INGRID LU CAO

Chen Ruiqiu Building 231, Shanghai Jiaotong University, Shanghai 200240
E lcao5536@sjtu.edu.cn

EDUCATION

The University of Sydney

Ph. D., Learning Sciences   December 2020

- Thesis title: Learning Genetics in Game-Based Learning Environments: Productive Failure and the Transfer of Knowledge
- Supervisors: Prof. Michael J Jacobson (main supervisor) and Prof. Lina Markauskaite (auxiliary supervisor)
- Research Interests: Learning Sciences, Game-based learning, STEM education

M. A., Learning Sciences and Technology (Research)   November 2015

East China Normal University

B. S., Biology   June 2014

RESEARCH EXPERIENCE

Shanghai Jiaotong University   Shanghai, China

Assistant Professor   September 2023 – Present

East China Normal University   Shanghai, China

Postdoctoral Fellow   January 2021– July 2023

University of Sydney   Sydney, NSW

Research Assistant   September 2016– December 2020

REFEREED PAPERS IN JOURNALS

- Cao, L., Lai, P. K., & Yang, H. (in press). Using productive failure to learn genetics in a game-based environment. Instructional Science.
- Yang, H., Tsung, L., & Cao, L.[*] (2022). The Use of Communication Strategies by Second Language Learners of Chinese in a Virtual Reality Learning Environment. *SAGE Open*, 12(4).
- Cao, L. (2022). Three fundamental learning theories and educational game design (In Chinese). *Open Education Research*, 28(05), 29-38+92.
- Cao, L. (2021). Productive failure and the transfer of know ledge: theories，mechanisms and design principles (In Chinese). *Open Education Research*, 27(3), 4-14.
- Cao, L., Jacobson, M. J., Xu, G. (2017). An introduction of Computational Scientific Inquiry: Learn Scientific Inquiry in a 3D Immersive Virtual World with Agent-Based Models (In Chinese). *China Educational Technology*, (7), 33-41.

PAPERS PRESENTED AT INTERNATIONAL CONFERENCES

- Cao, L., Jacobson, M. J., & Markauskaite, L., Lai, P. K. (2020). The use of productive failure to learn genetics in a game-based environment. *2020 Annual Meeting of the*

American Educational Research Association, Virtual meeting: AERA.
- Cao, L., Jacobson, M. J., & Markauskaite, L. (2017). The use of PBL virtual world to learn nutrition knowledge. *2017 Annual Meeting of the American Educational Research Association*, San Antonio, TX: AERA

GRANTS

- Lead CI in 2023 Shanghai Education Sciences Research Early Career Program: *Developing Adolescents' Creative Thinking* in *Metaverse* (B2023001, AU$12000)
- Lead CI in 2022 The 71st Surface Funding of China Postdoctoral Science Foundation: *Developing Creative Thinking for Middle School Students Using Productive Failure* (2022M711163, AU$10000)

AWARDS

- 2019 Postgraduate Research Support Scheme, The University of Sydney
- 2018 FASS Doctoral Research Travel Grant Scheme, The University of Sydney
- 2017 Postgraduate Research Support Scheme, The University of Sydney
- 2017 Thomas T. Roberts Fellowship, The University of Sydney

JOURNAL ARTICLE REVIEW EXPEREINCE

- 2023 Invited to review journal articles for *International Journal of Applied Linguistics, Sage Open*

SOCIAL SERVICES

- 2021 Participated in the bidding process for the development of the new edition of elementary school science textbooks in Shanghai (successfully won the bid).

TEACHING EXPERIENCE

- 2021 Instructor for *The Use of Educational Games to Support STEM Education*, online course, Faculty of Education, East China Normal University
- 2021-2022 Visiting Lecturer for *Research Methodologies in Educational Psychology* graduate course, Department of Educational Psychology, East China Normal University
- 2021-2022 Course Outline Developer and Visiting Lecturer for *Research of Biology Education and Academic Writing* graduate course, College of Teacher Education, East China Normal University

SOFTWARE DEVELOPMENTS

Wizards and Fairies   2018
- A 3D video game for helping high school students to learn genetics and related mathematical knowledge. Developed the video game using Unity and C#.

Suwen   2014-2015
- A 3D virtual world aims for helping secondary school students to learn how to design healthy meal plans. Developed the 3D virtual world using Unity and C#.