CURRICULUM VITAE

Min Li

Measurement & Statistics Program
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EDUCATION

Ph.D. (Jan. 2002), with an emphasis on science assessment and measurement, School of Education, Stanford University

MA (Educational Psychology & Information Technology, July 1997) and BS (Psychology, July 1994) and, Department of Psychology, Beijing Normal University, Beijing, P. R. China

PROFESSIONAL EXPERIENCE

- Professor, College of Education, University of Washington, 9/2021-present
- Associate Professor, College of Education, University of Washington, 9/2008-8/2021
- Assistant Professor, College of Education, University of Washington, 1/2002-8/2008
- Acting Assistant Professor, College of Education, University of Washington, 11/2001-12/2001

RESEARCH INTEREST

Classroom-based assessment and large-scale testing of STEM learning in K-12 education, analysis of cognitive foundations of psychometric soundness, construction and validation of assessment instruments, "think aloud" protocol analysis and interpretation, teachers' assessment practices and pedagogical reasoning, assessment of emerging bilingual students, applied measurement issues

SELECTED PUBLICATIONS, CONFERENCE PROCEEDINGS, AND COMMISSIONED PAPERS

Zhang, D., Wang, Z., & **Li, M.** (2025). Visual translator: bridging students' handwritten solutions and automatic diagnosis of students' use of number lines to solve fraction problems. *Educational Science*, *15*(*12*), 1638. DOI: https://doi.org/10.3390/educsci15121638

Gao, Y., Zhai, X., **Li, M.**, Lee, G., & Liu, X. (2025). A multimodal interactive framework for science assessment in the era of generative artificial intelligence. *Journal of Research in Science Teaching*, *62*(9), 2014-2028. DOI: https://doi.org/10.1002/tea.70009

Solano-Flores, G., Ruiz-Primo, M. A., **Li, M.**, Zhao, X.*, Shade, C. *, & Chrzanowski, A. * (2024). How equally do teachers distribute their attention across students classified as English learners (ELs) and their non-EL peers in science classrooms? A frequency analysis of monolingual and bilingual teachers' interactions with different student grouping configurations. *International Multilingual Research Journal*, *18*, 1-15. DOI: 10.1080/19313152.2024.2303275

Liu, W.,* Lewis, F. M., **Li, M.**, & Kantrowitz-Gordon, I. (2024). Development of a Common Dyadic Coping Scale in couples facing breast cancer. *Journal of Psychosocial Oncology*, *19*, 1-18. DOI: 10.1080/07347332.2024.2303523

Parker, M. C., Ren, H.,* **Li, M.**, & Wang, C. (2023). Intersectional biases within an introductory computing assessment. *SIGCSE 2024: Proceedings of the 55th ACM Technical Symposium on Computer Science Education*, V. 1, pp. 1021-1027. DOI: 10.1145/3626252.3630882

Xie, B.*, Lim, J. O.,* Pham, P.,* Zhang, M., **Li, M.**, & Ko, A. J. (2023). Developing novice programmers' self-regulation skills with code replays. *Proceeding for ACM ICER: International Computing Education Research Conference*.

Ralson, N., & **Li, M.** (2022). Student conceptions of the equal sign. Knowledge trajectories across the elementary grades. *The Elementary School Journal*, *12*(3), 411-432. DOI*:* 10.1086/717999

Zhai, X., & **Li, M.** (2021). Validating a partial-credit scoring approach for multiple-choice science items. *International Journal of Science Education. 43,* 1640-1666. DOI: 10.1080/09500693.2021.1923856

Xie, B.*, Davidson, M. J.*, **Li, M.**, & Ko, A. J. (2019). *An Item Response Theory evaluation of a language-independent CS1 knowledge assessment*. Paper in the proceedings of the 50th Technical Symposium on Computer Science Education. Minneapolis, MN.

*Graduate and undergraduate students.

SELECTED CONFERENCE PRESENTATIONS

Lu, Q.*, Zhang, D.**,** Wang, Z.*, **Li, M.** & Deng, D. (Submitted for PCRC, 2025). *Efficiency of an AI-based image processing model on identifying students' written solutions to fraction problems.* Pacific Coast Research Conference, 2025, San Diego.

Karakashian, A.*, Zhang, D.**,** Lu, Q.*, Wang, Z*., **Li, M.** & Deng, D. (Accepted for CEC, 2025). *Transformer approach to fraction recognition on written responses in students with and without disabilities.* Council for Exceptional Children, 2025, Baltimore.

Li, M., Xu, Y., Zhang, M., Ko, A., Guo, H., Lim, J.,* & Pham, P.* (2024). Examining undergraduate students' programming process through cognitive interviews and keystrokes. Paper to be presented at the ITC annual conference. Spain: Granada.

Liu, X., Guo, H., Zhang, M., Li, C., Ko, A., & **Li, M.** (2024). A latent variable model for multiple resubmission item responses. Paper to be presented at the IMPS annual conference. Czech: Prague.

Lu, Q.*, Wang, Z.*, Zhang, D., **Li, M.**, & Deng, D. (Dec. 2023). *A Comparison of the Efficiency of Two Image Processing Models on Identifying Students' Written Solutions to Fraction Problems*. AI Education Summit. Notre Dame, IN.

Zhang, D., **Li, M.**, Wang, Z.*, Lu Q.*, & Deng, D. (Dec 2023). *Automatic screening and diagnosis of students' use of number lines to solve fraction problems. AI Education Summit.* Notre Dame, IN.

Wang, N.,* **Li, M.**, Kanopka, K.,* Dong, D.,* Hernandez, P.,* & Ruiz-Primo, M. A. (2023). Modeling context characteristics for contextualized assessment: A Bayesian contextualized item response model. Paper presented at the NCME annual conference. Chicago, IL.

Liu, L.*, Luo, M.*, **Li, M.**, & (2022). The effect of linguistic features in mathematics word problems on the performance of emerging bilinguals: A literature review study. Paper presented at the AERA annual conference. San Diego, CA.

Minstrell, J., Hernandez, P.*, **Li, M.**, Anderson, R., Ruiz-Primo, M., Zhai, X., Dong, D., & Kanopka, K.* (2022). Mining the Potential of "Wrong Answers" in Item Pairs to Describe Students' Alternative Thinking. Paper presented at the 2022 NARST annual conference. Vancouver, BC, Canada.

Davidson, M.J.*, & **Li, M.** (2021). Investigating student response processes on computer programming items: Combining evidence from keystroke logs and think alouds for validity arguments. Paper presented at the 12th International Test Commission Conference, Virtual Event.

Davidson, M.J.*, & **Li, M.** (2021). Non-construct item features and response processes in CS assessments: Evidence from thinkalouds and sequence analysis. Paper presented at the AERA Annual Meeting, Virtual Event.

Ruiz-Primo, M. A., **Li, M.**, Minstrell, J., Zhai, X., Kanopka, K.*, Hernandez, P.*, & Dong, D.* (2019). *Contextualized science assessments: Addressing the use of information and generalization of inferences of students' performance*. Paper presented at the AERA annual conference. Toronto, Canada.

*Graduate and undergraduate students.

SELECTED GRANT FUNDED ACTIVITIES

- Co-PI, Harvesting Actionable Results for Learning and Instruction (HARLI): A Novel Mixed Methods Approach to Extracting and Validating Information from Diagnostic Assessment, NSF ECR Core research program (NSF-2300382, $499,985, 9/1/2023-8/31/2026)
- Co-PI, Collaborative: Developing Authentic and Fair Computer Science Assessments led by Ko & Li, NSF ECR-HER Core research program (NSF-2100296, $559,010, 10/1/2021-9/31/2025)
- PI, Automatic Profiling of Science Assessment items to Model Item Parameters: A natural Language Processing Approach led by Li & Ostendorf, NSF ECR-HER Core research program (NSF-1920512, $500,000, 9/1/2019-3/31/2025)
- Co-PI, Automated Classification of Student Problem-Solving Style in Representing Fractions with a Number Line, Jaffe Foundation ($156,267, 2/1/2023-2/28/2026)
- PI, Collaborative: Exploring Differences Between Instructors' Exams and How These Differences Produce Scores that Could Inaccurately and Inequitably Represent Student Understanding led by Brownell, Wright, & Li, NSF DUE & EHR programs (NSF-1709423, $50,024, 12/1/2017-11/30/2021)
- Co-PI, EXP: Automatically Synthesizing Valid, Personalized, Formative Assessments of CS1 Concepts led by Ko & Li, NSF Cyberlearning Program (NSF-1735123, $570,497, 9/1/2017-8/31/2020)
- Co-PI, Development of Real-time Learning Interventions That Promote Student Intrapersonal Competencies led by Popović & Li. Funded by Deep Learning program, William and Flora Hewlett Foundation ($1,000,000, 6/12/2017-6/11/2021)

TEACHING EXPERIENCE

EDPSY490: Introduction to Statistics, EDPSY513: Survey Instrument Development, EDPSY539: Advanced Educational Measurement (Classical Test Theory), EDPSY558: Generalizability Theory, EDPSY559: Validity Theory, EDTEP573: Assessment in Secondary Education (Mathematics and Science)