Linwei Yu

Berkeley, CA | yulinwei016@gmail.com | +1(510) 973-9432

orcid.org/0009-0007-6808-254X | linweialinayu.github.io

Education

University of California at Berkeley, Berkeley School of Education

M.A. in Education, Social Research Methodologies cluster Aug 2024 – May 2025 (expected)

- **Advisors:** *PROF. Michelle H. Wilkerson and PROF. Mark R. Wilson*
- **Awards:** MA Scholarship for the 2024-25 Academic Year (one-time award of $5,000)
- **Capstone Thesis:** Establishing an Assessment Framework for Integrative Computational Thinking and STEM Education: An Application of BEAR Assessment System (In progress)

University of Macau, Faculty of Education

B.Ed. in Integrated Science, with specialization in Chemistry Sept 2020 – June 2024

- **Grade:** 3.57/4.00 (Ranking in major: 1st out of 10)
- **Honors:** Dean's Honour List 2020–2021, 2021–2022, 2022–2023
- **Core Courses:** Emerging Pedagogies of STEM Teaching (A), Assessment in Science Education (A), Science Education in Secondary Schools (A), Scientific Inquiry and Practical Work in Secondary Schools (A), Educational Research (A), etc.

Teaching Experience

Supervised Teaching and School Experience, Chemistry and Scientific Inquiry Teacher

Macau Baptist College (Escola Cham Son de Macau) Macau, Oct 2023 – Dec 2023

Supervisor: PROF. Bing WEI | Mentor: MS. Ka-Ming TSANG

- Taught junior high school grade 2 and 3 Chemistry, senior high school grade 2 Scientific Inquiry
- Specific works including giving lectures, teaching lab classes, assessment, etc.

Research Interests

- STEM curriculum and pedagogies
- Assessment and measurement
- Computational thinking (CT) education, and AI/Technology-enhanced learning.

Publications

Wei, B., Zhan, Z., Jiang, Z., & **Yu, L.** (2024). Representation of Learning Outcomes Stipulated by the Intended Curriculum in Four Series of Chemistry Textbooks: Based on Legitimation Code Theory. *Research in Science Education,* 1-18. (SSCI)

Qiu, R., Wang, B., Shang, J., Hu, G., **Yu, L.**, & Gao, X. (2024). Modifying hollow glass microspheres to obtain self-floating separation adsorbents for adsorbing pollutants in wastewater: A review. *Journal of Molecular Liquids*, 124965. (SCI)

Under Review Paper

** These authors contributed equally to this work.*

Zhen, H.*, **Yu, L.***, Zhou, X., & Tang, X. Perceptions of Curiosity in School and Their Relation with

Academic Performance. (Submitted to AREA 2025)

In Progress Journal Articles

Completed, reviewing/proofreading by co-author OR in the revision process:

Yu, L., Li, Z., & Oon, P.T. A Pedagogical Framework to Foster Computational Thinking in STEM: From the Perspective of Teachers.

Yu, L., Zhen, H., Zhou, X., & Tang, X. Perceptions of Curiosity in School and Their Relation with Academic Performance: A Quantitative Ethnography Study.

Yu, L. & Wei, B. The Meaning of 'Experiment' in Junior and Senior High School Chemistry Curriculum Standards in China: A Content Analysis.

Academic Research Experience

Critical Reasoning for College Readiness project

University of California at Berkeley, Berkeley Evaluation & Assessment Research (BEAR) Center — CA, Aug 2024 – present

Volunteer Graduate Student Researcher | BEAR Center

- Contributing to the Critical Reasoning for College Readiness (CR4CR) project, with a focus on the Computational Thinking (CoT) strand.
- Conducting final review and reversion of the CoT assessment content.

Students' Curiosity and Academic Performance

Shanghai Jiao Tong University, School of Education — Remote, July 2024 – present

Research Intern | Research Team Leader: PROF. Xin TANG

- Investigated the relationship between students' subjective experiences, attitudes toward curiosity in school, and their academic performance.
- Performed data analysis and contributed as a co-first author for a conference abstract.
- Drafting the journal paper titled "Perceptions of Curiosity in School and Their Relation with Academic Performance: A Quantitative Ethnography Study" as the first author.

A Pedagogical Framework to Foster Computational Thinking in STEM

University of Macau, Educational Research Center — Macau, March 2023 – June 2024

Research Project | Advisor: PROF. Emily Pey-Tee OON

- Conducted research related to computational thinking (CT) in STEM education, including pedagogical framework and curriculum design aimed at improving students' CT ability in STEM.
- Writing a paper titled "A Pedagogical Framework to Foster Computational Thinking in STEM: From the Perspective of Teachers" as the first author.

The Meaning of "Experiment" in Junior and Senior High School Science Curriculum Standards in China

University of Macau, Faculty of Education — Macau, Nov 2022 – April 2024

Research Project | Advisor: PROF. Bing WEI

- Conducted content analysis on the meaning of "experiment" in junior and senior high school science curriculum standards in China.
- Writing a paper titled "The Meaning of 'Experiment' in the Chemistry Curriculum Standards in China: A Content Analysis" as the first author.

A Study of Primary Teachers' Perceptions about Science Curriculum in China;

Representation of Learning Outcomes Stipulated by Chemistry Textbooks
University of Macau, Faculty of Education — Macau, May 2023 – July 2023

Summer Research Programme | Principal Investigator: PROF. Bing WEI

- Analyzed the representation of learning outcomes stipulated by the intended curriculum in four series of chemistry textbooks, based on legitimation code theory.
- Conducted data analysis and drafted the results part of paper (co-author).

Preparation of Self-suspension Adsorption Functional Materials by Modification of Hollow Glass Microspheres
Southwest Petroleum University, School of Chemistry and Chemical Engineering — Sichuan, June 2022 – July 2022

Research Intern | Principal Investigator: PROF. Bing WANG

- Assisted research on the production of self-suspension adsorption functional materials by modifying hollow glass microspheres.
- Conducted experiments, managed data, drafted and proofread the review paper (co-author).

A Comparative Study of Technological and Engineering Education Policies in China and USA
University of Macau, Faculty of Education — Macau, May 2022 – June 2022

Assisted research | Principal Investigator: PROF. Bing WEI

- Assisted STEM education policy research of the Standards for Technological and Engineering Literacy published in the United States (ITEEA, 2020), and The Science Curriculum Standards of Compulsory Education (the 2020 version) in China (MoE, 2020).
- Conducted literature review and content analysis.

Service

Student Representative — Macau, June 2022 – June 2024
Programme Management Committee of Integrated Science Programme, University of Macau

12th PR Student Ambassador — Macau, March 2022 – June 2024
University of Macau

House Leader — Macau, Aug 2022 – Aug 2023
House of Integrated Science, University of Macau
- Award: Academically Outstanding House Award 2022/2023
  The Most Active House Award 2022/2023

Secretary — Macau, Oct 2021 – Oct 2023
Drama Society, University of Macau

Associate House Leader — Macau, Aug 2021 – Aug 2022
House of Integrated Science, University of Macau

Technical Skills

- Qualitative: ENA Web Tool, NVivo
- Quantitative: SPSS, Winsteps, BASS [Berkeley Assessment System Software]
- Programming: Python (Python with Pandas, Python machine learning), R, MATLAB