

Megan Bang

*Associate Professor of Learning Sciences and Human Development
University of Washington
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EDUCATION

Northwestern University, Ph.D. 2009

Specialization: Learning Sciences, certificate in Cognitive Science

Advisors: Bruce Sherin (Chair), Carol Lee, and Douglas Medin

Community Committee Members: Joseph Podlasek, Karen Washinawatok

Doctoral Dissertation: “*Understanding Students’ Epistemologies: Examining Practice and Meaning in Community Contexts*”

Post-Doctoral Training – TERC, Cheche Konnen Center

Advisors: Beth Warren and Ann Rosebery

Williams College, BA 1997. Major: Political Science with Political Theory concentration Minors: History & African Studies

PROFESSIONAL EXPERIENCE

<i>9/15 – present</i>	Associate Professor, Educational Psychology, Learning Sciences & Human Development, Education, Equity, Society Studies, University of Washington-Seattle
<i>9/11 – present</i>	Faculty, University of Washington Institute for Science + Math Education (http://sciencemathpartnerships.org/)
<i>9/11 – present</i>	Secondary Teacher Education Program, University of Washington-Seattle
<i>1/15 – present</i>	Adjunct Faculty, American Indian Studies, University of Washington-Seattle
<i>9/11 – 8/15</i>	Assistant Professor, Educational Psychology, Learning Sciences & Human Development, University of Washington-Seattle
<i>6/99 – 8/11</i>	Director of Education, American Indian Center, Chicago, IL
<i>8/08 – 8/11</i>	Research Associate, TERC, Chèche Konnen Center, Cambridge, MA
<i>6/06 – 8/08</i>	Post-Doctoral Fellow, TERC, Chèche Konnen Center, Cambridge, MA
<i>9/09 – 6/10</i>	Adjunct, Northwestern University
<i>9/98 – 6/00</i>	Workshop Leader, Chicago Children's Museum, Chicago, IL.
<i>7/00 – 8/02</i>	GED Instructor and Student Services Coordinator, Institute for Native American Development, Truman College (City College of Chicago)

9/00 – 6/02	Instructor, Native American Education Services College, Chicago, IL
5/98 – 9/98	Science/Environmental Justice Teacher at The City School, Boston, MA
6/97 – 6/98	Preschool Teacher, Jamaica Plain Headstart via Jumpstart for Young Children, Inc., Boston, MA
1/96 – 6/96	Teacher at People's Primary School during semester abroad with Augsburg College, Windhoek, Namibia

ACADEMIC HONORS

- American Education Research Association, Division K, Teaching and Teacher Education, Early Career Award, 2015
- American Education Research Association, Bobby Wright Award for Early Career Contributions to Research in Indigenous Education, 2015
- Outstanding Advising Award – University of Washington, 2013
- Spencer Foundation Dissertation Fellowship, 2004-05
- Cognitive Science Graduate Fellow for Interdisciplinary Research Projects, 2003-2004
- Spencer Foundation Training Fellowship, 2001-2003

JOURNAL ARTICLES

**Peer reviewed publications*

+All or some co-authors were graduate students or practitioners in community organizations or schools.

*Bang, M., Marin, A., Medin, D. (in press). Towards learning emerging from place and community: Spatial and temporal transformations. *Journal of the Learning Sciences*.

*Bang, M. & Vossoughi, S. (in press). Participatory Design Research: Axiological Innovations Towards Just Futures. *Cognition and Instruction*.

* Bang, M., Marin, A. Medin, D. & Washinawatok, K. (in press). Learning by Observing in Everyday Practices in the Natural World. *Advances in Child Development and Behavior*.

*Bang, M. (2015). Culture, learning, and development about the natural world: Advances facilitated by situative perspectives. *Educational Psychologist*, 50(3), 220-233.

*Bang, M., Faber, L., Gurneau, J., Marin, A., Soto, C. (in press). Community Based Design Research: Learning Across Generations and Strategic Transformations of Institutional Relations Towards Axiological Innovations. *Mind, Culture, and Activity*.

*+Bang, M., Alfonso, J., Faber, L., Marin, A., Marin, M., Medin, D., Waxman, S., & Woodring, J. (in press). Perspective Taking in Early Childhood Books: Implications for Early Science Learning. *Culture Studies in Science Education*.

+McGinty, M., & Bang, M. (2015). Narratives of dynamic lands: science education, indigenous knowledge and possible futures. *Cultural Studies of Science Education*, 1-5.

- *Marin, A. & Bang, M. (2015). Repatriating Science Teaching and Learning: Finding Our Way to Storywork. *Journal of American Indian Education*.
- *Bang, M. & Marin, A. (2015). Nature-Culture Constructs in Science Learning: Human/non-human agency and intentionality. *Journal for Research in Science Teaching*, 52(4), 530-544.
- *Medin, D. & Bang, M. (2014). The Cultural Side of Science Communication. *Proceedings of the National Academy of Sciences*, 111(4), 13621-13626.
- Medin, D., Lee, C. & Bang, M. (2014). Particular Points of View. *Scientific American*.
- *+Bang, M., Curley, L., Kessel, A., Marin, A., & Suzokovich, E. (2014). Muskrat Theories, Tobacco in the Streets, and Living Chicago as Indigenous Lands. *Environmental Education Research*, 20 (1), 37-55.
- Medin, D., & Bang, M. (2013). Culture in the Classroom. *Phi Delta Kappan*, 95(4): 64-67.
- Nasir, N., & Bang, M. (2013). Conceptualizing Cultural and Racialized Process in Learning. *Human Development*, 55(5-6), 247-249.
- *+Bang, M., Marin, A., Faber, L., & Suzukovich, E. S. (2013). Repatriating Indigenous Technologies in an Urban Indian Community. *Urban Education*, 48(5), 705-733.
- *+Dehghani, M., Bang, M., Medin, D., Marin, A., Leddon, E., & Waxman, S. (2013). Epistemologies in the Text of Children's Books: Native-and non-Native-authored books. *International Journal of Science Education*, 35(13), 2133-2151.
- *Bang, M., Warren, B., Rosebery, A. S., & Medin, D. (2012). Desettling expectations in science education. *Human Development*, 55(5-6), 302-318.
- *+Hermes, M., Bang, M., & Marin, A. (2012). Designing Indigenous Language Revitalization. *Harvard Educational Review*, 82(3), 381-402.
- *+Unsworth, S. J., Levin, W., Bang, M., Washinawatok, K., Waxman, S. R., & Medin, D. L. (2012). Cultural Differences in Children's Ecological Reasoning and Psychological Closeness to Nature: Evidence from Menominee and European American Children. *Journal of Cognition and Culture*, 12(1-2), 17-29.
- *Bang, M., & Medin, D. (2010). Cultural processes in science education: Supporting the navigation of multiple epistemologies. *Science Education*, 94(6), 1008-1026.
- Bang, M., Medin, D., and Cajete, G., (2009). Improving Science Education for Native Students: Teaching Place Through Community. *Sacnas News*, 12(1), 8-10.
- Bang, M. (2009). Indigenous knowledge and education: Sites of struggle, strength, and survivance. *Science Education*, 93(5), 958-959.

*Medin, D.L. & Bang, M. (2008). Perspective Taking: Diversity and Partnerships. *American Psychological Association*, 22(2).

*Bang, M., Medin, D. L., & Atran, S. (2007). Cultural mosaics and mental models of nature. *Proceedings of the National Academy of Sciences*, 104(35), 13868-13874.

Bang, M. (2007). Understanding teacher expertise in primary science: A sociocultural approach. *Science Education*, 91(6), 1031-1033.

BOOKS

*Medin, D.L. & Bang, M. (2014). *Who's asking?: Native Science, Western Science and Science Education*. Cambridge, MA: The MIT Press.

BOOK CHAPTERS

Bang, M. (in press). Diverse ways of knowing. To appear in: Peppler, K. (Ed) *Encyclopedia of Out-of-School Learning*. SAGE press.

Bang, M. (in press). Culture and learning. To appear in: Peppler, K. (Ed) *Encyclopedia of Out-of-School Learning*. SAGE press.

Marin, A. & Bang, M. (in press). Indigenous heritage communities of north America. To appear in: Peppler, K. (Ed) *Encyclopedia of Out-of-School Learning*. SAGE press.

Bang, M., Brown, B., Calabrese Barton, A., Rosebery, A., Warren, B. (in press). Reframing Diversity: Expanding Relationships between Students, Teachers, and Science Practices. To appear in: Schwarz, C., Passmore, C., and Reiser, B. (Eds.), *Moving Beyond "Knowing" Science to Making Sense of the World: Bringing Next Generation Science and Engineering Practices into our K-12 Classrooms*. NSTA Press.

Bang, M. (in press). Learning Gardens in an Urban Indigenous Community: Expanding the Scope of Learning. To appear in: Brown, S. & McGregor, K. (eds.), *Seeds in the City*.

Bang, M. (in press). From Backyard Plots to Harvesting Beyond Borders: Native Perspectives on Gardening. To appear in: Brown, S. & McGregor, K. (eds.), *Seeds in the City*.

Hermes, M. & Bang, M. (2014). Theory and Advocacy for Language Revitalization in the United States. In *Handbook of Educational Linguistics*. Routledge Press.

Abrams, E., Yore, L., Bang, M. Brayboy, B., Castagno, A., Kidmann, J., Huei, L., Villanueva, M., Wang, M., Webb, P., & Yen, C. (2014). Culturally Relevant Schooling in Science for Indigenous Learners Worldwide: Stressing the All in Science Literacy. In *Handbook of Research on Science Education*.

+Medin, D., ojaehto, b., Waxman, S., & Bang, M. (2013). Relations: language, epistemologies, categories and concepts. To appear in: E. Margolis & S. Laurence, (Eds.), *Concepts: New Directions*. Cambridge, MA: The MIT Press.

- Bang, M. (2013). Indigenous Students. In D. Gunstone (ed.), *Encyclopedia of Science Education*. Springer.
- +Medin, D., ojaehto, b., Marin, A., & Bang, M. (2013). Culture and epistemologies: putting culture back into the ecosystem. To appear in: M. Gelfand, CY Chiu, & Y-Y. Hong (Eds.), *Advances in Culture and Psychology Series*, Oxford University Press.
- +Leddon, E., Waxman, S.R., Medin, D.L, Bang, M. & Washinawatok, K. (2012). One animal among many? Children's understanding of the relation between humans and nonhuman animals. In G. Hayes & M. Bryant (Eds.), *Psychology of Culture. In Psychology of Emotions, Motivations and Actions: Focus on Civilizations and Cultures Series*. Hauppauge, NY: Nova Science Publishers.
- Bang, M. (2012). Indigenous Knowledge and Science Education. In Banks, J. A. (Ed.). (2012). *Encyclopedia of Diversity in Education* Volume 1 (pp. 1165-1170). SAGE Publications, Incorporated.
- +Bang, M., Medin, D., Washinawatok, K., and Chapman, S. (2010). Innovations in Culturally-based Science Education through Partnerships and Community. In M. Khine & I. Saleh (Eds.) *New Science of Learning: Cognition, Computers and Collaboration in Education*. New York: Springer.

MANUSCRIPTS UNDER PEER REVIEW

- *+Bang, M., Pugh, P., & Medin, D. (2014). Emergent complex systems reasoning?: Cross-cultural differences in reasoning about eating relationships between kinds. Under review.
- *Marin, A. & Bang, M. (2014). "Look it, this is how you know?" The Nature of Attentional Practices and Relationships with the Natural World. Under review by Cognition and Instruction.

MANUSCRIPTS IN PREPARATION

- Brayboy, B.M. & Bang, M. (2015). Indigenous Knowledge Systems, Teaching, and Learning.
- Bang, M. & Brayboy, B.M. (2015). Indigenous Knowledge Systems and Child Development.
- Bang, M. (2015). Perspective Native Teachers Motivation for Entering Teaching.
- +Bang, M., Gurneau, J., Faber, L., Woodring, J., Medin, M. (2015). Drawing a Forest: Children's implicit epistemologies and mental models of a forest.
- Bang, M., Gurneau, J. Faber, L. (2015). Restorying Indigenous Ontologies: Developing Visual and Rhetorical Sovereignty in Digital Storytelling.
- Bang, M. Marin, A. Gurneau, J. & Medin, D. (2015). Four Foundational Practices in Pre-school Science: Seeing and Engaging Indigenous Knowledge Systems.
- Bang, M. (2016). Towards a pedagogy of walking in science: Affordances of learning in motion.

Marin, A., Bang, M., & Medin, D. (2015). Mental states verbs in cross-cultural early childhood literature: Impacts on making sense of the natural world.

Bang, M. (2015). Learned epistemologies: examining practice, meaning, and knowledge construction in community contexts.

FUNDED RESEARCH AND PROJECTS

Bang, M. (2015). Robotics Backpacks for Family Learning: Transforming science center-library partnerships to support family engineering learning. National Science Foundation. Requested (\$1,993,064 million).

Project Role: Co-Principal Investigator, PI: Carrie Tzou

Preparation Responsibilities: Co-Author

Community Partners: Seattle Public Schools, Seattle Public Libraries, Red Eagle Soaring

Bang, M. (2015). Transforming the Field of Family Engagement: Redesigning Research, Measures and Practice for Equity in Education. Kellogg Foundation. Funded 2015-2018 (1,680,000).

Project Role: Co-Principal Investigator

PI: Ann Ishamaru

Preparation Responsibilities: Co-Author

Bang, M. (2014). Indigenous Teacher Education Program. Bill and Melinda Gates Foundation – Investing in Native Student Success. Funded 2014-2015 (\$50,000).

Project Role: Co-Principal Investigator

PI: Elizabeth West

Preparation Responsibilities: Co- Author

Bang, M. (2014). Building Capacity & Cultivating Innovation: Learning Agendas in Native Education.– Investing in Native Student Success.

Requested (\$100,000 thousand).

Project Role: Principal Investigator

Preparation Responsibilities: Author

Bang, M. (2013) Expansive Meanings and Makings in ArtScience. National Science Foundation-CORE.

Funded 10/1/2013-4/1/2017 (\$1.5 million). NSF REC-1348462

Project Role: Co-Principal Investigator, Other PIS: Beth Warren and Ann Rosebery

Preparation Responsibilities: Co-Author

Community Partners: Red Eagle Soaring Youth Theater Company, Broad Institute, Boston Arts Academy

Bang, M. (2013). Building Capacity & Cultivating Innovation: Learning Agendas in Native Education.– Investing in Native Student Success.

Funded 2013-2014 (\$100,000).

Project Role: Principal Investigator

Preparation Responsibilities: Author

- Bang, M. (2013). Future Native Teachers Initiatives. Washington Education Association.
Funded 2013-2015 (\$14,000).
Project Role: Principal Investigator
Preparation Responsibilities: Author
- Bang, M. (2013). Indigenous Teacher Education Program. Bill and Melinda Gates Foundation
– Investing in Native Student Success. Funded 2013-2014 (\$50,000).
PI: Elizabeth West
Preparation Responsibilities: Co- Author
- Bang, M. (2012). Indigenous Teacher Education Program. Bill and Melinda Gates Foundation
– Investing in Native Student Success. Funded 2013-2014 (\$50,000).
PI: Elizabeth West
Preparation Responsibilities: Co- Author
- Bang, M. (2011). Collaborative Research: Cultural Epistemologies and Science-related Practices:
Living and Learning in Relationships. National Science Foundation – EHR REESE.
Funded 9/1/11-8/31/14 (\$1 million). NSF REC-1205758.
Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin, Sandra Waxman
Preparation Responsibilities: Co- Author
Community Partners: American Indian Center of Chicago, Menominee Nation
- Bang, M. (2011). Collaborative Research: Culturally Based Citizen Science: Rebuilding
Relationships to Place. National Science Foundation – AISL.
Funded 9/1/11-8/31/14 (\$1.5 million). NSF REC-1208209.
Project Role: Principal Investigator, CO-PIS: Douglas Medin, Karen Washinawatok
Preparation Responsibilities: Co-Author
Community Partners: American Indian Center of Chicago, Menominee Nation
- Bang, M. (2009). Native American science education. Johnson Endeavor Foundation.
Funded: 2009-2010 (\$150K). REC- 0750655.
Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin
Preparation Responsibilities: Co-Author
Community Partners: American Indian Center of Chicago
- Bang, M. (2008). Collaborative Research: Renewal: The Cultural Context of Native-American
Science Education. National Science Foundation.
Funded 9/1/08-8/30/11 (\$1.2 million). NSF REC-0815112.
Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin, Karen Washinawatok
Preparation Responsibilities: Co-Author
Community Partners: American Indian Center of Chicago, Menominee Nation, Tribal
School
- Bang, M. (2008). Collaborative Research: The Role of Culture and Experience in Children's
Understanding of the Biological World. National Science Foundation.
Funded 9/1/08-8/30/11 (\$980K). REC-0814850
Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin, Karen Washinawatok,

Sandra Waxman

Preparation Responsibilities: Co-Author

Community Partners: American Indian Center of Chicago, Menominee Nation, Tribal School

Bang, M. (2008). Collaborative Research: A Cross Cultural View of Biological Thought. National Science Foundation.

Funded: 5/15/08-5/14/11 (\$980K). REC- 0750655.

Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin, Karen Washinawatok, Sandra Waxman

Preparation Responsibilities: Co-Author

Community Partners: American Indian Center of Chicago, Menominee Nation

Bang, M. (2007). Students of Color Navigating Learning Environments: Portraits of Racialized Dilemmas. TERC.

Funded: 2007-2009 (\$20K).

Project Role: Co-Principal Investigator, CO-PIS: Carol Wright

Preparation Responsibilities: Co-Author

Bang, M. (2007). Indigenous Ways of Knowing & STEM: A Conference Focused on the Successes, Tensions, & Possibilities for Learning. National Science Foundation.

Funded: 2009 (\$75K). REC 0749576.

Project Role: Principal Investigator

Preparation Responsibilities: Author

Community Partners: American Indian Center of Chicago, Harvard Project on American Indian Economic Development

Bang, M. (2005). Collaborative Research: Cultural Context of Learning: Native American Science Education. National Science Foundation.

Funded: 9/05-8/08 (\$1.4million). REC- 0750655.

Project Role: Co-Principal Investigator, CO-PIS: Douglas Medin, Karen Washinawatok,

Preparation Responsibilities: Co-Author

Bang, M. (2004). Cultural Models of Nature. Spencer Foundation.

Funded: 2004-2005 (\$40K). REC 0749576.

Project Role: CO-Principal Investigator, PI: Douglas Medin

Preparation Responsibilities: Co-Author

PROPOSALS UNDER REVIEW

Bang, M. (2015). Human-Nature relations, cultural epistemologies and complex systems: Cultural processes in learning about ecosystems. National Science Foundation.

Requested (\$1, 498,000 million).

Project Role: Principal Investigator, PI/CO-PI: Douglas Medin

Preparation Responsibilities: Author

Community Partners: United Indians of All Tribes

PEER-REVIEWED CONFERENCE PRESENTATIONS & PAPERS (*last 10 years*)

- Bang, M. (2015). Designing Learning about Climate Change: Beyond Fear and Loathing in Settler-Colonial Societies. Paper presented at the annual American Education Research Association, Chicago, IL
- Warren, B., Rosebery, A., and Bang, M. (2014). Expansive Meanings and Makings in the Human Micro-Biome. Paper presented at the annual American Education Research Association, Chicago, IL.
- Bang, M. (2015). Urban Land-Based Pedagogies: Featured Chicago Symposium. Paper presented at the annual American Education Research Association, Chicago, IL.
- Bang, M. (2015). Restroying Relations to Land in Science Education: Youth Symposium. Paper presented at the annual American Education Research Association, Chicago, IL.
- Ceni, M. & Bang, M. (2015). Teacher Sense-making about epistemic practices in science learning. Poster presented at the annual American Education Research Association, Chicago, IL.
- Warren, B., Rosebery, A., and Bang, M. (2014). Expansive Meanings and Makings in Art Science. Presented at the International Conference of the Learning Sciences, Boulder, Co.
- + Bang, M. Marin, A., Gunneau, J., Faber, L. (2014) Remaking Relations: Ten Years of Community Based Design Research: Shifting Power Relations. Presented at the International Conference of the Learning Sciences, Boulder, Co.
- +Bang, M., Pugh, P., & Medin, D. (2014). Emergent complex systems reasoning?: Cross-cultural differences in reasoning about eating relationships between kinds. Paper presented at the International Conference of the Learning Sciences, Boulder, Co.
- +Bang, M., Faber, L., and Gunneau, J. (2014). Remediating ontologies: Storying relations to land in science education, views through digital arts. Paper presented at the annual American Education Research Association, Philadelphia.
- +Bang, M., Faber, L., and Gunneau, J. (2014). Remediating ontologies: Science Education, Digital Storymaking and Narratives of Land. Paper presented at the annual Ethnography in Education Research Forum, Philadelphia.
- Bang, M. & Marin, A. (2014). Nature-Culture Constructs in Science Learning: Human-non-human agency and intentionality. Paper presented at the annual meeting of the National Research on Science Teaching Conference, Pittsburgh.
- +Bang, M., Gunneau, J. & Medin, D. (2014). Seeing Children's Model Based Understandings of Forest Ecosystems: Drawing and Complex Ecological Thought. Paper presented at the annual meeting of the National Research on Science Teaching Conference, Pittsburgh.
- Bang, M. (2013). On Indigenous futurity: Towards new imaginings of place and learning.

Discussant paper presented at the annual meeting of the American Education Research Association, San Francisco.

Bang, M. (2013). Seeing and Engaging Relational Epistemologies: Changing Nature-Culture Relations in Science Education. Paper presented at the annual meeting of the American Education Research Association, San Francisco.

Hermes, M. & Bang, M. (2013). Language Revitalization Practice Into Theory. Paper presented at the annual meeting of the American Education Research Association, San Francisco.

Marin, A & Bang, M (2013). The Nature of Attentional Directives and Relationships with the Natural World. Paper presented at the annual meeting of the American Education Research Association, San Francisco.

Bang, M. (2013). Differences between Native and Non-Native Authored Children's Books and Their Impacts on Sensemaking in the Natural World. Paper presented at the annual meeting of the National Research on Science Teaching Conference, Puerto Rico.

Bang, M. (2013). Seeing and Engaging Relational Epistemologies: Changing Nature-Culture Relations in Science Education. Symposium conducted at Society for Anthropological Sciences, Mobile, AL.

Bang, M. (2012). "We know from our elders there are spirits in there [River]": Reconstructing Science Education Towards Lived Survivance, Sovereignty, and Sustainability. Symposium conducted at the annual meeting of the American Educational Research Association. Vancouver.

+Bang, M., Curley, L., Kessel, A., Marin, A. & Suzokovich, E. (2012). Muskrat Theories, Tobacco in the Streets, and Living Chicago as Indigenous Lands. Symposium conducted at the annual meeting of the American Educational Research Association. Vancouver.

+Marin, A. & Bang, M. (2012). Mediating Meanings and Pedagogy through Storywork: Teacher's Storytelling of Land-Based Experience. Symposium conducted at the National Research in Science Teaching Conference.

Bang, M. (2011). Seeing swales and rethinking navigation: Problems of reification and cartesian coordinates in socio-cultural research. Symposium conducted at the annual meeting of the American Educational Research Association. New Orleans, LA.

Bang, M. (2011). Repatriating Indigenous Technologies in a Community Based Science Program. Symposium conducted at the annual meeting of the American Educational Research Association. New Orleans, LA.

Bang, M., Marin, A., & Medin, D. (2011). Relational epistemologies in Indigenous communities: Implications for rethinking science learning trajectories. Symposium conducted at the annual meeting of the Jean Piaget Society. Berkeley, CA.

+Bang, M., Alfonso, J., Bellenger, A., Curley, L., Faber, L., Kessel, A., Marin, A., Medin, M., Soto,

- C., Suzukovich, E., & Strack, G. (2011). Community Based Design Research: Transforming Teaching and Learning and Rebuilding Community Capacity. Poster presented at the annual meeting of the American Educational Research Association. New Orleans, LA.
- +Marin, A., Bang, M., & Medin, D. (2011). Ascribing internal states to non-human kinds: A comparison of Native American and European American authored children's books. Poster presented at the annual meeting of the Jean Piaget Society. Berkeley, CA.
- Bang, M. (2010) Tobacco in the Streets: Land Based Pedagogies in Urban Indian Communities. Symposium conducted at the American Educational Studies Association, Denver, CO.
- Bang, M. (2010). Increasing Rigor and Generativity in Learning: Connections Between the Disciplines, Children's Lived Experience and Everyday Knowledge. Symposium conducted at International Conference of the Learning Sciences, Chicago, IL.
- +Marin, A. & Bang, M. (2010). Storied Transformations in Science Teaching: Teacher's Sights of Theory Regeneration. Symposium conducted at American Educational Research Association, Denver, CO.
- Bang, M. & Wright, C. (2009). The Archaeology of Racialized Dilemmas: Excavating Oppositional Binaries. Symposium conducted at University of Iowa Critical Race Theory Conference.
- Bang, M. & Wright, C. (2008). The Archaeology of Racialized Dilemmas: Excavating Oppositional Binaries. Symposium conducted at Critical Race Theory Conference. University of Illinois Chicago.
- Bang, M. & Medin, D. (2008). Community-Based Design of Science Learning Environments: Engaging with and Implementing Relational Epistemologies. Symposium conducted at AAAS, Boston, MA. Invited Session.
- Bang, M. & Medin, D. (2008). Transforming oppositional binaries through professional learning: Working historically raced and cultured meanings, relationships and experiences with science and science education. Symposium conducted at American Educational Research Association: New York, NY.
- +Bang, M., Dodge, C., Medin, D., Podlasek, J., Soto, C. & Unsworth, S. (2007). Relations and Orientations to the Natural World: Implications for the Design of Learning Environments. Symposium conducted at the Society for Research in Child Development, Boston, MA.
- Warren, B., Bang, M., Wright, C., Rosebery, A., Hudicourt-Barnes, J. & Nemirovsky, D. (2008). *Learning-in-Practice: Coordinating Angles of Vision and Voice in Professional Communities*. Symposium conducted at American Educational Research Association: New York, NY.
- Bang, M. & Wright, C. (2008). *Navigating Oppositional Binaries: Raced & Cultured Dimensions of Learning*. Symposium conducted at the American Educational Research Association: New York, NY.

- +Bang, M., Medin, D., Soto, C., & Kessel, A. (2007). *Community Based Design of an After-School Program in an Urban Indian Community*. Symposium conducted at the National Indian Education Association Conference.
- +Bang, M., Dodge, C., Medin, D., Podlasek, J., Soto, C. & Unsworth, S. (2007). *Relations and Orientations to the Natural World: Implications for the Design of Learning Environments*. Symposium conducted at American Educational Research Association, Chicago, IL
- +Bang, M., Dodge, C., Medin, D., Podlasek, J., Soto, C. & Unsworth, S. (2007). *Native Children's Community Based Biological Knowledge: Implications for the Design of Learning Environments*. Symposium conducted at the Society for Research in Child Development.
- Bang, M. Brayboy, B., & Medin, D. AERA Professional Development Workshop: Perspectives on Ecological Frameworks for Examining Learning and Development as Cultural Practices. Led Case Circle: *From Biology Learning in Native Communities to the Design of Science Learning Environments*. Course delivered at American Educational Research Association Annual Conference, Chicago, IL 2007.
- Sherin, B., Krakowski, M., Lee, V., Bang, M., & Dam, G. (April, 2006). *Conceptual Dynamics in Clinical Interviews: An Introduction*. Symposium conducted at the Annual Meeting of the American Education Research Association.
- Lee, V., Krakowski, M., Sherin, B., Bang, M., & Dam, G. (April, 2006). *Methodological challenges for identifying and coding diverse knowledge elements in interview data*. Symposium conducted at the Annual Meeting of the American Education Research Association.
- Krakowski, M., Sherin, B., Lee, V., Bang, M., & Dam, G. (April, 2006). *Modes and nodes: A cognitive framework for capturing conceptual dynamics*. Symposium conducted at the Annual Meeting of the American Education Research Association.
- Bang, M. (February 2005). *Comparing Worldviews Across Location and Age: Urban and Rural Native-Americans and Rural European-Americans*. Symposium conducted at the Society for Cross Cultural Research, Santa Fe, NM.
- Bang, M., Medin, D., Unsworth, S., & Levin, T. (February, 2005). *Cultural Models of Nature*. Symposium conducted at the Society for Cross Cultural Research, Santa Fe, NM.
- Bang, M., Medin, D., Unsworth, S., & Townsend, J. (April 2005). *Cultural Models of Nature and Their Relevance to Science Education*. Symposium conducted at the Annual Meeting of the American Education Research Association.

INVITED KEYNOTES

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- Bang, M. (2014, August). Seeing and Engaging Indigenous Knowledge Systems in Early Childhood Science Education. Keynote address for the Washington State Summit on Tribal Early Childhood Education.
- Bang, M. (2014, June). Expanding design research towards just futures: Culture, learning,

community, land. Keynote address for the International Conference of the Learning Sciences.

Bang, M. (2012). Resisting the Nature/Culture Bisection: Science Teaching and Learning in Indigenous Communities. In Medin, D. (Chair) Symposium conducted at the International Congress of Psychology, Capetown, South Africa.

Bang, M. (2012, August). Cultural variations in epistemological orientations: Impacts on knowledge, meanings, and reasoning about the natural world. Invited Plenary. Physics Education Research Conference.

Bang, M. (2012, May). Relational Epistemologies: Impacts on knowledge, meanings and constructions of the natural world. Association of Psychological Sciences. Invited Presidential Session. Chicago, IL.

INVITED TALKS

Bang, M. (2015, April). Research Methods and Partnerships: On Issues of Culture and Broadening Participation. National Science Foundation Methods @ Midday Series.

Bang, M. (2014, December). Learning by Observing in the Natural World. University of California – Santa Barbara.

Bang, M. (2014, October). Culture, Complex Ecological Thought, and Science Education. Stanford University.

Bang, M. (2014, October). Towards Indigenous Pedagogies of Relational Mobility in Science Education: Elsewhere to Spatial and Temporal Enclosures of Settler-Colonialism. Cornell University.

Bang, M. (2014, November). Culture, Complex Ecological Thought, and Science Education. University of Michigan.

Bang, M. (2014, December). Nature-Culture Relations: Parent-Child Dyads Co-constructing Meanings. University of California-Santa Cruz.

Bang, M. (2013, October). Community Based Design Research. Annual Learning Sciences Seminar. University of Colorado, Boulder.

Bang, M. & Warren, B. (2012, October). Desettling Expectations in Science Education. San Diego State University. Distinguished Lecture Series. Center for Research in Mathematics and Science Education.

Bang, M. (2012, October). Science Education and Community Based Design Research. Annual Learning Sciences Seminar. University of Colorado, Boulder.

Bang, M. (2011, October). Repatriating Science Teaching and Learning in Indigenous Communities: Towards Educational Self-Determination, Transformative Praxis, and Land-Based Pedagogies. University of Washington School of Social Work.

Bang, M. (2011). Socio-historic context and culture: Central mediating dimensions for public understanding of science. Invited presentation at Public Understanding and Public Engagement with Science Conference funded by NSF.

Bang, M. (2010, April). Expanding the possibilities of students' navigation and meaning making of bordered territories: STEM education towards sustainability. Invited presidential session American Education Research Association, Denver, CO.

Bang, M. (2010, Fall) Relational Perspectives, Culture, and Meaning Making. Invited Colloquia at Michigan State University.

Bang, M. (2009, October) Psychological Distance, Culture Orientations, and Science Learning. Invited Colloquia at University of Illinois.

Bang, M. (2009, May) Improving Science Education for Native Students: Changes in Teacher Education. Invited Colloquia at University of Michigan as part of the Teacher Education Initiative Seminar Series.

COURSES TAUGHT

University of Washington

- EDPSY 503: Culture, Learning, and Human Development
- EDPSY 582B: Advanced Methods Seminar: Ethnography of Human Development and Learning
- EDPSY 537: Teaching Science with Indigenous Students, Families and Communities (Hybrid on-line course)
- EDPSY 580: Indigenous Pedagogies
- EDPSY 581A: Place Based Education: Meanings of Land, Culture, and Race in the Natural World
- EDPSY 581B: Teaching and Learning in the Nexus of Land, Culture, and Race
- EDPSY 581C; Community Based Methods in Education
- EDTEP 560 Teaching for Learning 1 (Teacher Education Class)
- EDTEP 561 Teaching for Learning 2 (Teacher Education Class)
- EDC&I 581: Design Based Research Methods 1
- EDC&I 582: Design Based Research Methods 2

Other Institutions

- Northwestern University: Educational Research Methods (Teaching Assistant)
- Northwestern University: Learning and Understanding: A Cognitive Science Approach (Teaching Assistant)
- Northwestern University: Social Context of Teaching and Learning
- Native American Education Services College: Introduction to Culture, Cognition, and Human Development
- Northwestern University: Native American Education
Native American Education Services College: Dynamics in Worldview and Philosophy

Guest Lectures @ UW

I have guest lectured in many courses/programs including:

- EDLPS 535 Education Inquiry, 2011, 2012, 2013 (Deborah Kerdeman)
- EDC&I 578 Qualitative Methods in Educational Research, 2012 (Mike Knapp)
- SMEA/FISH 581: Case Study Method: Living Marine Resource Management, 2013 (Kiki Jenkins)
- CHID 260 Rethinking Diversity, 2012 (Jeanette Bushnell)
- Elementary Education Program (ELTEP) Teacher Candidate Interest Conference, 2013
- Indigenous Wellness Research Institute, 2011, 2013, University of Washington
- Native Research Exchange, 2014, University of Washington
- WIRED (Women investigating race, ethnicity, and difference) Research Event 2013

PROFESSIONAL SERVICE

Positions by vote or appointment

2015-present	Intellectual House Academic Programming Committee, UW, provost appointed.
2012 – present	Native Faculty Leadership Council Representative, Native American Faculty and Staff Association of the University of Washington.
2013-2015	Coordinator NARST Strand 2: Science Learning: Contexts, Characteristics, and Interactions.
2012-2014	Secretary/Treasurer, Indigenous Peoples of the Americas SIG, AERA.
2011-present	Editorial Board <i>Journal of American Indian Education</i>
2013-present	Editorial Board <i>Mind, Culture, and Activity</i>
2014-present	Editorial Board <i>Curriculum Inquiry</i>

National & International

2015-2018	Technical Advisor, National Institute of Health, Tribal Advisory Committee
April, 2015	Methods@Midday presenter at the National Science Foundation Program Officer Professional Development Series.
March, 2015	Invited keynote. Transforming Science Education: Leading with Equity, Community, and Partnerships. Council of State Science Supervisors.
March, 2015	Invited keynote. Towards equitable science teaching and learning: Seeing and engaging students' diverse ways of knowing. National Science Education Leadership Association
2014-2015	Editor Special Issue of <i>Cognition & Instruction</i> , Co-Editor Shirin Vossoughi.
2012-present	Project Developer: NATIONAL RESEARCH COUNCIL DIVISION OF BEHAVIORAL AND SOCIAL SCIENCES AND EDUCATION BOARD ON SCIENCE EDUCATION: Broadening Participation in Science through Culturally Expansive Science Education.
2012-present	Advisory Board Member, Science Teacher Education Program, Salish Kootenai College.
2010-present	Learning Scientist, Pacific Climate Education Partnership (NSF Funded project PI: Sharon Nelson Barber).
2012-2015	Advisory Board Member, E2Textiles, NSF funded project. PIs: Yasmin Kafai and Bryan Brayboy.
2011-2015	Advisory Board Member, American Migrations, NSF funded project, PI: Josh

- Radinsky.
- 2012-2015 Advisory Board Member, ArtScience, NSF funded project, PI: Beth Waren and Ann Rosebury.
- 2010-2012 Inquiry Group Member for CAISE (Center for the Advancement of Informal Science Education), PI: Kevin Crowley.
- 2009-2011 Advisory Board Member, American Institute of Research Study of URM serving institutions commissioned by NSF, PI: Carlos Rodriguez.
- 2012 Synthesizer, STEM Smart: Lessons Learned from Successful Schools, National Science Foundation.
- 2012 Panelist, National Academies of Education invited conference.
- 2012-2013 Co-editor Special Issue of Human Development, Editor Nailah Nasir.
- 2010-2012 Mentor scholar, Fisher folk in the Philippines, NSF funded research project.
- 2009-2011 Committee Member, Minority Dissertation Award AERA.
- 2008-2010 Chair, Exemplary Dissertation Award AERA.

State

- 2015-2016 WA Department of Early Childhood Leadership Ad Hoc Committee for State Wide Professional Development.
- 2015 Lead facilitator Thrive by Five Early Childhood Teacher Preparation Council Retreat
- 2015 Keynote and workshop provider at Wenatchee Early Achievers Institute organized by the National Center on Quality Teaching and Learning.
- 2014 Workshop presenter for Schools Out Washington Conference.
- 2013-present Provided professional development presentations at multiple OSPI convenings of district directors of science education and the roll out of the Next Generation Science Standards.
- 2014-present Leadership team: NOAA *Advancing Climate Literacy through Investment in In-service and Pre-service Science Educators* (ACLIPSE), with Lawrence Hall of Science, Western Washington University, and Rutgers University.
- 2014-present Steering Committee - Next Generation STEM Teacher Preparation in Washington State (NextGen STEM TP-WA) - consortium of Washington State Colleges and Universities in partnership with Washington's Office of the Superintendent of Public Instruction (OSPI).
- 2012-2014 Provided professional development at local community organizations in-kind including: United Tribes of All Indians, Taholah Schools, Quinault Nation, Western Washington Indian Education Association
- 2013-2014 Co-organized workshops with OSPI Director of Science Education and Office of Indian Education for rolling out NGSS in Washington state. Involved in developing the state roll out strategy for schools serving Native students.
- 2013-2014 Presented and facilitated at the Washington Education Association Future Native Teachers initiative.

University/College

- 2015-2016 Program Director, Learning Sciences and Human Development, UW
- 2015-2016 Chair, Diversity Committee, Faculty Governance, College of Education, University of Washington.
- 2013-2014 Member, Search committee for New Technologies for Equitable Teaching and Learning, University of Washington.

- 2013-2014 Diversity Committee, Faculty Governance, College of Education, University of Washington.
- 2012-2013 Member, Search committee for Instructional Excellence faculty position, University of Washington.
- 2013-present Advisory Board Member, Seattle Teacher Residency Program.
- 2013-present Steering Committee, Doris Duke Conservation Scholars Program at the University of Washington (DDCSP@UW), in the College of the Environment.
- 2012-present Advisory Board Member, IWRI Center for Excellence, NIH funded project, PI: Karina Walters.
- 2011-present Advisory Board Member, COAAST, NSF funded project, PI: Julia Parish.

PEER REVIEWER FOR

Journals

- American Educational Research Journal (reviewed multiple manuscripts)
- American Journal of Education
- Child Development
- Cognition
- Cognition and Instruction (reviewed multiple manuscripts)
- Cultural Psychology (reviewed multiple manuscripts)
- Curriculum Inquiry
- Educational Researcher (reviewed multiple manuscripts)
- International Journal of Science Education (reviewed multiple manuscripts)
- Journal of American Indian Education (reviewed multiple manuscripts)
- Journal of Geoscience Education
- Journal of the Learning Sciences (reviewed multiple manuscripts)
- Journal of Research in Science Teaching (reviewed multiple manuscripts)
- Mind, Culture, and Activity (reviewed multiple manuscripts)
- Review of Education Research (reviewed multiple manuscripts)
- Review of Research in Education (reviewed multiple manuscripts)
- Science Education (reviewed multiple manuscripts)

Conferences

- American Educational Research Association (AERA) conference
- International Society of the Learning Sciences conference
- Society for Research in Science Teaching Conference

Funding Agencies

- National Science Foundation (*served on multiple panels*)
- National Endowment for the Arts

PROFESSIONAL MEMBERSHIPS

- American Education Research Association: Various SIG memberships
- National Association of Research in Science Teaching
- National Indian Education Association

- American Association for the Advancement of Science
- International Society of the Learning Sciences
- Cognitive Science Society
- Society for Research in Child Development
 - Native Children's Research Exchange
- American Indian Science and Engineering Society

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