

Tina Cheuk, Ph.D.

Assistant Professor of Elementary Science Education
School of Education
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EDUCATION

- Stanford Graduate School of Education**, Stanford, CA 2019
Ph.D., Science Education
Dissertation: *Disciplinary Literacy Practices in Science Classrooms*
- Stanford Graduate School of Education**, Stanford, CA 2007
M.A., Policy, Organization, and Leadership Studies
- University of Chicago**, Chicago, IL 1999
B.S., Chemistry and Biochemistry

ACADEMIC EMPLOYMENT

- California Polytechnic State University, School of Education**
Assistant Professor in Elementary Science Education
Multiple-subjects program.
Responsibilities include teaching, scholarship, and service.

AREAS OF SPECIALIZATION

Science education, disciplinary literacy development; multilingual and emergent bilingual learners, curriculum and assessment development, research-practice partnerships; design-based research; gender and STEM; machine learning.

RESEARCH EXPERIENCE

Stanford Graduate School of Education

- Development of Disciplinary Literacy Practices in Science Classrooms** 2017 - 2019
Principal Investigator
Conceptualized and designed a cross-case study investigating ways science teachers are enacting the literacy demands found in the Common Core and Next Generation Science Standards.
- Applying Automated Analysis to a Learning Progression for Argumentation** 2018 - 2019
Research Assistant
Developed and piloted argumentation items for computer scoring that reflect the language and literacy demands in the new standards.
• PI: Chris Wilson (BSCS Science Learning). Funded by National Science Foundation.
- Exploratory Study of Language and Literacy Demands in Science Curriculum** 2017 - 2018
Research Assistant
Co-developed coding protocol and analyzed qualitative data from science classroom observations for a newly developed curriculum in San Francisco Unified School District (SFUSD).
• PI: Guillermo Solano-Flores (Stanford). Funded by Stanford-SFUSD Incentive Fund.

Early Implementation of New Science Standards

2015 - 2017

Action Research Fellow

Conducted interviews with high school science teachers to determine how they make sense of Next Generation Science Standards (NGSS); observed and interviewed elementary science teachers who piloted new NGSS-aligned instructional materials in SFUSD.

- PIs: Janet Carlson (Stanford) and Jonathan Osborne. Funded by Stanford-SFUSD Partnership.

Professional Learning Communities to Support English Learners' Achievement

2016 - 2017

Research Assistant

Facilitated learning communities for school leaders in Oakland Unified School District (OUSD) focused on accelerating achievement for ELs.

- PI: Kenji Hakuta. Funded by OUSD.

Understanding Language Initiative, Stanford

2011 - 2014

Project Manager

Managed a national network of researchers, policymakers and practitioners to analyze the shifts, challenges, and opportunities in the Common Core State Standards (CCSS) and NGSS; developed instructional resources for ELs around CCSS and NGSS for grades K-12.

- PIs: Kenji Hakuta and Maria Santos (OUSD). Funded by Gates Foundation and Carnegie Corporation of New York.

Oakland Unified School District, Oakland, CA

2011 - 2014

Special Assistant to the Deputy Superintendent

Advised on implementation of CCSS and capacity building efforts for the central office team.

- PI: Maria Santos. Funded by Gates Foundation and Carnegie Corporation of New York.

Strategic Education Research Partnership (SERP) Institute, San Francisco, CA

2008 - 2011

Assistant Director

Fostered a learning environment among researchers, designers, and practitioners in collaborations that led to research insights and improved practice in the areas of literacy, mathematics, and science.

Methods used included: design-based research, cognitive interviews, and randomized control trials.

- PIs on projects: Kenji Hakuta, Jonathan Osborne, P. David Pearson, Alan Schoenfeld (University of California, Berkeley), Catherine Snow (Harvard), and Mark Wilson (University of California, Berkeley). Funded by Institute of Education Sciences and S. D. Bechtel, Jr. Foundation.

Center for Urban School Improvement, University of Chicago, IL

2005 - 2006

Research Assistant

Supported the research and design team in the development of technology tools and visualizations that enhanced youth learning and development using design-based research methods.

- PIs: Tony Bryk (Carnegie Foundation for the Advancement of Teaching), Louis Gomez (UCLA), Denise Nacu (DePaul), and Nichole Pinkard (Northwestern).

PUBLICATIONS

Cheuk, T. & New York State Department of Education Office of Bilingual Education and World Languages (NYSED-OBEWL) (2019). Transforming districts, schools and classrooms in New York State by prioritizing equity and academic success for Multilingual Learners and English Language Learners (MLLs/ELLs). Commissioned report.

Santos, M., Castellón, M., **Cheuk, T.**, Greene, R., Mercado-Garcia, D., Zerkel, L., Hakuta, K., & Skarin, R. (2018). *Preparing ELs for College and Career: Lessons from successful high schools*. New York, NY: Teachers College Press.

Cheuk, T., Daro, P., & Daro, V. (2018). Summative assessments: Mathematics and English Learners. In A. L. Bailey, C. A. Maher, & L. C. Wilkinson (Eds.), *Language, Literacy and Learning in the STEM Disciplines: How language counts for English learners*. New York, NY: Routledge.

Quinn, R., & **Cheuk, T.** (2018). School vouchers in the Trump era: How political ideology and religion shape public opinion. *Consortium for Policy Research in Education (CPRE) Policy Brief, #18-1*.

Cheuk, T. & Quinn, R. (2018). Dismantling the wall between Church and State: The case of public education. *Phi Delta Kappan*. 100(3), 24-28.

Cheuk, T., & Hoecker, R. (2018, Nov 6). Tempered Radicals: The power of small (and big) wins for student parents. *Inside Higher Ed*.

Solano-Flores, G., Altavilla, J. M., Saavedra, A. M., Holthuis, N. C., Deutscher, R., **Cheuk, T.**, & Kuo, A. C. (2017). English learners' access to science: An exploratory investigation of the SFUSD middle school science core curriculum, assessments, and professional development. Final report submitted to the Incentive Fund for projects in the San Francisco Unified School District. Stanford, CA.

Cheuk, T. (2017, July 6). Small Wins: A Mothers' Group in the Academy. *Inside Higher Ed*.

Cheuk, T. (2016). Discourse practices in the new standards: The role of argumentation in Common Core-era next generation science classrooms for English language learners. *Electronic Journal of Science Education*. 20(3), 92-111.

Stage, E. K., Asturias, H., **Cheuk, T.**, Daro, P.A., & Hampton, S.B. (19 April, 2013). Opportunities and Challenges in the Next Generation of Standards. *Science*. 340(6130), 276-277.

Cheuk, T. (2013). Relationships and convergences among the mathematics, science, and ELA practices. Palo Alto, CA: Stanford.

Santos, M., Darling-Hammond, L., & **Cheuk, T.** (2012). Teacher development appropriate to support English language learners. Commissioned paper presented at Understanding Language Conference. Stanford, CA.

TEACHING & MENTORING

Higher Education

(California Polytechnic State University, San Luis Obispo)

EDUC 436: Learning to Teach K-8 Science with Diverse Populations

EDUC 439: Multiple Subject Clinical Practice Seminar I

(Stanford University)

EDUC450A: Qualitative Methods (EDUC450A)

Spring 2018

Supporting English Learners under New Standards (online course)

Fall - Winter 2014

Graduate School of Education Mentorship Program

2016 - 2019

First Generation College Students Program

2014 - 2015

K-12

<i>KIPP King Collegiate High School, San Leandro, CA</i>	2006 - 2007
Administered school programming including curriculum, instruction, assessment, extracurricular programs, student recruitment, parent outreach, general operations, and supervision and evaluation of personnel.	
<i>St. Dominic's Senior Secondary School, Ghana, West Africa</i>	2003 - 2005
Taught integrated science and biology to secondary school students as a Peace Corps volunteer and trained incoming volunteers during their pre-service training program.	
<i>KIPP Academy Middle School, South Bronx, NY</i>	1999 - 2002
Taught fifth grade science and eighth grade English Language Arts as a Teach for America corps member.	

RECOGNITION

Research Awards

Jhumki Basu Scholar Award, NARST (\$700)	2017
Dean's Collaborative Learning Fund, Stanford Graduate School of Education (\$1250)	2016 - 2017
Student Projects for Intellectual Community Enhancement Grant, Stanford (\$2500)	2016 - 2017
Research Support, Stanford Institute for Research in Social Sciences (\$2000)	2016 - 2017
Action Research Team Fellow, Stanford Graduate School of Education (\$40,000)	2015 - 2017
Enhancing Diversity in Graduate Education Fellowship, Stanford (\$12,800)	2014 - 2016

Service Awards

Diversity Improvement Fund for Mothers in Academia, Stanford (\$6300)	2015 - 2019
James Lyons Award for Service, Stanford	2018
Community Impact Award, Stanford Alumni Association	2018
Graduate Leadership Award, Stanford Asian American Community Center	2018
Doctoral Student Community & Service Award, Stanford Graduate School of Education	2018
Understanding Language match grant to support Mothers in Academia (\$1500)	2016 - 2017
Marjorie Lozoff Graduate Prize, The Clayman Institute for Gender Research (\$1000)	2015 - 2016

CONFERENCE PRESENTATIONS

Keynotes

Cheuk, T. (2015). *Language and Literacy Practices in CCSS and NGSS*.
Lawrence Hall of Science, Saturday Seminar Workshop, Berkeley, CA

Cheuk, T. (2014). *Argument from Evidence across the Disciplines*.
Educational Service Center West-Principals' Summer Institute in LAUSD, Los Angeles, CA.

Invited

Cheuk, T. (2 April, 2019). Towards an Equitable Design Framework of Developing Argumentation in Science Items and Rubrics for Machine Learning. Paper presented at the Annual Meeting of the National Association for Research in Science Teaching. (Baltimore, MD)

Cheuk, T. (29 Jan, 2019). Book Talk: *Preparing English Language Learners for Colleges and Careers*. LEEP & RREG sponsored, Stanford Graduate School of Education.

Cheuk, T. (10 Jan, 2019). *Preparing English Language Learners for Colleges and Careers*. Online presentation to Title III State Leaders in Missouri.

Cheuk, T. (2017). *Language and Literacy Development Opportunities in the NGSS*. TESOL Annual Conference, Seattle, WA.

Cheuk, T. (2015). *Relationships and Convergences in CCSS and NGSS*. ASCD Conference on Educational Leadership, San Diego, CA.

Butts, H., **Cheuk, T.**, Knight, N., & Maldonado, H. (2013). *CCSS & ELLs: District partnerships*. Annual Conference at the Council of the Great City Schools, Albuquerque, NM.

Cheuk, T. (2012). *Common Core: Implications for Language, Learning, and Leadership*. Project CORE: San Diego State University and CA Department of Education, San Diego, CA.

Lee, O., & **Cheuk, T.** (2012). *CCSS in Mathematics and NGSS for English Language Learners*. NSF DRK-12 PI Meeting, SIG: CADRE English Language Learners, Arlington, VA.

Hakuta, K., Castellon, M., & **Cheuk, T.** (2012) *Preparing for the Next Generation Standards and Assessments for ELs*. National Conference on Student Assessment, CCSSO, Minneapolis, MN.

Peer-reviewed

Cheuk, T. (2019). *Disciplinary Literacy Practices in Science Classrooms*. Paper session. NARST Annual Conference, Baltimore, MD.

Cheuk, T., et al. (2019). *Design Principles of Developing Argumentation in Science Items and Automated Scoring Rubrics*. NARST Annual Conference, Baltimore, MD.

Quinn, R., & **Cheuk, T.** (2018). *Public Opinion Poll on K-12 Education: Who supports school vouchers?* AERA Annual Conference, New York City, NY.

Cheuk, T. (2018). *Disciplinary Language and Literacy Practices in Science Classrooms*. ESERA Summer School, Jyväskylä, Finland.

Cheuk, T. (2017). *Policy Messaging and Local Contexts: Early implementation efforts of NGSS*. NARST Annual Conference, San Antonio, TX.

Osborne, J., Roman, D., & **Cheuk, T.** (2011). *Linking Assessment to Teaching: Ideas and Evidence*. National Science Teachers Association (NSTA) Annual Conference, San Francisco, CA.

PROFESSIONAL TRAINING

University of Jyväskylä, Finland	2018
European Science Education Research Association	
Workshopped my dissertation study and took methods and theory courses with 50 science education doctoral students from around the world during a week-long summer school.	

English Learner Leadership & Legacy Initiative	2018
California Association of Bilingual Educators with Californians Together	
Studied the English learner advocacy and policy ecosystem and networked with 50 emerging educational leaders in California.	

The Clayman Institute for Gender Research, Stanford 2017 - 2018
 Graduate Voice & Influence Program
 Gained research-based gender knowledge and tools in a year-long leadership development program with 20 Stanford doctoral students.

Institute for Research in Social Sciences, Stanford 2016 - 2017
 Laboratory for the Study of American Values
 Designed and implemented original surveys of nationally representative samples of adults to gain new insights about American values as part of a two-quarter course sequence.

PROFESSIONAL SERVICE

Academic Service

National Association for Research in Science Teaching (NARST)

- Annual Conference, proposal reviewer, San Antonio 2019
- Graduate Student Forum, roundtable facilitator, Baltimore 2019

American Educational Research Association (AERA)

- Annual Conference, Division L (Educational Policy & Politics), proposal reviewer, New York 2017
- Annual Conference, Division C (Learning & Instruction)-section 1d (science), proposal reviewer, San Francisco 2019
- Annual Conference, SIG (Science Education), proposal reviewer, San Francisco 2019

Science Scope, reviewer 2016 - present
 Language, Equity, & Educational Policy group, Stanford, co-leader & member 2015 - 2019
 U.S. Department of Education, proposal reviewer 2010 - 2018

Grant competitions include:

Full Service Community Schools, panel monitor, 2018
 First in the World, 2015
 Investing in Innovation (i3) Development Grant, 2011 & 2015
 Turnaround School Leaders Program, 2014
 Race to the Top-District Grants, 2012 - 2013
 Supporting Effective Educator Development Grant, 2011
 i3 Implementation Grant with STEM focus, 2012
 Promise Neighborhoods, Planning Grant, 2010; Implementation Grant, 2012

Science Education, reviewer 2016 - 2017
 California State Board of Education, Science Curriculum Framework, committee member 2014 - 2015

MEDIA MENTIONS

Research

“Preparing English Learners for College and Career”
 Facebook Live Interview with Stanford Graduate School of Education, September 18, 2018
 • <https://www.facebook.com/StanfordEducation/videos/2208835066066271/>

“Public Attitudes toward School Vouchers in the Trump Era”
 Research Minute Podcast with CPRE Knowledge Hub, January 2018
 • <https://cprehub.org/research-minutes#podcast-382>

“Finding Overlap in the Common Math, Language Arts, and Science Standards”

Education Week, October 1, 2014

- http://blogs.edweek.org/edweek/curriculum/2014/10/finding_overlap_in_the_common.html

“Common Science Standards Face Capacity Issues”

Education Week, May 14, 2013

- <http://www.edweek.org/ew/articles/2013/05/15/31science.h32.html>

“What will we do, where will we go with the NGSS?”

National Science Teachers Association Blog, April 26, 2013

- <http://nstacommunities.org/blog/2013/04/26/what-will-we-do-where-will-we-go-with-the-ngss/>

ACADEMIC AND PROFESSIONAL ORGANIZATIONS

American Educational Research Association (AERA)

European Science Education Research Association (ESERA)

National Association for Research in Science Teaching (NARST)

National Science Teachers Association (NSTA)

Phi Delta Kappa (PDK)

Teaching English to Speakers of Other Languages (TESOL)