

SHARIN RAWHIYA JACOB
POSTDOCTORAL SCHOLAR
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EDUCATION

2017 – 2022	University of California, Irvine Ph.D. in Education	Irvine, CA
2013 – 2015	Cal State LA M.A. in Teaching English to Speakers of Other Languages	Los Angeles, CA
2013 – 2015	San Diego State University Single Subject (English) Teaching Credential	San Diego, CA
1999 – 2003	San Francisco State University B.A. in Philosophy	San Francisco, CA

TEACHING

Graduate	Co-teacher, TESL 5680 – Teaching Practicum. California State University, Los Angeles. Spring 2021.
Graduate & Undergraduate	Co-teacher, TESL 5620 – Methods for Teaching Second Languages. California State University, Los Angeles. Spring 2021.
Graduate & Undergraduate	Co-teacher, TESL 5650 – Using Computers in the Language Classroom. California State University, Los Angeles. Fall 2020.
Graduate & Undergraduate	Instructor of Record, TESL 5620 – Methods for Teaching Second Languages. California State University, Los Angeles. Spring 2020.
ESL Instructor	California State University, Los Angeles. September 2014 to December 2015.
English Teacher	San Diego High School, San Diego, CA. English and English as a Second Language. August 2007 to June 2010.
English Teacher	Samuel Gompers High School, San Diego, CA. English as a Second Language Teacher, August 2006 to June 2007.

FELLOWSHIPS

5/2021	Cal State University Chancellor's Doctoral Incentive Program Dissertation Fellowship, \$5,000
4/2021	Haynes Lindley Doctoral Dissertation Fellowship, \$20,000
11/2020	University of California Irvine Public Impact Distinguished Fellowship, \$12,000
5/2019	California State University Chancellor's Doctoral Incentive Program Scholars' Program Recipient, CSU Chancellor's office, Forgivable Loan, \$30,000

HONORS AND AWARDS

- 10/2017 David E. Eskey Memorial Award in recognition of "outstanding contribution promoting computational thinking for English learners", CATESOL, \$500
- 3/2021 UCI Grad Slam (3 minute thesis competition) Finalist
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GRANT FUNDING

US Department of Education, EXCEL, \$5,000,000.00

Developing, implementing, evaluating, and scaling a computer science curriculum for Latine and multilingual K-2 students in Santa Ana Unified, Montebello Unified, and Fullerton School Districts.

PI: Mark Warschauer; Co-PI: Sharin Rawhiya Jacob (under consideration)

2019-2024 – US Department of Education, IMPACT, \$4,000,000.00

Developing, implementing, evaluating, and scaling a computer science curriculum for fourth-grade multilingual students in Santa Ana Unified School District and Chicago Public Schools

PI: Mark Warschauer; Postdoctoral Scholar: Sharin Rawhiya Jacob

2017-2021 – National Science Foundation, CONECTAR, \$1,600,000

Collaborating on a Research Practice Partnership with Santa Ana Unified School District to iteratively develop, test, and refine a computer science curriculum for grades 3-5 Latine and multilingual students

PI: Mark Warschauer; Graduate Student Researcher: Sharin Rawhiya Jacob

April 1-2, 2021 – American Education Research Association Conference Grant, Computational Thinking for Multilingual Students, \$30,000

Convening leading researchers in computer science, literacy, and language education to develop a shared vision for how research can support culturally and linguistically diverse learners in computer science

PI: Mark Warschauer; Graduate Student Researcher: Sharin Rawhiya Jacob

EDITORIAL ROLES

Sharin R. Jacob, Co-Editor, *The CATESOL Journal: Special Issue on Innovative, Interactive, and Intelligent Uses of Technology in Multilingual Classrooms*. To be published Spring 2023.

Sharin R. Jacob, Co-Editor, *Journal of Research on Technology in Education: Special Issue on Computer Science for All*. To be published Fall 2025.

PUBLICATIONS

Publications and Refereed Proceedings

Warschauer, M., Tseng, W., Yim, S., Webster, T., Jacob, S., Du, Q., & Tate, T. (in press). The affordances and contradictions of AI-generated text for second language writers. *Journal of Second Language Writing*.

Jacob, S. R., Baek, C., Warschauer, M. (in press). Computational literacy, language, and culture. *Proceedings of the IEEE Annual International Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)*. IEEE.

Jacob, S. R., & Warschauer, M. (in press). Asset-based approaches to multilingual students' computer science identity development. *Journal of Computer Science Integration*.

Bers, M., Parastu, D., Rosenberg-Kima, R., D., Jacob, S. R., Warschauer, M., Gimenez, C. (in press). Coding as another language: A comparative study of learning computer science and computational thinking. *Proceedings of the 2023 International Conference on the Learning Sciences (ISLS)*.

Jacob, S.R. & Warschauer, M. (in press). [Review of Book *Beyond Coding: How Children Learn Broader Values through Programming*, by M. Bers]. *Prometheus*.

Ojeda Ramirez, S., Tsan, J., Eatinger, D., Jacob, S., Saito-Stehberger, D., & Franklin, D. (2023). Describing elementary students' spheres of influence in Scratch 'About me' projects. *Proceedings of the ACM SIGCSE Technical Symposium on Computer Science Education (SIGCSE'23)*.

Scott, D., Zou, A., Jacob, S. R., Richardson, D., & Warschauer, M. (2023). Comparing boys' and girls' attitudes toward computer science. *Journal of Computer Science Integration*, 6(1), 1-17. DOI: <https://doi.org/10.26716/jcsi.2023.2.22.37>

Jacob, S. R., Montoya, J., & Warschauer, M. (2022). Exploring the intersectional development of computer science identities in young Latinas. *Teachers College Record*, 124(5) 166–185.

Jacob, S. R., Montoya, J., Nguyen, H., Richardson, D., & Warschauer, M. (2022). Examining the what, why, and how of multilingual student identity development in computer science. *ACM Transactions on Computing Education*. [ACM TOCE 2022 Best Paper]

Jacob, S. R., Parker, M., & Warschauer, M. (2022). Integration of computational thinking into English Language Arts. *ACM Special Issue on Computational Thinking in PreK-5: Empirical Evidence for Integration and Future Directions*.

Prado, Y., Jacob, S., & Warschauer, M. (2021). Teaching computational thinking to exceptional children: Lessons from two inclusive classrooms. *Computer Science Education*, 32(2), 1-25.

Kamhi-Stein, L. D., Jacob, S. R., Herrera, A., & Seaborne, R. (2021). Linking a community-based ESL program with the MA in TESOL practicum course: The tale of a program. *CATESOL Journal*, 32(1), 160-171.

Zhou, N., Chao, Y., Jacob, S., & Richardson, D. (2020). Teacher perceptions of equity in high school computer science classrooms. *ACM Transactions on Computing Education*, 20(3), 1-27.

Jacob, S. R., Nguyen, H., Garcia, L., Richardson, D., & Warschauer, M. (2020). Teaching computational thinking to multilingual students through inquiry-based learning: A cross-case analysis. *Proceedings of the IEEE Annual International Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT'20)*. IEEE.

Nguyen, H., Garcia, L., Jacob, S. R., Richardson, D., & Warschauer, M. (2020). Classroom use of discourse-rich tools to promote computational thinking. *Proceedings of the IEEE Annual International Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT'20)*. IEEE.

Nguyen, H., Garcia, L., Jacob, S., & Warschauer, M. (2020). Reflection as formative assessment of computational thinking in elementary grades. *Proceedings of the International Conference on the Learning Sciences (ICLS'20)*.

Jacob, S. R., & Warschauer, M. (2018). Computational thinking and literacy. *Journal of Computer Science Integration*, 1(1), 1-19.

Jacob, S., Nguyen, H., Tofel-Grehl, C., Richardson, D., & Warschauer, M. (2018). Teaching computational thinking to English learners. *NYS TESOL Journal*, 5(2), pp. 12-24.

Chapters in Books

Jacob, S. R. (under review). Elementary Computing for All: A computational thinking curriculum for multilingual students. *CATESOL Journal*.

Eatinger, D., Saito-Stehberger, D., Krause, S., Tsan, J., Jacob, S. R., Warschauer, M., Franklin, D. (2023) Leveraging virtual professional development to promote computer science education for multilingual

students. In L. England, L. D. Kamhi-Stein, & G. Kormpas (Eds.) *English Language Teacher Education in Changing Times*. Routledge.

Jacob, S. R., Montoya, J., & Warschauer, M. (2022). Examining identity performance of multilingual students in computer science education: An ethnographic case study. In G. Kessler (Eds.), *Identity, multilingualism, and CALL*. CALICO Book Series: Advances in CALL Research and Practice.

Jacob, S. R., Garcia, L., & Warschauer, M. (2020). Engaging multilingual identities in computer science education. Freiermuth, M. R. Editor & Zarrinabadi, N. Editor (Eds.), *Technology and the Psychology of Second Language Learners and Users*. Palgrave-Macmillan. https://doi.org/10.1007/978-3-030-34212-8_12

Jacob, S., Maamujav, U., & Warschauer, M. (2020). Online Englishes. In A. Kirkpatrick (Ed.), *The Routledge Handbook of World Englishes*. New York: Routledge.

Reports

Jacob, S. R., Bailey, A., Bers, M. U., Burke, Q., Denner, J., Franklin, D.... Warschauer, M. (2021). Computer science for multilingual students: Report of the AERA Educational Research Conference. American Educational Research Association. [10.13140/RG.2.2.33417.83043](https://doi.org/10.13140/RG.2.2.33417.83043)

WORKS IN PROGRESS

Under Review

Jacob, S., Du, Q., & Warschauer, M. (under review). Liberatory use of ChatGPT in the language classroom. *Learning Letters*.

Jacob, S., Tate, T., Warschauer, M. (under review). Emergent AI-assisted discourse: Case study of a second language writer authoring with ChatGPT. *Learning, Media, and Technology*.

Jacob, S., Gillen, B., Ojeda-Ramirez, S., Baek, C., & Warschauer, M. (under review). Intersectional factors that influence K-2 students' computer science learning. Proceedings of the ACM SIGCSE Technical Symposium on Computer Science Education.

Jacob, S., Montoya, J., Prado, Y., Baek, C., & Warschauer, M. (under review). Universal Design for Learning and computational thinking for students designated as English learners. Proceedings of the ACM SIGCSE Technical Symposium on Computer Science Education.

Baek, C., Jacob, S., Saito-Stehberger, D., Garcia, L., Ojeda Ramirez, S., Warschauer, M. (under review). Computer science curriculum for culturally and linguistically diverse students. In Huffman, D. W., Feldman, K. R., Herrick, I. R. *STEM to STREAMS: Towards a more Equitable Vision of STEM Education*.

Books

Jacob, S. R., & Warschauer, M. (proposal submitted). *Teaching computer science to multilingual students*. Teachers College Press.

In Preparation

Jacob, S.R., Baek, C., Warschauer, M. (in preparation). Universal Design for Learning strategies for multilingual students in computing.

Jacob, S. R., Franklin, D., Garcia, L., Gomez-Zwiep, S., Howard, N., Lee, O., Montoya, J., Parker, M., Proctor, C., Richardson, D., Stehberger, D., & Warschauer, M. (in preparation). Computational thinking, language, and literacy.

Jacob, S. R., Franklin, D., & Warschauer, M. (in preparation). Discourse analysis of multilingual students' computational thinking artifact-based interviews.

Jacob, S. R., Parker, M., Salac, J., Franklin, D., & Warschauer, M. (in preparation). Exploring learning relationships between computational thinking assessments developed for multilingual students.

Jacob, S. R., Montoya, J., & Warschauer, M. (in preparation). Exploring multilingual student's development of computational thinking practices.

García, L., Jacob, S. R., Denner, J., Bhattacharya, D., Peterfreund, A., & Richardson, D. (in preparation) Using Research-Practitioner Partnership to implement computer science education in K-12.

SELECTED PRESENTATIONS

Jacob, S. R., Warschauer, M. (2023, April). Culturally responsive approaches to multilingual students' computer science identity development (Presidential Session). American Educational Research Association Annual Meeting, Chicago, IL.

Jacob, S. R., Baek, C., & Warschauer, M. (2023, April). Computational literacy, language, and culture (Paper presentation). American Educational Research Association Annual Meeting, Chicago, IL.

Tsan, J., Etinger, D., Ojeda-Ramirez, S., Saito-Stehberger, D., Jacob, S. R., Warschauer, M., Franklin, D. (2023, April) Investigating students' identity in their open-ended "About Me" programming projects (Paper presentation). American Educational Research Association Annual Meeting, Chicago, IL.

Jacob, S., Montoya, J., Nguyen, H., Richardson, D., & Warschauer, M. (2023, March). Examining the what, why, and how of multilingual student identity development in computer science (Selected *ACM TOCE* Best Paper). 2023 ACM SIGCSE Technical Symposium on Computer Science Education, Toronto, CA.

Jacob, S., Baek, C., Warschauer, M. (2023, March). Examining coding and literacy instruction for bilingual students (Individual Paper). American Association of Applied Linguistics (AAAL), Portland, OR.

Jacob, S., Kamhi-Stein, L., Maamujav, U., Issagholian, N. (2022, Oct). Innovative technologies for future language teacher preparation (Symposium). California Teachers of English to Speakers of Other Languages '22 (CATESOL) Annual Conference, Pasadena, CA.

Jacob, S., Parker, M., Warschauer, M. (2022, April). Leveraging multilingual students' resources to develop their computational literacies (Symposium Paper). American Educational Research Conference, San Diego, CA, United States.

Kafai, Y., Bers, M., Pozos, R., Jacob, S., Bailey, A., Warschauer, M. (2022, April). Computational thinking, languages, and literacies (Symposium). American Educational Research Conference, San Diego, CA.

Kamhi-Stein, L., Ashtari, N., Issagholian, N., Maamujav, U., Lao, R., & Jacob, S. R. (2022). Advances in technology for language teacher preparation (panel). TESOL 2022 International Convention.

Vogel, S., Hoadley, C., Carroll-Miranda, J., & Jacob, S. R. (2021). Multilingual student resources for equitable K-12 computer science instruction (invited panel). ACM, CMDiT Tapia Conference. Virtual.

Jacob, S. R., Vogel, S., Pozos, R., Ordonez Franco, P., & Ryoo, J. (2021). Leveraging multilingual students' resources for equitable computer science instruction (panel). IEEE Annual International Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT'21).

Jacob, S. (2021). American Education Research Association conference on Computational Thinking for Multilingual Students. Computational Thinking, Language, and Literacy (Paper Presentation). (virtual conference)

Montoya, J., Jacob, S., & Warschauer, M. (2021, April) To what extent are elementary teachers using universal design for learning? (Roundtable). American Education Research Association (virtual conference).

Jacob, S. R., Prado, Y., & Warschauer, M. (November, 2020). Teaching computational thinking to exceptional learners: Lessons from two diverse classrooms [Paper Presentation]. International Society for Technology in Education. (ISTE).

Jacob, S. (October, 2020). Exploring identity enactment of multilingual students in computer science. CATESOL Annual Conference.

Prado, Y., Jacob, S. R., & Warschauer, M. (April, 2020). Teaching Computational Thinking to Exceptional Learners: Lessons from Two Diverse Classrooms Using Scratch [Poster Session]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/v8sw7zq> (Conference Canceled)

Jacob, S. Teaching computational thinking to multilingual students through inquiry based learning: A cross-case analysis. (October, 2019). California Teachers of English to Speakers of Other Languages '19 (CATESOL) Annual Conference, San Jose, CA.

Zhou, N., Cao, Y., Jacob, S., Richardson, R., & Warschauer, M. (April, 2019). Paper Presentation. High school teachers' understanding of equity in computer science classrooms [Roundtable]. AERA Annual Meeting Toronto, CA.

Jacob, S. (April, 2019). Engaging multilingual identities in computer science education. California Teachers of English to Speakers of Other Languages (CATESOL) Los Angeles, Regional Conference, Los Angeles, CA.

Jacob, S., (March, 2019). Examining the implementation of computational thinking for multilingual students: A mixed methods study. Teachers of English to Speakers of Other Languages '19 (TESOL) International Conference, Atlanta, GA.

Jacob, S., Nguyen, H., & Garcia, L. (February, 2019). Poster Presentation. Developing a computational thinking curriculum for multilingual students: A Research Practice Partnership. RESPECT 2019, IEEE Special Technical Community on Broadening Participation, Baltimore, MD.

Garcia, L., Jacob, S., & Nguyen, H. (February, 2019). 10-hour Workshop. Research methods for female undergraduates in computing. Google ExploreCSR Workshop, Long Beach, CA.

Jacob, S. (December, 2018). David E. Eskey Award Presentation. Computational thinking for multilingual students. California Teachers of English to Speakers of Other Languages '19 (CATESOL) Annual Conference, Anaheim, CA.

Jacob, S., & Warschauer, M. (April, 2018). Poster Presentation. A three dimensional framework for exploring the relationship between computational thinking and literacy. University of California, Irvine: Digital Learning in the Humanities and Beyond Symposium, Irvine, CA.

Jacob, S., & Warschauer, M. (March, 2018). Poster Presentation. Computational Thinking and Literacy. University of California, Los Angeles: Center for Language, Interaction, and Culture '18 Conference. Los Angeles, CA.

REFEREEING AND PROFESSIONAL ACTIVITIES

Refereeing: Review of Educational Research, Language, Early Childhood Research Quarterly, Language, Literacy, and Technology, ACM Transactions on Computing Education, Computer Science Education, Journal of Computer Science Integration, IEEE Special Technical Community on Broadening Participation, SIGCSE Technical Symposium on Computer Science Education, Association of Educational Communications and Technology, Issues in Applied Linguistics, SAGE Open, Remedial and Special Education

RESPECT Experiences Reports Track Co-chair, IEEE Annual International Conference on Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT'2023).

California State University Pre-Professors Program Fellow.

Advancing Inclusive Mentorship (AIM) Training, nine online and face-to-face training sessions on providing equitable and culturally responsive mentorship to the diverse student body at the California State University system, 2022.

Research Experience for Undergraduates Coordinator, National Science Foundation, 2020-2021

Conference Chair, American Educational Research Association Conference, Computational Thinking for Multilingual Students, April 2021.

CATESOL Board Member, Editor, California Teachers of English to Speakers of Other Languages (CATESOL), April, 2020.

Founding Member, Orange County Chapter of the Computer Science Teachers Association (CSTA), August, 2018.

Section Editor, Issues in Applied Linguistics, a refereed journal run by graduate students from the Applied Linguistics department at UCLA (Feb, 2016-present).

Professional Development Coordinator, CONECTAR 2018 Summer Institute, July, 2018.

Public Relations Chair, Conference Committee, Literacies, Languages and Writing in Urban Contexts: A Symposium on Linguistic Opportunities, Hurdles, and Wealth in Our City's Schools and Communities, June 2016.

Associate Chair and Public Relations Chair, Conference Committee, Los Angeles Regional CATESOL Conference, April 2015.

President, TESOL Society, California State University, Los Angeles, 2014 - 2015. Organized workshops and academic presentations to advance professional growth in the field of TESOL.

GRANT WRITING ACTIVITIES

US Department of Education, Education Innovation and Research, Expanding Coding for Early Literacy (EXCEL), January 1, 2024 – September 31, 2028, \$5,000,000.00 (under consideration)

US Department of Education, Education Innovation and Research, Improving Pedagogy to Accelerate Computational Thinking, (IMPACT), September 1, 2019 – August 31, 2024, Grant No: U411C190092, \$4,000,000.00

National Science Foundation, Computer Science for All, Research Practice Partnership, Collaborative Network of Educators for Computational Thinking for All Research (CONECTAR), September 1, 2017 – August 31, 2020, Grant No. 1923136, \$1,600,000

American Education Research Association Conference Grant, Computational Thinking for Multilingual Students, \$30,000

POSTDOCTORAL SCHOLAR/GRADUATE STUDENT RESEARCHER ROLES

Postdoctoral Scholar/Graduate Student Researcher September 2019-present

Improving Pedagogy to Accelerate Computational Thinking (IMPACT)

Institute of Education Sciences, Education Innovation and Research Program

October 1, 2019–September 30, 2022, \$4,000,000

University of California, Irvine, University of Chicago, San Francisco Unified

Advisor: Dr. Mark Warschauer

- Collaborate on a project to develop and evaluate a computer science instructional intervention, consisting of a curriculum and professional development, appropriate for Latinx students in fourth grade and combining three promising innovations: (1) an English language arts oriented computational thinking curriculum developed by San Francisco USD; (2) language supports developed by UC Irvine; and (4) CS learning scaffolding developed by University of Chicago.
- Serve as lead postdoctoral scholar, iteratively co-create curricular materials, address research questions using experimental research design methodology, manage data collection and conduct data analysis, present findings at research conferences and co-author publications in peer review journals.

Graduate Student Researcher October 2019-August 2021

CONNECTAR: Collaborative Network of Grade 3-5 Educators for

Computational Thinking for English Learners

National Science Foundation, September 1, 2019–August 31, 2021, Grant No. 1923136, \$1,600,000

University of California, Irvine

Advisor: Dr. Mark Warschauer

- Collaborate on a Research Practitioner Partnership comprised of university and K-12 researchers and practitioners on a multi-year, NSF-funded project to test and scale a computer science curriculum for upper elementary school English Learners (grades 3-5).
- Serve as lead graduate student, iteratively co-create curricular materials, address research questions utilizing design-based research methodology, manage data collection and conduct data analysis, present findings at research conferences and co-author publications in peer review journals.

Graduate Student Researcher September 2017-August 2019

CONNECTAR: Collaborative Network of Educators for *Computational*

Thinking for All Research

National Science Foundation, September 1, 2017–August 31, 2019, Grant No. 1738825, \$250,000

University of California, Irvine

Advisor: Dr. Mark Warschauer

- Collaborate on a Research Practitioner Partnership comprised of university and K-12 researchers and practitioners on a multi-year, NSF-funded project to develop and test a computer science curriculum for upper elementary school English Learners (grades 3-5).
- Serve as lead graduate student, iteratively co-create curricular materials, address research questions utilizing design-based research methodology, manage data collection and conduct data analysis, present findings at research conferences and co-author publications in peer review journals.

Research Assistant April 2014 to August 2017

California State University, Los Angeles

Advisor: Dr. Simeon Slovacek

- Facilitated activities associated with grants and contracts proposal development for faculty within the Charter College of Education (CCOE).
- Participated in grant writing teams with CCOE faculty to write grant proposals for agencies and foundations such as the US Dept. of Ed, California Commission on Teacher Credentialing, NIH, NSF, Brady Foundation and the California Community Foundation.
- Executed federal and private grantee monitoring and evaluation.
- Compiled evaluation reports including findings and recommendations which are presented to agency staff and Boards.

- Assisted with academic research including preparation and submission of manuscripts for publication.