NIRAL SHAH

Assistant Professor
College of Education
Learning Sciences & Human Development
University of Washington
Seattle, WA 98195

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ACADEMIC APPOINTMENTS

2019-present **Assistant Professor**
Learning Sciences & Human Development
University of Washington

2014-2019 **Assistant Professor**
Department of Teacher Education
Michigan State University

2013-2014 **Postdoctoral Fellow**
University of California, Berkeley

2007 **Lecturer**
Teacher Education Program – Social/Cultural Context of Education
California State University, East Bay

EDUCATION

2013 **University of California at Berkeley**, Berkeley, CA
Ph.D. in Education; Focus on Education in Math, Science, and Technology

2010 **University of California at Berkeley**, Berkeley, CA
M.A. in Education; Focus on Education in Math, Science, and Technology

2004 **California State University, East Bay**, Hayward, CA
Teaching Certification in Secondary Mathematics

2002 **University of Pennsylvania**, Philadelphia, PA
B.S. in Economics
B.A.S. in Computer Science

HONORS AND AWARDS

2017 National Academy of Education/Spencer Postdoctoral Fellowship

2016	AERA SIG-RME (Special Interest Group – Research in Mathematics Education) STaR (Service, Teaching, and Research) Fellow
2014	Best Paper Nominee (1 of 6 nominees, out of 117 papers) International Conference of the Learning Sciences (2014)
2012	National Academy of Education/Spencer Dissertation Fellowship
2011-2012	Dean's Normative Time Fellowship
2009-2013	Research in Cognition and Mathematics Education (RCME) Fellowship
2008-2009	Diversity in Mathematics Education (DiME) Fellowship
2007-2011	Eugene Cota Robles Fellowship
2006	Teacher of the Year Award, Alameda/Contra Costa Counties Mathematics Education
2004	Symantec Award for Outstanding Innovation in Teaching

GRANTS

PI, NAEd/Spencer Foundation, Postdoctoral Fellowship (2017-2019)
Reducing the Impact of Implicit Racial and Gender Bias on Mathematics Classroom Discourse, $70,000. PI: **Niral Shah**.

Co-PI, National Science Foundation, STEM+C Grant (2017-2020)
Integrating Computation in Science Across Michigan (ICSAM), $1,362,829. PI: Marcos Daniel Caballero, Co-PIs: **Niral Shah**, David Stroupe, Paul W. Irving.

Co-PI, National Science Foundation, Computer Science for All: RPP Grant (2017-2020)
CT4EDU: Broadening Pathways into Computing by Developing Computational Thinking Competencies in Elementary Classrooms, $998,737. PI: Aman Yadav, Co-PIs: Emily Bouck, Christina Schwarz, **Niral Shah**.

Co-PI, Michigan State University, CREATE for STEM (2017-2018)
Positioning, Underlying Stereotype Bias, and Humaneness in Teaching Mathematics: A Collaborative Research Investigation of Classroom Discourse Goals, $65,925. PI: Beth Herbel-Eisenmann, Co-PIs: **Niral Shah**.

PI, Spencer Foundation, Conference Grant (2016-2017)
Advancing Methods to Examine the Role of Social Identities in Organizing Mathematics Classroom Learning Opportunities, $50,000. PI: **Niral Shah**, Co-PI: Jennifer Langer-Osuna.

Co-PI, Michigan State University, S3 Collaborative Grant (2016-2017)
Advancing Methods to Examine the Role of Social Identities in Organizing Mathematics Classroom Learning Opportunities, $10,000. PI: David Stroupe, Co-PI: Danny Caballero, **Niral Shah**.

TECHNOLOGIES / PRODUCTS

Shah, N. & Reinholz, D. L. *EQUIP: **E**quity **QU**antified **I**n **P**articipation* (www.equip.ninja)
EQUIP is an equity-focused classroom observation tool. It is currently being used by K-12 school districts, higher education teaching/learning centers, and research teams. The main goal of EQUIP is to support practitioners in identifying biases and making classrooms more equitable.

PUBLICATIONS

Peer Reviewed Research Articles

Shah, N. (in press). "Asians are good at math" is not a compliment: STEM success as threat to personhood. *Harvard Educational Review.*

Reinholz, D. L., Stone-Johnstone, A., & **Shah, N**. (in press). Walking the walk: Using classroom analytics to support faculty members to address implicit bias in teaching. *International Journal for Academic Development.*

Shah, N., Cosby, M. D., Goffney, I. M., Kalinec-Craig, C. A., Wood, M. B., Hand, V. M., & Crespo, S. (accepted w/minor revisions). "Bossy," "boy," and "urban": Troubling coded language in mathematics education research. *Monograph for the Journal for Research in Mathematics Education.*

Shah, N. & Coles, J. (accepted). Preparing teachers to notice race in classrooms: Contextualizing the competencies of pre-service teachers with anti-racist inclinations. *Journal of Teacher Education.*

Langer-Osuna, J. M. & **Shah, N.** (accepted). Advancing the study of social and disciplinary identities in mathematics education research. *Monograph for the Journal for Research in Mathematics Education.*

Shah, N. & Lewis, C. M. (2019). Amplifying and attenuating inequity in collaborative learning: Toward an analytical framework. *Cognition and Instruction*.

Earnest, J. B., Reinholz, D. L., & **Shah, N.** (2019). Hidden competence: Women's mathematical participation in public and private classroom spaces. *Educational Studies in Mathematics*.

Herbel-Eisenmann, B. & **Shah, N.** (2019). Detecting and reducing bias in questioning patterns. *Mathematics Teaching in the Middle School, 24(*5), 282-289.

Reinholz, D. L., & **Shah, N.** (2018). Equity analytics: A methodological approach for quantifying participation patterns in mathematics classroom discourse. *Journal for Research in Mathematics Education, 49*(2), 140-177.

Shah, N. (2017). Race, ideology, and academic ability: A relational analysis of racial narratives in mathematics. *Teachers College Record, 119*(7), 1-42.

Nasir, N. S., Snyder, C. R., **Shah, N.**, & Ross, K. M. (2012). Racial storylines and implications for learning. *Human Development, 55*, 285-301.

Nasir, N. S., & **Shah, N.** (2011). On defense: African American males making sense of racialized narratives in mathematics education. *Journal of African American Males in Education, 2*(1), 24-45.

Handbook Chapters

Lewis, C. M., **Shah, N.**, & Faulkner, K. (2019). Equity and diversity. In S. Fincher & A. Robins (Eds.), *The Cambridge Handbook of Computing Education Research* (pp. 481-510). Cambridge: Cambridge University Press.

Martin, D. B., Rousseau-Anderson, C., & **Shah, N.** (2017). Race and mathematics education. In J. Cai (Ed.), *Compendium for Research in Mathematics Education* (pp. 607-636). Reston, VA: National Council of Teachers of Mathematics.

Book Chapters

Louie, N. L., Reinholz, D. L., & **Shah, N.** (2019). Getting published: Perspectives from early-career scholars. In K. Leatham (Ed.), *Designing, conducting, and publishing quality research in mathematics education*.

Shah, N., & Crespo, S. (2017). Cultural narratives and status hierarchies. In R. Hunter, M. Civil, B. Herbel-Eisenmann, N. Planas, & D. Wagner (Eds.), *Mathematical discourse that breaks barriers and creates space for marginalized learners* (pp. 23-38). Rotterdam: Sense Publishers.

Shah, N. & Leonardo, Z. (2016). Learning discourses of race and mathematics in classroom interaction: A poststructural perspective. In I. Esmonde & A. Booker (Eds.), *Power and privilege in the learning sciences: Critical and sociocultural theories of learning* (pp. 50-69). New York, NY: Routledge Press.

Shah, N. (2016). Validating and contextualizing preservice teachers' resistance to social justice pedagogy in mathematics. In D. White, S. Crespo, & M. Civil (Eds.), *Cases for teacher educators: Facilitating conversations about inequities in mathematics classrooms* (pp. 149-154). Charlotte, NC: Information Age Publishing.

Peer Reviewed Published Conference Proceedings

Shah, N., Reinholz, D. L., Guzman, L., Bradfield, K., Beaudine, G. & Low, S. (2016). *Equitable participation in a mathematics classroom from a quantitative perspective.* In M. Wood, E. Turner, & M. Civil (Eds.), *Sin fronteras: Questioning borders with(in) mathematics education - Proceedings of the 38th annual meeting of the North-American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)*. (pp. 1259-1265). Tuscon, AZ: University of Arizona.

Lewis, C. M., & **Shah, N.** (2015). How equity and inequity can emerge in pair programming. In B. Dorn, J. Sheard, & Q. Cutts (Eds.), *Proceedings of the 11th Annual International Conference on International Computing Education Research (ICER 2015)* (pp. 41-50). Omaha, NE: ACM.

Shah, N., Lewis, C.M., & Caires, R. (2014). Analyzing equity in collaborative learning situations: A comparative case study in elementary computer science. In J. L. Polman, E. A. Kyza, D. K. O'Neill, I. Tabak, W. R. Penuel, A. S. Jurow, K. O'Connor, T. Lee & L. D'Amico (Eds.), *11th International Conference of the Learning Sciences* (pp. 495-502). Boulder, CO.

Shah, N., Lewis, C. M., Caires, R., Khan, N., Qureshi, A., Ehsanipour, D., & Gupta, N. (2013). Building equitable computer science classrooms: Elements of a teaching approach. *ACM SIGCSE Bulletin, 44*(1), 263-268.

Shah, N. (2012). Mathematics learning in a racial context: Unpacking students' reasoning about "Asians are good at math." In J. van Aalst, K. Thompson, M. J. Jacobson & P. Reimann (Eds.), *The Future of Learning: Proceedings of the 10th International Conference of the Learning Sciences (ICLS 2012)* (Vol. 2, pp. 222-226). Sydney, NSW, Australia: International Society of the Learning Sciences.

Lewis, C. M., & **Shah, N.** (2012). Building upon and enriching grade four mathematics standards with programming curriculum. *ACM SIGCSE Bulletin, 43*(1), 57-62.

Shah, N. (2009). A student's causal explanations of the racial achievement gap in mathematics education. In Swars, S. L., Stinson, D. W., & Lemons-Smith, S. (Eds.), *Proceedings of the Thirty-First Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Vol. 5* (pp. 444-452). Atlanta, GA: Georgia State University.

Adiredja, A. P., Engle, R. A., Champney, D., Huang, A., Howison, M., **Shah, N.** & Ghaneian, P. (2008). Explaining student success in one PDP calculus section: A progress report. In *Proceedings of the 11th Conference on Research in Undergraduate Mathematics Education.*

Other Publications

Dunn, A. H., **Shah, N.,** & Warren, C. (2014). Talking taboo: Discussing race and racism in classrooms. *New Educator*, Fall Issue, 26-27.

Nasir, N.S., **Shah, N.,** Gutierrez, J. F., Seashore, K., Louie, N., & Baldinger, E. (2011). Mathematics learning and diverse students. Background paper for National Research Council Report: "Successful K-12 STEM education: Identifying effective approaches in science, technology, engineering, and mathematics."

Manuscripts Under Review / In Preparation

Shah, N. (under review). Conceptualizing alignments between discourses of race and mathematics.

REFEREED CONFERENCE PRESENTATIONS

Reinholz, D. & **Shah, N.** (2017, April). *EQUIP-ing teachers to address issues of classroom equity.* Paper presented at the annual meeting of the American Educational Research Association, San Antonio, TX, April 8-12.

Shah, N., Reinholz, D., Guzman, L., Bradfield, K., & Fernandes, J. A. (2016, April). *Analyzing equity in whole-class discussions in mathematics classrooms*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC, April 27-May 1.

Shah, N. & Leonardo, Z. (2016, April). *Learning about race and mathematics in classroom interaction: A poststructural perspective*. Paper presented at the annual meeting of the American Educational Research Association, Washington, DC, April 8-12, as part of symposium entitled, "Power and Privilege in the Learning Sciences: Critical and Sociocultural Theories."

McClintock, D. & **Shah, N.** (2016, March). *Coding, designing, and logistics: How modes affect equity in computer science education*. Poster presented at the 47th Annual ACM Technical Symposium on Computer Science Education, Memphis, March 2-5.

Martin, D. B. & **Shah. N.** (2015, June). *Race and mathematics education: Advancing theory in the field.* Presentation at the 8th Mathematics and Education Society Conference, Portland, OR, June 21-26.

Shah, N. (2015, April). *The problem with a compliment: Asians as mathematical and racial subjects.* Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL, April 16-20.

Shah, N. (2015, April). *Mixed-race learners and the reification of mathematical ability as genetic.* Paper presented at the annual meeting of the National Council of Teachers of Mathematics Research Presession, Boston, MA, April 15-18.

Shah, N. (2013, April). *Social practices and suture: A hybrid framework for analyzing identity formation.* Paper presented at the annual meeting of the National Council of Teachers of Mathematics Research Presession, Denver, April 15-17, as part of symposium entitled, "Moving Mathematics Identity Forward: New Developments in Theory and Research."

Shah, N. & Louie, N. (2013, April). *A conversation on culture-cognition relations (featuring Michael Cole, Fred Erickson, Elliott Turiel, Geoff Saxe, and Na'ilah Nasir)*. Symposium conceived and organized at the University of California, Berkeley, April 26.

Shah, N. (2012, May). *Exclusivity, universality, and innateness: Implicit themes in student talk about racial-mathematical narratives.* Poster presented at the "Racing Language, Languaging Race" symposium for Stanford University's Center for Race, Ethnicity, and Language (CREAL), Palo Alto, May 3-4.

Shah, N. (2012, April). *Beyond achievement gaps: The role of racial narratives in mathematics education.* Poster presented at the annual meeting of the American Educational Research Association, Vancouver, April 13-17.

Nasir, N.S., **Shah, N.**, Gutierrez, J.F., Seashore, K., Louie, N., & Baldinger, E. (2012, April). *Mathematics learning and diverse students*. Paper presented at the annual meeting of the American Educational Research Association, Vancouver, April 13-17.

Reinholz, D. L., **Shah, N**., & Kim, H. (2011, April). *Capturing what counts: Classroom practices that lead to robust understanding of algebra*. Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Kim, H., Lepak, J., Levin, M., Louie, N. L., Reinholz, D. L., **Shah, N.**, Wernet, J., & Floden, R. (2011, January). *Capturing classroom practices that lead to competence with complex algebraic tasks*. Symposium presented at the annual meeting of the Association of Mathematics Teacher Educators, Irvine, CA.

Shah, N. (2010, May). *Race and mathematics learning in discursive alignment: A new theoretical vector.* Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.

INVITED LECTURES & INVITED WORKING GROUPS

Shah, N. (2018, April). *Revising & resubmitting for JRME: Tips from the trenches.* Invited talk at the annual meeting of the National Council of Teachers of Mathematics Research Conference, Washington, DC, April 23-25.

Shah, N. (2017, May). *Using the EQUIP web app to support equitable teaching.* Intel Corporation, Portland, OR.

Shah, N. (2017, April). *Conceptualizing and measuring equity in STEM at the interactional level.* Invited symposium talk at the annual meeting of the National Council of Teachers of Mathematics Research Conference, San Antonio, TX, April 3-5.

Shah, N. (2016, December). *Analyzing racialization in mathematics classrooms: Toward a mixed methods approach*. TERC (Technical Education Research Center), Boston, MA.

Shah, N. (2016, December). *Racial narratives in math classrooms*. Google, Ann Arbor, MI.

Shah, N. (2016, October). *Detecting and reducing the impact of implicit bias in whole-class discussions*. McDonald Middle School, East Lansing, MI.

Shah, N. (2016, September). *MSU job search panel*. Organized by CITE Steering Committee, East Lansing, MI.

Shah, N. (2016, April & September). *Invited Working Group: Mathematical knowledge for teaching and equity*. Organized by Deborah Ball, Imani Goffney, and Mark Hoover, University of Michigan, Ann Arbor, MI.

Shah, N. (2016, April). *Strategies for engaging students in online courses.* Brown Bag Series for MATC program (Organized by Janine Certo), East Lansing, MI.

Shah, N. (2016, January & March). *Examining implicit bias in whole-class discussions.* Launch into Teaching Project (PI: Randi Stanulis), Detroit, MI.

Shah, N. (2015, September). *Race in classroom interaction: Lessons learned from mathematics education.* Presentation to Physics Education Research Group at Michigan State University (led by Danny Caballero and Vashti Sawtelle) East Lansing, MI.

Shah, N. (2015, May). *Analyzing issues of equity in classroom discussions.* Launch into Teaching Project (PI: Randi Stanulis), Detroit, MI.

Dominguez, H. & **Shah, N.** (2015, February). *Exploring equity in teacher-student interactions in mathematics*. Creating Inclusive Excellence in Teacher Education (CIETE) Workshop, Michigan State University, East Lansing.

Shah, N. (2014, December). *Patterns of (in)equity in elementary computer science: What they look like and why they emerge*. CREATE for STEM Institute's Co-Integrate Math Seminar Series, Michigan State University, East Lansing.

Martin, D. B., & **Shah, N.** (2014, December). *Writing about race in White institutional space*. PRIME Colloquium Series, Michigan State University, East Lansing.

Shah, N. (2014, February). *Racialized episodes and narratives in math classrooms*. School of Education class visit: "Adolescent Psychology and Development for Teachers" (Instructor: Prof. Victoria Hand), University of Colorado, Boulder.

Shah, N. (2013, December). *Equity, identity, and learning: Racial narratives in mathematics classrooms.* Presentation at College of Education, University of Maryland, College Park, MD.

Shah, N. (2013, November). *Methodological possibilities and pitfalls in studying race in educational settings.* Colloquium Series in Graduate School of Education, University of California at Berkeley.

Shah, N. (2013, March). *Racial discourse in mathematics and its impact on student learning, identity, and participation.* Presentation at the National Academy of Education/Spencer Foundation Meeting, Washington, DC.

Shah, N. (2013, January). *Racial discourse in mathematics: Considerations for designing and implementing equitable STEM learning environments.* Presentation at School of Education and Social Policy, Northwestern University, Evanston, IL.

Shah, N. (2012, October). *Content, gatekeeper, identity, personhood: Evolving views on math and equity*. Presentation at CalTeach program for undergraduate minors in education, University of California at Berkeley.

Shah, N. (2012, February). *Conceptualizing racial narratives as identity artifacts*. Department of Curriculum and Instruction class visit: "Race, Identity, and Agency in Mathematics and Science Education" (Instructor: Prof. Danny Martin), University of Illinois at Chicago.

Shah, N. (2011, June). *Techniques for increasing the number and engagement of underrepresented minorities*. Panelist at CS4HS (Computer Science for High School) Conference, Berkeley, CA.

Shah, N. (2011, April). *The challenges of mathematics education reform in lower-performing urban schools*. Presentation at the People's Test Preparation Service (a non-profit serving under-resourced high schools in the Bay Area), University of California at Berkeley.

TEACHING EXPERIENCE

Graduate Courses

TE 991: Sociocultural and Critical Perspectives on Learning, Michigan State University
TE 931: Introduction to Qualitative Methods, Michigan State University
TE 823 (Online): Learning Communities and Equity, Michigan State University
TE 822 (Online): Issues of Culture in Classroom and Curriculum, Michigan State University
MTHE 927: Proseminar in Mathematics Education II, Michigan State University
EDUC 228A: Qualitative Methods, University of California at Berkeley
EDUC 224D: Survey of Current Research & Issues in Mathematics Education, University of California at Berkeley
TED 5305: Social/Cultural Context of Education, California State University, East Bay

Undergraduate Courses

TE 406: Teaching Mathematics to Diverse Learners – Elementary, Michigan State University

K-12 Courses

"Making Music, Movies, and Games with Computers" – An Introduction to Computer Programming for 6th Grade Students, Academic Talent Development Program, Berkeley, CA
Pre-algebra, Algebra 1, Geometry, Algebra 2, Math Analysis, AP Calculus AB, AP Calculus BC
Richmond High School, Richmond, CA

SERVICE

National

Associate Editor, Educational Researcher. 2019-2022.

Executive Board Member - Communications (Elected), AERA SIG-RME (Special Interest Group – Research in Mathematics Education). 2017-2019.

Member (Invited), STaR (Service, Teaching, and Research) Program Committee, Association of Mathematics Teacher Educators (AMTE). 2016 – 2019.

Strand Leader (Invited), North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA). 2015.

Reviewer: Grants
National Science Foundation (NSF) review panel (invited): Spring 2015
National Science Foundation (NSF) review panel (invited): Fall 2015

Reviewer: Journals
American Educational Research Journal (AERJ)
Educational Studies in Mathematics (ESM)
Journal for Research in Mathematics Education (JRME)
Journal of the Learning Sciences (JLS)
Journal of Teacher Education (JTE)
Race, Ethnicity, and Education (REE)
Review of Educational Research (RER)
Teachers College Record (TCR)
Transactions on Computing Education (TOCE)

Reviewer: Conference
American Educational Research Association Conference (AERA)
International Conference of the Learning Sciences (ICLS)
Psychology of Mathematics Education (PME-NA) Conference.

State

Member (Invited), Information Technology Empowerment Center (ITEC) Program Committee (2015 – 2016), Lansing, Michigan.

University, College, and Department

Member, University Grievance Hearing Board, Michigan State University (2016-2017)

Member, Department of Teacher Education, Teacher Preparation Committee (TPC), Michigan State University (2016-2017)

Member, Program in Mathematics Education (PRIME), Admissions Committee, Michigan State University (2016-2017)

Member (Elected). Department of Teacher Education, Review, Promotion, Tenure and Evaluation Committee (RPTE), Michigan State University (2015 – 2016)

Member, Department of Teacher Education, Comprehensive Examinations Committee (2014-2015).

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Educational Research Association (AERA)

Association of Mathematics Teacher Educators (AMTE)

Psychology of Mathematics Education, North American Chapter (PME-NA)

International Society of the Learning Sciences (ICLS)

National Council of Teachers of Mathematics (NCTM)

Special Interest Group on Computer Science Education (SIGCSE)