

Curriculum Vitae for Mahati Kopparla

Education

- August 2014 – July 2019 **PhD**, Curriculum and Instruction with emphasis in Mathematics Education
Texas A&M University, College Station, United States of America
- August 2009 – May 2014 **Integrated Masters of Science**, Mathematical sciences
University of Hyderabad, Hyderabad, India

Positions

- March 2021 – Current **Postdoctoral Researcher**, Werklund School of Education
University of Calgary, Calgary, Canada
- July 2019 – December 2020 **Project Coordinator**
UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP), New Delhi, India

Awards and Fellowships

1. **Eyes High Postdoctoral Fellowship** (~CAD 100,000), Wekurland School of Education, University of Calgary, (September 2021 – August 2023)
2. **Strategic Research Award** (~USD 30,000), College of Education and Human Development, Texas A&M University, (August 2018- July 2019)
3. **Student Research Grant** (~USD 1000), College of Education and Human Development, Texas A&M University, 2016; 2017; 2018.
4. **Teaching as Research Fellowship** (~USD 2000), Centre for Integration of Teaching, Research and Learning, Texas A&M University, 2017.
5. **INSPIRE scholarship** (~USD 5000), Department of Science of Technology, Govt. of India, (August 2009 – May 2014)

Other Grant Writing

SSHRC Partnership Development Grant: Assisted Dr. Miwa Takeuchi in applying for a research grant in literature review and budget planning. The grant was successfully funded for ~CAD 200,000.

Spencer Postdoctoral Fellowship – applied in November 2021.

Publications

- Kopparla, M.**, Takeuchi, M. A., Thraya, S., Yuen, J., & Chowdhury, A. (Submitted). Play, Joy, and Creativity in Land-based STEM Learning: Reconnecting with Intergenerational Knowing for Refugee Learners [Invited book chapter]. In J. D. Adams & C. Siry (Eds.), *Wondering Science: Creativity, Imagination and Future Thinking in Science*.
- Takeuchi, M. A., Elhowari, R., & **Kopparla, M.** (Revised & resubmitted). Intergenerational STEM knowing toward regenerating the land of refuge in an era of pandemic. *Mind, Culture & Activity*.
- Kopparla, M.**, Nguyen, T. & Woltering, S. (2022). Maps of meaning: A qualitative study of the journey of freshmen engineering. *European Journal of Engineering Education*.
- Kopparla, M.**, & Saini, A. K. (2022). Evaluating mathematics and science teaching through student

drawings. *European Journal of STEM Education*. <https://doi.org/10.20897/ejsteme/11785>

Kopparla, M., & Pathak, A. (2022). Reimagining Education: perspectives from students, teachers, and parents. In S. Chakravarti & B. Boukareva (Eds.), *Cases on Global Innovative Practices for Reforming Education*. Hershey, PA: I.G.I. Global Publisher.

Calabrese, J. E., **Kopparla, M.** & Capraro, M. M. (2020). Examining young children's multiplication understanding through problem posing, *Educational Studies*, DOI: 10.1080/03055698.2020.1740976

Kopparla, M. (2019). Role of Mathematics in STEM Freshmen Retention: Meta-analysis. *Journal of Mathematics Education*.

Kopparla, M., & Goldsby, D. (2019). Preservice teacher experiences in formal and informal learning groups in a mathematics course. *Journal of Instructional Research*, 8(1), 51-59.

Kopparla, M., Bicer, A., Vela, K., Lee, Y., Bevan, D., Kwon, H., Caldwell, C., Capraro, M. M., & Capraro, R. M. (2018). The effects of problem-posing intervention strategies on elementary students' problem solving. *Educational Studies*, 45(6), 708-725.

Kopparla, M., & Capraro, M. M. (2018). Portrait of a second-grade problem poser. *European Journal of STEM Education*, 3(2), 03.

Peer-reviewed Conference Proceedings

Kopparla, M. (2022, July). A call for mobilizing critical mathematical literacy towards gender equality in India. Paper submitted to the International Conference to Review Research in Science, Technology, Engineering, and Mathematics Education (epiSTEMe9).

Kopparla, M., Takeuchi, M. A., Yuen, J., & Chowdhury, A. (2022, June). Co-Construction of third space of joy and playfulness through critical transdisciplinarity: land-based STEM learning with refugee children. Paper submitted to International Conference of Learning Sciences (ICLS).

Kopparla, M., & Pathak, A. (2022, April). A question we must ask children more often: 'What do you want to learn?'. Paper accepted for the 2022 World Education Research Association (WERA) Focal Meeting.

Kopparla, M., & Saini, A. K. (2021, September). Teaching middle school mathematics through global perspectives: An open online course. In D. Kollosche (Ed.), *Proceedings of the Eleventh International Mathematics Education and Society Conference* (Vol. 1, pp. 155–158).

Bicer, A., **Kopparla, M.**, Capraro, R. M., & Capraro, M. M. (2016, April). Longitudinal effects of technology integration and teacher professional development on students' mathematics achievement. Paper presented at the American Education Research Association annual meeting, Washington DC.

Bicer, A., Boedeker, P., **Kopparla, M.**, Capraro, R. M., & Capraro, M. M. (October, 2015). *Comparing inclusive STEM schools that implement PLTW curriculum with inclusive STEM schools that implement PLTW*. Paper presented at the annual meeting of Frontiers in Education (FIE), El Paso, Tx.

Capraro, M. M., Nite, S., **Kopparla, M.**, Capraro, R., Morgan, J., & Barrosa, L. (2015, October). Appropriate technology in STEM education: Using a rubric to assess iPad apps. In *E-Learn: World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education* (pp. 1719-1725). Kona, Hawaii.: Association for the Advancement of Computing in Education (AACE).

Other Publications

Takeuchi, M.A., Osibodu, O., & **Kopparla, M.** (forthcoming). Mathematical literacies for justice: Global

- perspectives. In M. T. Winn, & L. T. Winn. (Eds.). *Bloomsbury Encyclopedia of Social Justice in Education*.
- Adams, J. D., Takeuchi, M. A., El Halwany, S., & **Kopparla, M.** (2022). Transcending Disciplinarity: An Epilogue for Epistemological, Ontological, and Axiological Expansions. In *The Learning Sciences in Conversation* (pp. 59-64). Routledge.
- Takeuchi, M.A., Chowdhury, A., **Kopparla, M.**, Thraya, S., Yuen, J., Czuy, K., Mambo, T., Olson, R., Sobh, H., & Fakih, A. (2021). Soil camp: Learning with the land toward refugee integration, diversity and sustainability through community partnerships 2020-21. University of Calgary. <http://hdl.handle.net/1880/113973>
- Pathak, A., **Kopparla, M.**, & Chheda, S. C., (2021). Reimagining education: What stakeholders in education want? *The Blue Dot*, 14, 91-97.
- Kopparla, M.**, & Capraro, R. M. (2016, April). [Review of the book *Brilliance of black children in mathematics: Beyond the numbers and toward new discourse*, by J. Leonard & D. B. Martin]. Teachers College Record.
- Kopparla, M.** & Capraro, M. M. (2015). [Review of the book *Writing math research papers: A guide for high school students and instructors* 4th Edition, by R. Gerver]. Teacher College Review.
- Kopparla, M.**, & Capraro, M. M. (2015). STEM in middle grades. In S. B. Mertens, M. M. Caskey, & N. Flowers (Eds.), *The encyclopedia of middle grades education (2nd edition)*. Charlotte, NC: Information Age Publishing.

Teaching Experience

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|---|---|
| Higher Education,
<i>University of
Calgary</i> | <ol style="list-style-type: none"> 1. Teaching Assistant: STEM Education with Dr. Miwa Takeuchi (Fall 2021) for early years and elementary teacher candidates |
| Higher Education,
<i>Texas A&M
University</i> | <ol style="list-style-type: none"> 1. Teaching Assistant: Learning Theories for Education with Dr. Steven Woltering (Fall 2018) for graduate students 2. Instructor: Problem Solving in Mathematics and Science (Fall 2016, Spring 2017) for elementary and middle grades teacher candidates 3. Instructor: Culture, Community, Society, and Schools (Fall 2015, Spring 2016) for teacher candidates 4. Teaching Assistant: Culture, Community, Society and Schools with Ms. Darlene Palmer (Fall, 2014) for teacher candidates 5. Teaching Assistant: Science and Mathematics Methods for Middle and Secondary School with Ms. Angela Kerekes (Fall 2014) for teacher candidates |
| Teacher
Professional
Development,
<i>UNESCO MGIEP</i> | <ol style="list-style-type: none"> 1. Co-facilitator for Adapting to Digital Teaching for math and science teachers from 33 schools across India (August 2020). 2. Co-facilitator for Embedding Social and Emotional Learning activities in math and science classrooms for public school teachers in India (August 2020, September 2020, October 2020) |
| K-12 | <ol style="list-style-type: none"> 1. Facilitator: Soil Camp, an anti-oppressive land-based STEM learning with refugee children, Werklund School of Education, University of Calgary (Summer, 2021, 2022) |

2. **Remote Course Instructor:** Online course to discuss middle school mathematics through global perspectives (Fall, 2020)
3. **Summer Clinician:** individualized instruction for reading and comprehension at Lindamood-Bell Learning Processes, Houston, TX (Summer 2017)
4. **Facilitator:** problem solving and problem posing stations in grade 2 mathematics classroom (Fall 2016, Spring 2017)
5. **Coding Instructor:** coding using Hopscotch and Xcode programming at Aggie STEM Summer Camp, Texas A&M University (Summer 2015, 2016)

Other Seminars

Critical Mathematics: Mathematics to Fit Our Whole Selves – Working Group at the Canadian Mathematics Education Study Group, Co-Facilitated Working Group with Dr. Mahtab Nazemi and Dr. Gurpreet Sahmbi.

Maps of meaning: Journeys of undergraduate STEM students – Invited presentation at the Neurobiological Lab for Learning and Development, Texas A&M University, Co-presented with Megan Nguyen

Professional Development

- Postdoctoral Certificate in University Teaching and Learning, Taylor Institute for Teaching and Learning, University of Calgary (Fall 2021 – Current)
- Academy of Future Faculty Seminars, *Center for the Integration of Research, Teaching, and Learning, Texas A&M University* (Fall 2017 – Fall 2018)
- Teaching Assistant Institute Workshop, *Office of Graduate and Professional Studies and the Center for Teaching Excellence, Texas A&M University* (August 2015, 2016)

Research Projects

September 2021 – **Designing STEM Education towards Equity and Justice**
Current *Werklund School of Education, University of Calgary*

- Co-designed and co-taught a STEM education course for prospective elementary teachers by integrating themes of social and environmental justice.
- Analyzing coursework, reflections and teacher interviews to understand experiences of prospective teachers and changes to perceptions about STEM subjects.

March 2021 – **Soil Camp – Land-based STEM Summer Program**
Current *Werklund School of Education, University of Calgary*

- Collaboratively designed and facilitated an outdoor summer camp for refugee and immigrant children around soil and related STEM knowledge.
- Research collaboration and mentoring of a team of graduate and undergraduate students.
- A community report, book chapter and a conference proceeding have been completed based on this study.

- July 2020 –
December 2020
- Virtual Roundtables on Education**
UNESCO Mahatma Gandhi Institute of Education for Peace and Sustainable Development (MGIEP)
- Designed a global study to solicit opinions about the current state of education systems and hopes for the future through focus group discussions with teachers, parents and students from different parts of the world.
 - Study resulted in a policy brief, book chapter and a conference proceeding.
- January 2020 –
December 2020
- Embedding Global Citizenship within Mathematics Education**
UNESCO MGIEP, Rethinking Learning
- Developed of an online interactive course in data science for middle school students which introduces mathematical concepts through themes of real-world global issues.
 - Study resulted in a series of teacher workshops and a conference proceeding.
- July 2019 –
December 2020
- Teaching and Learning interventions for 8th grade Math and Science Classrooms**
UNESCO MGIEP, Rethinking Learning
- Evaluated teaching practices in mathematics and science classrooms in public schools in India.
 - Curated appropriate educational resources to enhance teaching-learning experience by incorporating project-based and social emotional learning in 33 public schools across India.
 - Study resulted in a series of 3 teacher training workshops and 1 peer reviewed publication.
- May 2016 –
July 2019
- Numeracy Project**
Texas A&M University, Neurobiological Lab for Learning and Development
- Designed an experimental study to observe how engineering undergraduates cope with negative feedback while solving mathematics problems.
 - Conducted interviews with participants to understand their experience in the engineering undergraduate program and reasons for persistence.
 - Study resulted in 2 journal articles included in the doctoral dissertation and 3 conference presentations.
- August 2017 –
May 2018
- Group-Work Project**
Texas A&M University, Teaching as Research Fellowship
- Designed an experimental study to observe how group work impacts pre-service teachers' experience during a mathematics course.
 - Collected and analyzed qualitative data from classroom observations and interviews.
 - Study resulted in 1 peer reviewed article and 1 conference presentation.
- August 2016 –
May 2018
- Problem Posing Project**
Texas A&M University, Aggie STEM Centre
- Designed an experimental study to observe the effect of problem posing on problem solving in elementary grades (2nd – 5th grades).

- Mentored a team of two graduate students to develop lesson plans and oversaw implementation of the research project. Study resulted in 3 peer reviewed publications and 3 conference presentations.

Conference Presentations

- Takeuchi, M.A., **Kopparla, M.**, Elhowari, R., Yuen, J., &. (2022, April). *Against the grain: Refugee family's learning through the land during the pandemic*. Paper presented at American Educational Research Association Annual Meeting, San Diego.
- Kopparla, M.**, Saini, A. K. (2020, December). *Embedding Social and Emotional Learning (SEL) into Mathematics classrooms*. Workshop conducted at Transforming Education Conference for Humanity (TECH), New Delhi, India.
- Kopparla, M.**, Nguyen, T. & Woltering, S. (2019, August). *Mapping Freshmen Engineering Students' Academic Journey: A Qualitative Perspective*. Paper presented at American Psychological Association Annual Convention, Chicago, IL.
- Capraro, M.M., Rosli, R., **Kopparla, M.**, Vela, K., Bevan, D., Lee, R., Kwon, J., & Capraro, R. M. (2019, April). *Benefits of problem posing activities with elementary students and preservice teachers*. Paper presented at the annual meeting of the American Educational Research Association, Toronto, Canada.
- Kopparla, M.**, Nguyen, T., Woltering, S. (2019, February). *How STEM Students React to Negative Feedback: The Role of Emotion Regulation*. Paper presented at the Southwest Educational Research Association Conference (SERA), San Antonio, Texas, USA.
- Calabrese, J. E., & **Kopparla, M.** (2018, October). *Understanding multiplication errors through posing*. Presented at the School Science and Mathematics Association (SSMA). Little Rock, AR.
- Calabrese, J. E., & **Kopparla, M.** (2018, March). *To Pose or Not to Pose: Creating Multiplication Word Problems*. Oral presentation at Texas A&M University's Student Research Week, College Station, TX.
- Kopparla, M.**, Nguyen T., & Woltering, S. (2018, March). *Role of emotion regulation in short-term and long-term academic outcomes of engineering students*. Oral presentation at Texas A&M University's Student Research Week, College Station, TX.
- Kopparla, M.**, & Goldsby, D. (2018, March). *Group work vs. working in a group: Experience in a problem-solving course*. Oral presentation at Texas A&M University's Student Research Week, College Station, TX.
- Kopparla, M.**, Shi, Q., Nguyen, M., & Woltering, S. (2018, March). *The differentiated developmental trajectories of math performance and its association with individual, classroom, and school characteristics- A 9-year longitudinal study*. Poster presented at the 2018 Biennial Conference of the Society for Research in Human Development (SRHD), Dallas, TX.
- Shi, Q., Ko, E., Sun, H., Lu, J., **Kopparla, M.**, & Woltering, S. (2018, March). *Differentiated developmental trajectories of children's reading and math performance: A 9-year longitudinal study using growth mixture modelling*. Paper presented at the paper symposium titled "Understanding Children and Adolescent's Academic and Social-emotional Development: Evidence from Longitudinal, School Process, and Parenting studies" at the 2018 Biennial Conference of the Society for Research in Human Development (SRHD), Dallas, TX.
- Kopparla, M.** (2017, February). *Numeracy and problem size effect*. Paper presented at the annual meeting of the Southwest Educational Research Association 40th, San Antonio, TX.
- Kwon, H., Foran, A. L., & **Kopparla, M.** (2017, February). *Teachers' perception on using technology in classrooms*. Paper presented at the Southwest Educational Research Association 40th Annual Meeting, San Antonio, TX.

- Kopparla, M.** (2016, February). *Exploratory and confirmatory factor rotation strategies*. Paper presented at the Southwest Educational Research Association 39th Annual Meeting, New Orleans, LA.
- Nite, S. B., Bicer, A., **Kopparla, M.**, Reeves, L., Capraro, R. M., & Capraro, M. M. (2016, April). *Mathematics teacher content knowledge: Online synchronous professional development*. National Council of Teachers of Mathematics Research Conference. San Francisco, CA.
- Foran, A. L., **Kopparla, M.**, & Ortiz, N. A. (2016, February). *Ethnological effects on creativity perspectives in STEM education*. Paper presented at the annual meeting of the Southwest Educational Research Association Conference, New Orleans, LA.
- Kopparla, M.** (2016, January). *App-Craft: Creating iPhone/ iPad apps for STEM classrooms*. Presented at the 9th Annual Texas STEM Conference: Pathways to Student Success in STEM, San Antonio, TX.
- Foran, A. L., Hill, K. K., Bicer, A., Kwon, H., & **Kopparla, M.** (2015, October) *Q-TiPs: Quality of Teachers in the Perception of Students*. Paper presented at the annual meeting of the School Science and Mathematics Conference, Oklahoma City, OK.
- Kopparla, M.**, Foran, A. L., Boedeker, P., Ortiz, N. A., Bicer, A., Hill, K., Xuejun, J., & Joshi, M. (2015, October). *Cognitive and neuro-scientific components of dyscalculia: A systematic review*. Paper presented at the School Science and Mathematics Association Convention, Oklahoma City, OK.
- Kopparla, M.**, Bicer, A., Hill, K., Boedeker, P., Foran, A. L., Drey, L., Capraro, R. M., & Capraro, M. M. (2015, October). *The effects of mathforward intervention on middle school students' mathematics achievement: a longitudinal study*. Paper presented at the School Science and Mathematics Association Conference, Oklahoma City, OK.
- Capraro, M. M., Nite, S. B., Capraro, R. M., Morgan, J., Barroso, L., **Kopparla, M.** (2015, October). *Appropriate technology in STEM education: Using a rubric to assess iPad apps*. Paper presented at E-Learn 2015: World Conference on E-Learning. Kona, Hawaii.
- Kopparla, M.**, Hill, T., & Foran, A. (2015, February). *Change in mathematics teaching styles from secondary school to university level*. Paper presented at the Conference on the Teaching of Mathematics 6-12, Huntsville, TX.
- Kopparla, M.** (2015, February). *How cognitive off-loading using dynamic geometry tools supports mathematics learning*. Paper presented at the Southwest Educational Research Association 38th Annual Meeting, San Antonio, TX.
- Kopparla, M.** (2015, February). *A primer on Sampling Distribution and Standard Error*. Paper presented at Southwest Educational Research Association 38th Annual Meeting, San Antonio, TX.
- Hill, K., Foran, A., & **Kopparla, M.** (2015, February). *What is in the teacher's closet?* Presented at the Conference on the Teaching of Mathematics 6-12, Huntsville, TX.
- Kopparla, M.** (2015, January). *Preparedness of secondary school students for university level mathematics*. Paper presented at the 8th Annual Texas STEM Conference: Pathways to Student Success in STEM, Austin, TX.
- Foran, A., Bicer, A., Boedeker, P., Hill, T. & **Kopparla, M.** (2015, January). *Implementing STEM project-based learning in an inquiry-based classroom*. Paper presented at the 8th Annual Texas STEM Conference: Pathways to Student Success in STEM, Austin, TX.
- Boedeker, P., Bicer, A., Foran, A., Hill, K., & **Kopparla, M.** (2015, January). *Are you ready for the challenge? Teaching integrated STEM in grades 3-5. A model home and its thermostat*. Paper presented at the 8th Annual Texas STEM Conference: Pathways to Student Success in STEM, Austin, TX.
- Bicer, A., Foran, A., Boedeker, P., Hill, K., & **Kopparla, M.** (2015, January). *Interdisciplinary STEM project based learning for meaningful understanding*. Paper presented at the 8th Annual Texas STEM Conference: Pathways to Student Success in STEM, Austin, TX.

Service Activities

- Collaboration with Dr. Kori Czuy (Indigenous Engagement Specialist, TELUS Spark Science Centre) for storying mathematics of tipi
- Teaching Awards Adjudication Committee, Taylor Institute of Teaching and Learning, University of

Calgary (May, 2022)

- Postdoctoral representative at the Strategic Planning Committee, Werklund School of Education, University of Calgary (2021 – 2022)
- Postdoctoral representative at the Teaching and Learning Advisory Committee, Werklund School of Education, University of Calgary (2021 – 2022)
- Academic reviewing: *Cases on Global Innovative Practices for Reforming Education, International Conference of the Learning Sciences*
- Treasurer for University Apartments Community Council, Texas A&M University (2015-2018)
- Treasurer for Graduate Student Association, Department of teaching, Learning, and Culture, Texas A&M University (2016-2018)

Other Skills

- **Learning Management Systems:** Blackboard, FramerSpace
- **Statistical Software:** Stata, SPSS, JMP
- **Programming Languages:** C++, HTML, JavaScript, Python
- **Language skills:** Fluent in English, Hindi, Telugu and Kannada

References for Mahati Kopparla

1. Miwa Takeuchi
Associate professor
Werklund School of Education
University of Calgary
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2. Mary Margaret Capraro
Professor
Curriculum and Instruction
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3. Steven Woltering
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