

YIRAN (VICKY) ZHAO

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EDUCATION

DPhil in Education, University of Cambridge

October 2018 - present

Jesus College

Centre for Research on Play in Education, Development Learning

Lego Foundation Cambridge Trust Scholar

MicroMaster @ Massachusetts Institute of Technology

May 2018 - present

MicroMaster's Program in Data, Economics and Development Policy

Microeconomics; Data Analysis for Social Scientist; Foundations of Development Policy: Advanced Development Economics

MPhil in Educational Research, University of Cambridge

October 2017-July 2018

Homerton College

Distinction and Best Dissertation Award

BA and MA (Hons) in Education with Physics, University of Cambridge

October 2014-July 2017

Homerton College

First Class, Horobin Prize, CUQM/Sage Prize and Top 7 Undergraduate Part II Dissertation

RESEARCH EXPERIENCE

LEGO Playful Learning Across the Years (PLAY) measurement tool

July-Oct 2022

Research consultant and psychometrician

- The LEGO Playful Learning Across the Years (PLAY) measurement tool aims to assess the quality of learning through play in the primary school contexts across approximately 150 schools, 150 teachers and 750 students in Colombia, Ghana and Kenya. This is a large-scale longitudinal study funded by the LEGO Foundation, collaborated between Research Triangle Institute (RTI) International and New York University's Global TIES for Children Center (NYU TIES).
- I led the psychometric analyses on evaluating the PLAY 1.0 observational tool, teacher-report survey and student-report survey across the Colombia, Ghana and Kenya contexts, using Stata and MPlus.
- Research outputs include reports for main stakeholders, analytical dashboard and guide analyses for future users.

The India Early Childhood Education Impact study

January-March 2020

Research assistant

- The India Early Childhood Education Impact study is a longitudinal study carried out across three major Indian states (i.e. Rajasthan, Assam and Telangana) between 2011 and 2016 by the Centre for Early Childhood Education and Development at Ambedkar University Delhi, ASER Centre and UNICEF India. It was listed as the top 10 finalists for Best of UNICEF Research 2019.
- I assisted with analysing IECEI data to examine children's learning trajectories and attainment gaps with respect to gender, socioeconomic status and government/private early childhood centre attended in India. This project was led by Dr Ben Alcott from University College London, Dr Suman Bhattacharjea and Ms Purnima Ramanujan from ASER centre.
- Research article published by Oxford Review of Education

The Scholar's Programme by the Brilliant Club

October 2018- December 2019

Research Assistant

- The Scholar's Programme is a widening participation programme initiated by the Brilliant Club, a charity based in the UK that has successfully increased the number of under-represented students to progress into highly-selective universities.
- I assisted the design and evaluation of a randomised control trial led by Dr Sonia Ilie and Dr Ashton Brown at University of Cambridge to evaluate the Scholars Programme. Observed and evaluated the lessons and activities.
- Manuscript in preparation

The Road Not Taken: the Drivers of Course Selection

August-September 2019

Research Assistant

- This report led by Social Mobility Commission and Faculty of Education, University of Cambridge. It examined current socioeconomic inequalities in vocational education and training (VET).
- I assisted the literature review of existing evidence in England on whether VET has boosted social mobility. We also examined factors that could affect the motivations behind choosing particular VET in England. This project was led by Dr Sonia Ilie and Prof Anna Vignoles from University of Cambridge.
- The review has been published.

External social benefits of education in Ethiopia

May- July 2019

Research Assistant

- This study was undertaken amid insufficient evidence of the non-monetary social returns to education, particularly in the context of developing countries.
- I assisted the review of literatures and data analysis of the Young Lives data. We examined the effects of education levels on external social benefits such as engaging with community actions and voluntary work in Ethiopia. Prof Ricardo Sabates Aysa and Dr Sonia Ilie from University of Cambridge, and Dr Rafael Mitchell from University of Bristol led this project.
- Research article has been published by Journal of Education Finance.

Take Your Place by Network for East Anglian Collaborative Outreach

September- December 2018

Research Assistant

- Take Your Place is an outreach programme targeting students from under-represented backgrounds in East Anglia. It involves a series of activities and sessions to improve students' knowledge and aspirations to apply for higher education. The evaluation project was led by Dr Sonia Ilie and Dr Ashton Brown from University of Cambridge.
- I assisted compiling 87 school reports on evaluating students' experiences evaluating after participating in the Take Your Place programme.

The Learning and Employability Gain Assessment Community

October 2016- March 2017

Research Assistant

- The Learning and Employability Gain Assessment Community (LEGACY) Project was a 3-year study led by University of Warwick. Within LEGACY, Prof Jan Vermunt (Eindhoven University of Technology), Prof Anna Vignoles and Dr Sonia Ilie (University of Cambridge) led a survey on student learning. This survey aimed to measure and evaluate learning gain in higher education in England.
- I was involved in the design, piloting and first round of data collection.

GRANTS AND AWARDS

1. **Lego Foundation Cambridge Trust Scholarship**, October 2019
2. **Best Dissertation Award for MPhil thesis**, October 2018

3. **Top 7 Undergraduate Part II Dissertation** for one of the seven best undergraduate dissertations among the School of Humanities and Social Sciences, July 2017
4. **Horobin Prize** for the Best First in Education Tripos by Homerton College at University of Cambridge, July 2017
5. **Cambridge Undergraduate Quantitative Methods/Sage Prize** for achieving the highest Score in Statistics in Social Science across Faculty of Human and Faculty of Social, and Political Science at University of Cambridge, July 2017

PUBLICATIONS

- Zhao, Y.V.**, Bhattacharjea, S., Alcott, B. (2022). Slippery slope: early learning and equity in rural India. *Oxford Review of Education*. <https://doi.org/10.1080/03054985.2022.2101442>
- Tai, K.W.H **Zhao, Y.V.** (2022). Success Factors for English as a Second Language University Students' Attainment in Academic English Language Proficiency: Exploring the Roles of Medium-of-Instruction and Learners' Variable. *Applied Linguistics Review*. <https://doi.org/10.1515/applirev-2022-0049>
- Zhao, Y.V.**, Gibson, J. (2022). Evidence for protective effects of peer play in the early years: better peer play ability at age 3 predicts lower risks of externalising and internalising problems at age 7 in a longitudinal cohort analysis. *Child Psychiatry and Human Development*. <https://doi.org/10.1007/s10578-022-01368-x>
- Zhao, Y.V.**, Gibson, J. (2022). Solitary symbolic play, object substitution and peer role play skills at age 3 predict different aspects of age 7 structural language abilities in a matched sample of autistic and non-autistic children. *Autism Developmental Language Impairments*, 7, <https://doi.org/10.1177/23969415211063822>
- Sabates, R., **Zhao, Y.V.**, Mitchell, R., Ilie, S. (2021). Understanding the Non-market Social Benefits of Higher Education in Ethiopia: An Empirical and Contextual Analysis using Young Lives. *Journal of Education Finance*, 47(1), 45–70. <https://muse.jhu.edu/article/806386>
- Archer, R., Higton, J., Sibieta, L., Tahir, I., Trammell, L. T., Ilie, S., Vignoles, A., **Zhao, Y.V.** (2021). The road not taken: the drivers of course selection: The determinants and consequences of post-16 education choices. https://dera.ioe.ac.uk/38405/2/The_road_not_taken_-_review_of_literature.pdf
- Zhao, Y.V.**, Kulkarni, K., Gibson, J., Baker, S., Ramchandani, P. G. (2019). Introducing the Play in Education, Development and Learning (PEDAL) Research Centre. *International Journal of Play*, 8(3), 308–319.

UNDER REVIEW

- Zhao, Y.V.**, Gibson, J. (Under review). Home mathematics environment at age 2- and 5-years predicts children's mathematical skills at age 4- and 6-years after controlling for sociodemographic background and prior mathematics attainment: a longitudinal secondary data analysis using video observations and survey data

TEACHING

1. **Undergraduate supervisor and examiner in Statistics in Social Science, Faculty of Education, Faculty of Human, Social and Political Sciences, Institute of Criminology, University of Cambridge, UK, 2019-present**
2. **Demonstrator, Social Science Research Method Programme, University of Cambridge, UK, 2018- present**
Assisted practical sessions on ANOVA, linear regression analyses, logistic regression analyses, regression discontinuity, propensity score matching, difference-in-difference, instrumental variable using Stata

SELECTED CONFERENCE

Peer play and mental health, Play Symposium led by Aarhus University, University of Cambridge and Harvard University, 20th of April 2021

The role of education in equality of opportunity and individual experience of social mobility in the Chinese context, British Association for International and Comparative Education Conference, 14th of September, 2018

Higher education students' self-regulated learning: the role of critical processing and epistemological beliefs, Society for Research into Higher Education Newer Early Career Researchers Conference, 5th of December, 2017

SELECTED MEDIA COVERAGE OF MY RESEARCH

Knapton, S. (2022, June 14). Young children may be at greater risk of mental health problems after pandemic isolation. **The Telegraph**. <https://www.telegraph.co.uk/news/2022/06/14/young-children-may-greater-risk-mental-health-problems-pandemic/>

Kirby, J. (2022, June 14). Young children who play with others their age 'have better mental health'. **The Independent**. <https://www.independent.co.uk/news/uk/children-university-of-cambridge-growing-up-australia-covid-b2100292.html>

Mann, D. (2022, June 14). Why Getting Along in Preschool Is So Important. **US News World Report**. <https://www.usnews.com/news/health-news/articles/2022-06-14/why-getting-along-in-preschool-is-so-important>

the Times. (2022, June 14). Play aids mental health. **The Times and The Sunday Times E-Paper**, p6. <https://epaper.thetimes.co.uk/the-times/20220614>

Weale, S., correspondent, S. W. E. (2022, June 14). Improved mental health for children who play well with peers by age three. **The Guardian**. <https://www.theguardian.com/society/2022/jun/14/improved-mental-health-children-play-with-peers-by-age-three>

SKILLS

1. Statistical softwares

Fluent in R, Mplus, MATLAB, Stata, SPSS and Excel

2. Interdisciplinary research methods

ANOVA, linear and logistic regression analyses, regression discontinuity, propensity score matching, difference-in-difference, instrumental variable, randomised controlled trials, structural equation models, latent growth curve models and meta-analysis

3. Online courses

Econometrics: Methods and Applications offered by Erasmus Universiteit Rotterdam. Grade: 92%

Miracles of Human Language: An Introduction to Linguistics offered by Universiteit Leiden: 91%

Autism Spectrum Disorder offered by University of California, Davis: 97%

Microeconomics offered by MIT MicroMasters Data, Economics, and Development Policy. Final Grade: 90%

Data Analysis for Social Scientist offered by MIT MicroMasters Data, Economics, and Development Policy. Final Grade: 94%

4. Language

Mandarin Chinese (Native)

English (Bilingual proficiency)

French (Intermediate 1 CEFR B1)

PUBLIC ENGAGEMENT

1.Improve children’s mental health through peer play, Centre for Research in Professional Learning, University of Exeter, UK, February, 2021.

Peer play is important to children’s social development. We also witness the rise of children’s mental health problems during the COVID pandemic due to restricted opportunities to play with peers. Despite being a widely acknowledged issue, policies have been reluctant to promote children’s play due to limited empirical evidence. I was invited by the Centre for Research in Professional Learning to present my findings with education and clinical practitioners based in Exeter. I demonstrated that children’s ability to engage in peer play at age 3 holds educational and clinical significance as it can be used as an indicator of potential mental health problems at age 7.

2. Developmental Language Disorder Awareness Day, event of 2019 Festival of Ideas, University of Cambridge, November, 2019.

Developmental language disorder is an ongoing condition that affects children’s language ability and many of their social and emotional well-being. It currently affects around 8% of children in England. However, this remains not widely known compared to other conditions. I was one of the organising committees on designing and facilitating a half-day event that engaged with speech language therapists, researchers, teachers, parents and children to promote best practice and knowledge on developmental language disorder.

3. Book-sharing corner, event of 2019 Festival of Ideas, University of Cambridge, October 2019.

Parent-child interactions are key to facilitate children’s language and social development. I was one of the organising committees on designing and facilitating the book-sharing corner by instructing parents and children to grasp ”teachable moments” through shared-book readings. For instance, by identifying emotions of the characters, children can improve their emotional recognition and understandings. Frequent shared-book reading supported by parents’ scaffolding also improves children’s receptive and expressive language abilities.

4. Improve access to quality STEM education, voluntary teaching between October 2015 and June 2016. Science and maths foster important numeracy, cognitive abilities and creativity skills, but many schools in under-resourced areas have limited access to quality STEM education. I participated in the STIMULUS and Teach First programmes. Both dedicate towards connecting STEM undergraduates with schools from under-resourced areas. I taught at a community school in Cambridge and an academy school in London, where I supported the teaching of after-school STEM clubs and taught secondary Physics. I also shared my journey as an international student coming from a state school in China studying at University of Cambridge, with a focus on breaking gender stereotype in Physics and raising students’ aspirations for applying to top universities.

COLLEGE, FACULTY AND STUDENT ENGAGEMENT

1. Quantitative Research Group at the Faculty of Education, University of Cambridge, September 2021 to present.

I co-chair events on promoting quantitative methods in educational research. The group holds regular working group sessions where members and staffs across departments in Cambridge share insights on statistical analyses. September 2021-present.

2. Kaleidoscope Conference organising committee, , Faculty of Education, University of Cambridge, October 2018 to March 2019

I assisted the organisation of the 2018/19 Kaleidoscope Conference, a student-led conference that invites post-graduate students both inside and outside the UK to present their research on education. I was also a panellist and a moderator for the event.

3. Food and Drink Officer, Homerton College Summer Ball, University of Cambridge, October 2015 to June 2016.

I was in charge of the planning and organisation of the food and drink stalls at the 2016 Homerton College Summer Ball.

4. **Subject representative**, Homerton College, University of Cambridge, October 2015 to June 2016.

I was the Education Tripos subject representative at Homerton College. I facilitated the communication between undergraduate students and the Faculty of Education to meet students' needs for resources and research opportunities. I also recruited current education students to write reflections on each subject module to provide more information and suggestions for freshers and potential applicants.

5. **iCUSU Access Officer, Cambridge University International Student Campaign**, University of Cambridge, April 2015 to March 2016.

I participated in the campaign for free storage over vacation, financial transparency on college fee and general welfare in the interest of international students. I also helped organise the International Fresher's Week, International Food Festival and iCUSU Talent Show.

INTERNATIONAL RESEARCH NETWORKS

Graduate School of Education, Peking University, China

August 2021-present

I have joined Peking University as a consultant on the Early Childhood Development in Urban China study, which is a collaborative project between the Center for Economics of Human Development at the University of Chicago and the Graduate School of Education/Institute of Economics of Education at Peking University. I assist the design of research framework, the selection of cognitive instruments and the design of a randomised controlled trial to improve early childhood parenting.

ALSOLIFE, China

January 2019-present

I work as a research scientist at ALSOLIFE, the biggest autistic community in China. I co-developed a digital ASD diagnostics tool that facilitates early screening of autistic children between 18 and 36 months. This is one of the first telehealth models employed in East Asian contexts. We hope to extend this model to more neurodevelopmental conditions, including depression and ADHD.

Institute of Education, Xiamen University, China

September 2017-present

I was invited by Prof Qiuhe Shi as a visiting scholar at the Institute of Education, Xiamen University in September 2017. I presented my work in several national and international conferences invited by Prof Qiuhe Shi, including the most recent one on "Education Evaluation Division, China Association of Higher Education" held between 9th and 12th of July 2021. I also participated in the design of National College Student Survey (NCSS) led by Prof Qiuhe Shi. I also helped liaise Prof Qiuhe Shi's visit to the Faculty of Education, University of Cambridge between January and February 2018.

Lifelong Learning Lab at Tsinghua University, China

July 2017-present

I interned at the Lifelong Learning Lab at Tsinghua University (TULLL), which has been funded by LEGO Foundation in between July and September 2017. I assisted the design of textbooks and teaching manuals for the newly renovated science curriculum in China. I also assisted the facilitation of the two-week project-based lessons by using Scratch Jr, LEGO WeDo 2.0 and EV3 robots. After my internship, I was invited back to TULLL multiple times to present my work on play and STEM education, as well as to support international conferences led by the lab, including the 2019 International Conference on Lifelong Learning and Future Talents. I also helped liaise TULLL's visit to PEDAL centre, Faculty of Education, University of Cambridge in December 2018.