- Utilized JMP to compile, organize, and analyze research data to produce reports and graphs
- Co-wrote a paper titled "*Differential Effects of a Writing Task on Students' Test Anxiety Coping Strategies*"

Emotion Lab, UCSD   Apr. 2017 - Jan. 2018
Lab Manager   Supervisor: Dr. Christine Harris
- Assisted in experiment design, data collection, survey coding, and lab member training
- Managed recruiting system (SONA), distributed online surveys and answered participant questions
- Surveyed participants using Qualtrics; summarized and organized literature/materials in Excel
- Used physiological equipment (The Finormeter) to measure heart rate and blood pressure data

Cognition & Cognitive Neuroscience Lab, UCSD   July 2017 - June 2018
Research Assistant   Supervisor: Dr. Timothy Rickard
- Presented research papers in lab meetings and held discussions about ongoing research
- Assisted in data collection, data organization, and literature review to facilitate research progress
- Translated the research guide titled "*How to Use Retrieval Practice to Improve Learning*" (Agarwal et al., 2017) into both simple and traditional Chinese to educate teaching instructors about retrieval practice

Teaching Experience

CEP 416: Teaching and Learning with Technology, MSU   Spring 2022 - Current
Lead Instructor
- Undergraduate course (taught in both online and in-person formats) on the relationship between education and technology as well as how to apply technology in class and individual learning.
- Led lectures, graded and provided feedback on assignments.

CEP 802: Developing Positive Attitudes toward Learning, MSU   Fall 2024
Teaching Assistant
- Graduate online course on theories of motivation and application to classroom teaching.
- Involved in curriculum development, set up technological platform (MS Teams Groups) and solved technical issues, graded assignments, and responded to students' emails.

Psychology of Bad Decisions: From Everyday Mistakes to Criminal Behavior, GEC Academy, Beijing, China
Graduate Instructor   Spring 2023, Spring 2024
- High school online course on the psychology of decision-making and criminal behavior.
- Created class curriculum, including lecture, discussion and class project.

Cognitive Styles and Decision-Making Under Uncertainty, GEC Academy, Beijing, China
Graduate Instructor   Summer 2022, Spring 2023
- High school online course on psychology of decision-making, cognitive styles, and cognitive biases.
- Developed seven-week summer classes, including project design, lecture content, and slides

TE 150: Reflections on Learning, MSU   Fall 2021
Teaching Assistant and Guest Lecturer
- Undergraduate online course on theories of educational psychology.
- Graded assignments/papers, provided feedback, replied to emails, developed lesson plan and led one class.

Research Method in Social Science & Ethics in Human Research, Zeal Lab, Shanghai, China.
Graduate Instructor   Summer 2021
- High school online course on research methods and ethics.
- Developed and implemented lesson plan, answered questions, created in-class activities.

Service
Reviewer for:
Journal
- *Computers & Education*   2025
- *Frontiers in Virtual Reality*   2025
- *Metacognition and Learning*   2021
- *Frontiers in Psychology: Personality and Social Psychology*   2020

Grants and Awards Review
- Association for Psychological Science (APS) Grant Competition   2023, 2024
- Association for Psychological Science (APS) Researching Injustice and Social Equality Research Award 2023

Conferences Review
- International Conference of the Learning Science (ICLS)   2025
- Meaningful XR   2024
- International Communication Association (ICA)   Since 2023
- American Educational Research Association (AERA)   Since 2022

Community Engagement
Educational Psychology and Educational Technology Program, MSU   2023 – 2024

Graduate Student Representatives
- Gather both in-person and hybrid student voices on equity-related issues through surveys and meetings.
- Act as a point-of-contact for EPET students' issues and refer them to appropriate resources.
- Form internal communication for EPET students and Faculty members through social events.

Department of Counseling, Educational Psychology and Special Education, MSU   2022 – 2024
Information & Technology Assistant
- Modify website design, update contents and information.
- Facilitate internal communication within department by creating monthly newsletters

Ph.D. Admissions Recruitment for the EPET Program, MSU   2023
Committee Member
- Participated in interview process for graduate student recruitment.

"Teaching 2030: Exploring Extended Reality in Higher Education" Learning Community   2022 – 2023
Session Facilitator
- "Teaching 2030 Workshop", (MSU Library), Oct 11th, 2022
  - Provided support for 20+ attendees, as well as 10 VR headsets, to learn about and try virtual reality in instructional contexts, coordinated other volunteers, helped organized event.
- Support bi-monthly meetings with educators at MSU to discuss these technologies.

Co-Founded by Michigan State University and National Science Foundation (NSF)   2023
Cyber Ambassador
- Successfully completed professional skills training in Communication, Teamwork and Leadership

Meaningful Play Conference, MSU   2022
Session Chair
- Managed presentations and facilitated the discussion on learning with games.

The Tree Hole, Columbia University   2019 - 2021
Product Developer & Manager
- Led a team of six members developed and manage online peer support group through WeChat to provide emotional support and a safe space for users to share concerns and feelings
- Trained members; oversaw bi-weekly meetings; developed evaluation assessments and confidentiality policies

"See-For-She" Gender Equality Group, Columbia University   2020
Project Collaborator, with Tsinghua University
- Created instructional design and developed narrative role-playing game "Bystanders" for sexual harassment prevention on Chengguang Game Platform
- Conducted focus interviews, wrote Needs Analysis, and gave presentations to class
- Co-wrote paper "*Bystander Intervention of Sexual Harassment: Text-based RPG approach*"
- Collected information, designed and created games to measure sexual harassment prevention for the general public with the collaboration of "Bottle Dream", a social innovation B Crop. in China

UCSD Social Innovation Sprint   2017
Project Manager & Certified Member
- Collaborated with team members to help address issue of homelessness and human trafficking
- Created a prototype of "TKR" Connections that links homeless shelters San Diego area together by accessing our database and volunteer training program
- Pitched idea with PowerPoint and website to a panel of CEOs, educators, and city officials

Mentorship

SPARTIE Lab, MSU   2022- Present
- Trained and guided undergraduate students to design experimental research in Mixed Reality (Meta Quest 3).
- Lead qualitative research with undergraduate students to help them learn about group interview processes.

International Women Leadership Organization, Inspired Women Lead   2021 – 2022
- Commit 12 months to be a six-month mentee and another six months as a mentor.
- Lead and organize bi-weekly meetings with mentees to help them develop leadership skills.
- Actively participate in monthly mentor group call to discuss authentic women leadership.

Psychology Honors Program, UCSD   2019 - 2019
- Attended and helped organize Psychology Honors Program Mixer and other activities
- Met mentees one-on-one or in small groups to answer questions about research methods and statistics for Honors classes and questions related to the future path and graduate schools.
- Committed 2 hours per week to answer each mentee's questions and check classwork progress

Professional Affiliations

International Conference of Learning Science (ICLS)	Since 2025
International Communication Association (ICA)	Since 2023
American Education Research Association (AERA)	Since 2022
MSU Teaching 2030 Instructional Innovation Network	Since 2022
International Students Psychology Association (ISPA)	Since 2019
Association for Psychological Science (APS)	Since 2019
Psi Chi International Honor Society	Since 2017
Stewart Honor Society	Since 2018
Caledonian Honor Society	Since 2017

Technical Skills

Statistics: Regression, ANOVA, Multilevel model, Structural Equation Model
Software: Qualtrics, SPSS, Zotero, Adobe Lightroom, Photoshop, Figma, Mplus, Covidence, Ryyan, Nvivo.
Programming: R, HTML, JavaScript, MATLAB (psychtoolbox)

Professional References

Rand Spiro
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Rabindra Ratan
- Professor
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- Email: rar@msu.edu
- Phone: +1 650-269-6619

David Wong
- Associate Professor
- Educational Psychology and Educational Technology, College of Education, Michigan State University
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- Phone: +1 517-862-1080