

KRISTIN MICHOD GAGNIER

CURRICULUM VITAE

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CONTACT INFORMATION

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EDUCATION

Ph.D. University of Delaware, Cognitive Psychology (2011)
B.S. University of Arizona, Psychology and Biology (2003)

PROFESSIONAL EXPERIENCE

2020 - present	Director of Dissemination, Translation, and Education Science of Learning Institute Johns Hopkins University, Baltimore, MD
2017 - 2020	Assistant Director of Dissemination, Translation, and Education Science of Learning Institute Johns Hopkins University, Baltimore, MD
2015-2018	Outreach & Evaluation Specialist Science of Learning Institute Johns Hopkins University, Baltimore, MD
2011-2015	Postdoctoral Research Fellow Spatial Intelligence and Learning Center, Department of Psychology Temple University, Philadelphia, PA
2005-2011	Graduate Research Assistant Department of Psychology, University of Delaware, Newark, DE
2003-2005	Research Assistant Visual Attention Laboratory, Brigham and Women's Hospital and Harvard Medical School, Boston, MA
2002-2003	Undergraduate Research Assistant Department of Psychology, University of Arizona, Tucson, AZ
2000-2001	Undergraduate Research Assistant National Science Foundation Drosophila Stock Center Department of Insect Science, University of Arizona, Tucson, AZ

CURRENT RESEARCH PROJECTS

My program of scholarship bridges science of learning research and educational practice. My primary interest is in leveraging science of learning research to develop, implement, and evaluate novel educational programs for educators and students. Current projects include:

- **Spatially-Enhancing the Science Curriculum and Teacher Professional Development Supports** (*Translational Science Project; Partner: Prince George's County Public Schools*). Science, Technology, Engineering, and Mathematics (STEM) innovations provide a critical basis for the United State's global competitiveness, yet many students may not have the skills necessary to be successful in STEM. Decades of research demonstrate that spatial thinking is a fundamental skill underlying STEM success, yet few efforts have been made to translate spatial research into a science curriculum. Johns Hopkins University Science of Learning Institute and Prince George's County Public Schools (PGCPS) have partnered to (1) Develop a spatially-enhanced science 3rd grade curriculum that incorporates research on spatial thinking into curricular materials and activities to facilitate students' spatial thinking skills and science knowledge, (2) Develop teacher professional development training modules to facilitate their spatial thinking knowledge and skills, and (3) Evaluate the impact of the spatially-enhanced curriculum and professional training modules on student and teacher outcomes. This project will result in a fully developed intervention aimed at improving critical building blocks that underlie STEM success, novel measures for assessing spatial knowledge and interest, and a spatial crosswalk framework and training resources to guide future interventions in this area. See ["The Hub" Article](#) and [Institute of Education Sciences' Project Description](#).
- **Development of a New Science of Teaching and School Leadership Academy** (*Action Research Program Development Project; Partner: St. Andrew's Center for Transformative Teaching and Learning*). The Center for Transformative Teaching and Learning (CTTL) seeks to develop a five-day, high-quality professional development training program to educate teachers and school leaders about mind, brain, and education research (MBE) and its application to educational practice. The aims of the Academy are to help educators and school leaders (1) develop knowledge about MBE, (2) identify ways in which MBE research may inform educational practice, and (3) develop action research projects to implement MBE-informed techniques in classrooms and evaluate their effectiveness. Attendees participate in a series of workshop sessions, including Mind, Brain, and Education overview sessions, deep dive sessions into specific topics (e.g., reading, mindset, etc.), and translation sessions, as well as attend a research institution to see "Research in Action." For this project, we will conduct a series of formative evaluations to inform the refinement of the Academy during the first two years (e.g., attendee satisfaction & learning, presenters' instructional quality), and a summative evaluation during the third year to evaluate the impact of the Academy on attendees' knowledge, attitudes, and skills at implementing research-informed practices in their schools.
- **Child Development Through Safe Play and Song-based Learning in Peru** (*Translational Science Project; Partners: JHU School of Public Health; Early Childhood Organizations in Lima*). Throughout the developing world, household conditions associated with poverty jeopardize child development and health. Limited access to stimulating materials and caregiver-child interaction within the home delay cognitive, motor, and social development, which contributes to inequities in health and economic well-being throughout the lifespan. There is a great need for a home-based intervention to promote positive caregiver behaviors that will foster early child development (ECD), without requiring expensive learning materials. Our study team aims to develop an early learning intervention focused on equipping caregivers with the knowledge, skills, and self-efficacy to create homemade toys from everyday household items, and use them as a vehicle to engage in play- and music-based activities with their children. Having initiated our project through a small formative research study supported by a Planning Grant from the Alliance for a Healthier World (AHW), we will draw on our existing data to pursue a two-phase study of 1) playbook development and 2) formative evaluation. Our team brings together the expertise of developmental psychologists, a music educator, international health researchers, and Peruvian professionals, community members, and partnering institutions.
- **"Playing with Space" in Early Learning Classrooms: Laying the Building Blocks for STEM Success** (*Translational Science Project; Partners: Port Discovery Children's Museum and Baltimore City Head Start*). This project brings together cognitive and developmental scientists with museum educators to develop a sustainable model and resources for helping head start teachers in Baltimore city promote children's spatial thinking skills, a set of cognitive skills critical for success in math and science. Products include the development and production of a half-day workshop, including a novel "hands-on" workshop curriculum, training manual, teacher workbook, and take-home resources.
- **Road to Reading Translational Science Project** (*Partners: Children's Museum of Manhattan, Port Discovery, B'More for Healthy Babies, and Enoch Pratt Library*). This project brings research on the science of language and literacy development to informal learning contexts through the development of science-informed exhibits for

caregivers of children ages 0-5. This project a) examines caregivers' knowledge, beliefs, attitudes, and behaviors around language and literacy development, b) uses these findings to develop targeted exhibit pieces to meet the learning needs of these caregivers and, c) evaluates the impact of the exhibits on caregivers' knowledge, attitudes, and behaviors.

- **Exploring the Socio-emotional Benefits of Arts Education** (*Evaluation Project with the William Penn Foundation*). This project explores the differential impact of skills-focused versus exposure-focused after school arts education programs on children's socio-emotional skills.

FUNDING

Project Director, *A Formative Evaluation of an On-line Professional Development Platform to Promote Teachers' use of Research-informed Practices*. Funder: Chan-Zuckerberg Foundation. Total Award: \$45,694.50.

Co-Principal Investigator, *Improving Early Child Development Through the Integration of Safe Play and Song-based Learning in Villa El Salvador, Peru: A Program Development Project*. Funder: Johns Hopkins University Discovery Award, 2018 – 2019. Total award: \$97,295.

Co-Investigator, *Child Development Through Safe Play and Song-based Learning: Exploring Early Learning Contexts in Villa El Salvador, Peru*. Funder: 2018-2019. The Alliance for a Healthier World, 2018-2019. Total Award: \$23,825.

Co-Principal Investigator, *Developing a Spatially-enhanced Elementary Curriculum and Teacher Training Series to Improve Science Achievement*. Funder: Institute of Education Sciences, 2017-2021. Total Award: \$1,398,481.

JHU Co-Project Director, *Formative Program Evaluation of the Science of Teaching & School Leadership Academy*. Funder: E.E. Ford Foundation, (PI: The Center for Transformative Teaching and Learning), 2017-2020. Total Award: \$114,234.

JHU Project Director, *The Science of Learning: Exploring Goals, Methods, and Educational Practice (Teacher Professional Development Workshop)*. Funder: E.E. Ford Foundation, (PI: The Center for Transformative Teaching and Learning), 2017-2019. Total Award: \$38,316.

Co-Principal Investigator. *Playing with Space: An Early Childhood Teacher Training Workshop to Enhance Spatial Thinking for Future STEM Success*. (Co-PI: Port Discovery). Funder: Annie E. Casey Foundation, 2018- 2019. Total Award: \$10,000.

JHU Project Director, *Developing Science-informed Content for the "All the Way to K" Early Language and Literacy program*. Funder: W.K. Kellogg Foundation, (PI: Children's Museum of Manhattan), 2017-2018. Total Award: \$25,000.

Consultant, *Bilingualism*. Funder: Nanyang Technological University (PI: Barbara Landau). 2016 – 2018. Total Award: \$333,843.

Principal Investigator, *Inter-Science of Learning Centers Conference*. Funder: National Science Foundation Grant, (Co-PI: Nora Newcombe), 2013-2015. Total Award: \$114,962.

Core Researcher, Developing and Testing Materials to *Improve Spatial Skills in Upper Division Geoscience Courses*. Funder: National Science Foundation Grant, Transforming Undergraduate Education Program. (PI: Carol Ormand), 2011-2014. Total award: \$174,800.

University of Delaware Dissertation Fellowship, 2009-2010.

University of Delaware, Department of Psychology Research Fellowship, 2005-2006.

PUBLICATIONS

Gagnier, K. M., & Fisher, K. R. (2020). Unpacking the Black Box of Translation: A framework for infusing spatial thinking into curricula. *Cognitive Research: Principles and Implications*, 5(1), 1-19.

- Intraub, H., & **Gagnier, K. M.** (2018). Expanding Space: Does Imagination affect Boundary Extension for Visual Scenes? In T. L. Hubbard (Ed.). *Spatial Biases in Perception and Cognition*. Cambridge, UK: Cambridge University Press.
- Davatzes, A., **Gagnier, K.M.**, Resnick, I., & Shipley, T. F. A Cycle of Prediction, Comparison, and Feedback Supports Spatial Learning in Geoscience. (2018). *EoS, Earth, Space, and Science News*.
- Holochwost, S. J., Wolf, D. P., Fisher, K. R., O'Grady, K., & **Gagnier, K. M.** (2018). The Arts and Socioemotional Development: Evaluating a New Mandate for Arts Education. In *Arts Evaluation and Assessment* (pp. 147-180). Palgrave Macmillan, Cham.
- Gagnier, K. M.**, Atit, K., Ormand, C. J., & Shipley, T. F. (2017). Comprehending diagrams: Sketching to support spatial reasoning. *Topics in Cognitive Science*, 1-19. DOI: 10.1111/tops.12233
- Ormand, C. J., Shipley, T. F., Tikoff, B., Dutrow, B., Goodwin, L., Hickson, T. A., Atit, K., **Gagnier, K. M.**, & Resnick, I. (2017). The spatial thinking workbook: A research-validated spatial skills curriculum for geology majors. *Journal of Geoscience Education: Synthesizing Results and Defining Future Directions of Geoscience Education Research*, 65(4), 423-434.
- Gagnier, K.M.**, & Shipley, T. F. (2016). Visual completion from 2D cross-sections: Implications for visual theory and STEM education and practice. *Cognitive Research: Principles and Implications*, 1(1), 1-18. DOI: 10.1186/s41235-016-0010-y
- Gagnier, K.M.**, Atit, K. & Shipley, T.F. (2016). Understanding and Improving Reasoning of Spatial Representations: Implications for Education. In David J. Cowen (Ed.), *STEM and GIS in Higher Education*. ESRI Press.
- Gagnier, K.M.**, Shipley, T. F., Tikoff, B., Ormand, C.J., Atit, K., Resnick, I., & Garnier, B. (2016). Training spatial skills in geosciences: A review of tools and tests. *AAPG Memoir: 3-D Structural Interpretation: Earth, Mind, and Machine*, 111, 7-23. DOI: 10.1306/13561983M1113668
- Intraub, H., Morelli, F., & **Gagnier, K. M.** (2015). Visual, haptic and bimodal scene perception: Evidence for a unitary representation. *Cognition*, 138, 132-147.
- Atit, K. **Gagnier, K.M.**, & Shipley, T.F. (2015). Student gestures aid penetrative thinking. *Journal of Geoscience Education*, 63(1), 66-72. DOI: <http://dx.doi.org/10.5408/14-008.1>
- Gagnier, K., M.**, Dickinson, C. A., & Intraub, H. (2013). Fixating picture boundaries does not eliminate boundary extension: Implications for scene representation. *Quarterly Journal of Experimental Psychology*. DOI: 10.1080/17470218.2013.775595
- Gagnier, K.**, & Shipley, T. F. (2013). Completion in the wild: Perception of 3D forms from cross-sections. *Proceedings of the 35th Annual Meeting of the Cognitive Science Society*. Berlin, Germany: Cognitive Science Society.
- Gagnier, K., M** & Intraub, H. (2012). When less is more: Line-drawings lead to greater boundary extension than color photographs. *Visual Cognition*, 20, 815-824. DOI: 10.1080/13506285.2012.703705
- Gagnier, K., M.**, Intraub, H., Oliva, A. & Wolfe, J.M (2011). Why does vantage point affect boundary extension? *Visual Cognition*, 19, 234-257. DOI: 10.1080/13506285.2010.520680
- Wolfe, J. M., Horowitz, T. S., Palmer, E. M., **Michod, K. O.**, & VanWert, M. J. (2010). Getting in to guided search. In V. Coltheart (Ed.), *Tutorials in Visual Cognition*. (pp. 93-120). Hove, Sussex: Psychology Press.
- Michod, K.O.**, & Intraub H. (2009). Boundary Extension. *Scholarpedia*, 4(2):3324.
- Wolfe, J.M., Horowitz, T.S., & **Michod, K.O.** (2007). Is visual attention required for robust picture memory? *Vision Research*, 47, 955-964. DOI: 10.1016/j.visres.2006.11.025
- Michod, K.O.**, & Intraub H. (2007). Conceptual masking: Is concept the key or does layout play a role? In Castelano,

Manuscripts Under Review or In Preparation

Gagnier, K. M., Holochwost, S. J. & Fisher, K. R. (2020). Elementary Teachers' Attitudes, Beliefs, and Self-Efficacy About Spatial Thinking in Science. Manuscript in revision.

Gagnier, K. M., Holochwost, S. J, Nelson, A., & Fisher, K. R. (2020). Science Self-Concept and Self-Efficacy: Their Structure and Relation to 3rd Grade Academic Achievement. Manuscript in preparation.

Rothstein, J. D., Buckland, A. J., **Gagnier, K.**, Ochoa, M., Allen-Valley, A., Jivapong, B., ... & Fisher, K. R. (2020). Assessing the play and learning environments of children under two years in peri-urban Lima, Peru: A formative research study. Manuscript under review.

Holochwost, S. J. **Gagnier, K. M.**, Fisher, K. R., Scharphorn, L., & Iruka, I. (2020). Enhancing Parents' and Educators' Knowledge and Beliefs About Young Children's Language and Literacy Development. Manuscript in revision.

TECHNICAL REPORTS

Gagnier, K. M (2020). The Science of Building Relationships and Implications for Education. Technical Report produced by the Science of Learning Institute for the Global Science of Learning Network.

Gagnier, K. M (2020). Neuroteach Global Content Analysis: Content Review to Inform Future Refinement. Technical Report produced by the Science of Learning Institute for the Center for Transformative Teaching and Learning.

Gagnier, K. M. (2020). Strategies to Support Learning and Retention. Technical Report produced by the Science of Learning Institute for the Temasek Foundation.

Gagnier, K. M., Holochwost, S. J., Unlutabak., Burcu., & Fisher, K. R. (2019). Summative Evaluation of the Science of Teaching and School Leadership Academy Year 3. Technical Report produced by the Science of Learning Institute for the Center for Transformative Teaching and Learning.

Gagnier, K. M., Holochwost, S. J., & Fisher, K. R. (2018). Formative Evaluation of the Science of Teaching and School Leadership Academy Year 2. Technical Report produced by the Science of Learning Institute for the Center for Transformative Teaching and Learning.

Gagnier, K., Fisher, K., & Holochwost, S. (2018). Informing the development of “All the Way to K” Program: Understanding caregivers' knowledge, perceptions, and practices in language and literacy development in young children. Technical report for Children's Museum of Manhattan. New York, New York.

Landau, B., Fisher, K. R., **Gagnier, K. M.** & Magsamen, S. (2018). Unpacking the “Black Box.” The Science of Learning Institute 5 Year Anniversary. Technical Report produced by the Science of Learning Institute.

Gagnier, K. M., Holochwost, S. J., & Fisher, K. R. (2017). Language and Literacy in Baltimore City. Technical Report produced by the Science of Learning Institute for the Baltimore Health Department and Family League of Baltimore.

Gagnier, K., & Fisher, K. (2017). Spatial thinking: A missing building block in STEM education. Technical Report produced by the Science of Learning Institute for the Johns Hopkins University Institute for Education Policy.

Gagnier, K. M., Fisher, K. R., & Holochwost, S. J. (2017). The Road to Reading. Technical Report produced by the Science of Learning Institute for the Children's Museum of Manhattan and Port Discovery Children's Museum.

Gagnier, K. M., Holochwost, S. J., & Fisher, K. R. (2017). Formative Evaluation of the Science of Teaching and School

Leadership Academy Year 1. Technical Report produced by the Science of Learning Institute for the Center for Transformative Teaching and Learning.

Gagnier, K. M., Landau, B., & Fisher, K. R. (2017). Language Learning in Early Childhood: A Brief Summary. Technical report produced by the Science of Learning Institute for the Children's Museum of Manhattan.

Gagnier, K., M., and Fisher, K., R. (2016). Spatial Thinking: A Missing Building Block in STEM Education. Johns Hopkins University Institute for Education Policy Commentary.

EDUCATIONAL WORKSHOPS AND INVITED PRESENTATIONS

Gagnier, K. (2020, October). *Connecting Research and Practice to Advance Science and Society: The Case of Spatial Thinking*. Temple University. Philadelphia, PA.

Gagnier, K. (2019, October). *The Science of Learning and Educational Practice*. Baltimore Friends School. Baltimore, MD.

Gagnier, K. & Fisher, K. (2019, June). *Mind, Brain, and Education and Action Research in Your School: Spatialization, STEM, and Beyond*. Breck School. Minneapolis, MN

Fisher, K. & Gagnier, K. (2019, April). *Action Research: Exploring research-informed innovations in your classroom*. Breck School. Minneapolis, MN

Gagnier, K. & Fisher, K. (2019, April). *Science of learning & action research*. Breck School. Minneapolis, MN.

Fisher, K. & Gagnier, K. (2019, April). *Translating the science of learning to classroom practices*. Center for Educational Resources. Johns Hopkins University. Baltimore, MD.

Gagnier, K., Fisher, K., & Grimm, D. (2019, March). *Say what? Crafting a dissemination plan to communicate science to public audiences*. Workshop to be presented biennial Society for Research in Child Development Conference. Baltimore, MD.

Fisher, K. & Gagnier, K. (2019, March). *Playing with space in early learning classrooms: Laying the foundation for future STEM success*. Head Start Teacher Workshop. Baltimore, MD.

Gagnier, K. & Fisher, K. (2019, March). *Playing with space in early learning classrooms: Laying the foundation for future STEM success*. Head Start Trainer Professional Development Workshop. Baltimore, MD.

Fisher, K. & Gagnier, K. (2018, August). *Playing with space in early learning classrooms: Laying the foundation for future STEM success*. Head Start Teacher Workshop. Baltimore, MD.

Gagnier, K. & Fisher, K. (2018, August). *Playing with space in early learning classrooms: Laying the foundation for future STEM success*. Head Start Trainer Professional Development Workshop. Baltimore, MD.

Fisher, K. & Gagnier, K. (2018, July). *Through the pipeline: Examining the connection between research and practice*. Science of Teaching and School Leadership Academy. Center for Transformative Teaching and Learning. St. Andrew's Episcopal School.

Gagnier, K. & Levine, R. (2018, April). *Science of Learning in Your Research*. Professional Development Workshop for Johns Hopkins Medical School Faculty. Institute for Excellence in Education, Johns Hopkins University. Baltimore, MD.

Gagnier, K. & Fisher, K. (2018, February). *Exploring applications of the science of learning to the university classroom*. Center for Educational Resources. Johns Hopkins University.

Gagnier, K., Fisher, K., & Rosswog, S. (2018, November). *Playing with space: Laying the building blocks for STEM success*. Port Discovery Educational Staff Workshop. Baltimore, MD.

Gagnier, K. & Kelleher, I. (2018, January). *The Science of Learning and Educational Practice*. Prince George's Community College Faculty Fellows Workshop, Largo, MD.

Gagnier, K. & Kelleher, I. (2017, April). *The Science of Learning and Application for Educational Practice*. Prince George's Community College Faculty Fellows Workshop, Largo, MD.

- Gagnier, K., & Fisher, K. (2017, February). Developing a dissemination plan. In K. Fisher (Organizer), *Communicating science to non-scientific audiences*. Workshop presented at the annual meeting of the American Association for the Advancement of Science, Boston MA.
- Gagnier, K. & Fisher, K. (2017, January). *The Building Blocks of Mathematical and Scientific Thinking*. Professional Development Workshop for PreK and Kindergarten Teachers. Baltimore City Public Schools. Baltimore, MD.
- Gagnier, K. & Fisher, K. (2016, November). *Spatializing the Science Curriculum in Elementary School*. Lesson plan development workshop. Holy Child School. Bethesda, MD.
- Gagnier, K. & Fisher, K. (2016, October). *Science of Learning: What do we know?* Council of Chief State School Officers.
- Gagnier, K. & Fisher, K. (2016, May). *Science of Learning: What do we know?* Alliance for Excellent Education, Baltimore, MD.
- Gagnier, K. (2016, September). *Smart Baby Panel Discussion*. Nanyang Technological University, Singapore.
- Gagnier, K. & Fisher, K. (2016, June). *Exploring the early language and literacy learning needs in our community*. Family Literacy Coalition. Baltimore City Health Department. Baltimore, MD.
- Gagnier, K. & Fisher, K. (2016, May). *Cognition and development*. National Collaborative on Education and Health.
- Gagnier, K. & Fisher, K. (2016, May). *Language and literacy development in early childhood*. Family Literacy Coalition.
- Gagnier, K. (2016, April). *Ideas Festival Panel Discussion*. Nanyang Technological University, Singapore.
- Gagnier, K. & Fisher, K. (2016, March). *Exploring language development in infancy and early childhood*. B'More for healthy babies Initiative.
- Gagnier, K. (2016, October). *Promoting an "I Can Do It!" Growth Mindset in Your Children*. Severna Park Elementary School.
- Gagnier, K. & Fisher, K. (2015, December). *Exploring the early language and literacy development*. Family Literacy Coalition. Baltimore City Health Department. Baltimore, MD.
- Gagnier, K. & Fisher, K. (2015, December). *Exploring the early language and literacy development*. Family Literacy Coalition. Baltimore City Health Department. Baltimore, MD.
- Gagnier, K. (2015, March). *Spatial Thinking in STEM Education*. Workshop for K-5 Science and Math Teachers, Franklin Institute, Philadelphia PA.
- Gagnier, K. (2015, March). *Playing for STEM*. Workshop for PK-2 Teachers, Please Touch Museum, Philadelphia PA.
- Gagnier, K. (2014, August). *Brainiacs*. Workshop for the General Public, Franklin Institute, Philadelphia PA.
- Gagnier, K. (2013, May). *Why did vision evolve?* Workshop for the General Public, Franklin Institute, Philadelphia PA.

CONFERENCE PRESENTATIONS

- Gagnier, K. Holochwost, S., Nelson, A. S., & Fisher K. R. (2020). Science Self-Concept and Self-Efficacy: Their Structure and Relation to 3rd Grade Academic Achievement. Presentation accepted to the Society for Research on Educational Effectiveness. Arlington, VA.
- Gagnier, K. Whitman, G., & Fisher K. R. (2019). MBE and Teacher Professional Learning: Measuring the Impact. Presentation at the annual Learning and the Brain Conference. Boston, MA.
- Buckland, A., Rosthstein, J., Fisher, K., Gagnier, K., Ochoa, M., Cabrera, L., & Leontsini, E. (2019). *Formative research for a play- and music-based early child development intervention in peri-urban Lima, Peru: A strengths and needs assessment*. Presentation at the annual American Public Health Association Conference. Philadelphia, PA.
- Gagnier, K., Fisher, K. R., Unlutabak, B., & Holochwost, S. (2019, March). Bridging the translation gap: An interdisciplinary approach to infusing spatial thinking into 3rd grade science. In K. Gagnier & K. Fisher (Chairs), *Exploring new translational science approaches to incorporate spatial thinking into elementary science*. Exchange symposium accepted at the biennial Society for Research in Child Development Conference. Baltimore, MD.
- Gagnier, K., Fisher, K.R., & Grimm, D. (2019, March). Say what? Crafting a dissemination plan to communicate science to public audiences. Workshop presented at the biennial Society for Research in Child Development Conference. Baltimore, MD.

- Gagnier, K.M., Holochwost, S. J., Lewis, S., & Fisher, K. R. (2017, April). Developing a measure of caregiver knowledge, attitudes, and behaviors around language and literacy development for use with diverse populations. Paper presented at the biennial meeting of the Society for Research in Child Development, Austin TX.
- Gagnier, K., Newcombe, N., Zaslow M., & Schwartz, M. (2017, April). In K. Fisher (Organizer), Catalyzing a paradigm shift: Research translation for advancing science and society. Conversational roundtable to be presented at the biennial Society for Research in Child Development conference. Austin, TX.
- Gagnier, K.M. (2017). Developing a Dissemination Plan. Paper presented at the annual meeting of the American Association for the Advancement of Science, Boston MA.
- Holochwost, S. J., Wolf, D. P., Fisher, K. R., Gagnier, K. M. (2016, November). Alternatives to randomized control designs in program evaluation. Paper presented at the annual meeting of the American Evaluation Association, Atlanta, GA.
- Ormand, C.J., Shipley, T. F., Dutrow, B., Goodwin, L., Hickson, T.A., Tikoff, B., Atit, K., Gagnier, K.M., and Resnick, I. Resnick (2016). The Spatial Thinking Workbook: Developing students' spatial thinking skills in upper-level undergraduate geology courses through curricular materials based on cognitive science research. Poster to be presented at the Geological Society of America annual meeting, Denver, CO.
- Gagnier, K. M., Fisher, K. R. & Holochwost, S. J. (2016). Translating science of learning research into practice: A model for scientist-practitioner partnerships to develop evidence-based practices for the community. Poster presented at Bringing Cognitive Science Research to the Classroom, Washington DC.
- Gagnier, K. M. (2015). Spatial thinking in the Geoscience. Lessons from an Interdisciplinary collaboration between cognitive scientist and geoscientists. Talk presented at the annual meeting of the Geological Society of America, Baltimore MD.
- Shipley, T. F. Atit, K., Weisberg, S. M., and Gagnier, K., M. (2015). Challenges to reasoning and learning about 3D spatial relations: Bridging the gap between lab-research and field-based education. Talk presented at the annual meeting of the Geological Society of America, Baltimore MD.
- Ormand, C.J., Shipley, T. F., Dutrow, B., Goodwin, L., Hickson, T.A., Tikoff, B., Atit, K., Gagnier, K.M., and Resnick, I. Resnick (2015). Teaching Spatial Thinking in Mineralogy, Structural Geology, and Sedimentology & Stratigraphy: Tools and Strategies from Cognitive Science Research: Earth Educators' Rendezvous (Boulder, CO).
- Gagnier, K.M., Atit, K., Ormand, C., & *Shipley, T., F. (2015). Using sketching to support students in developing rich 3D representations from STEM diagrams. Talk presented at the conference on Diagrams as Vehicles of Scientific Reasoning, Pittsburg, PA.
- Gagnier, K.M. (2015). Spatial Thinking in Science: Lessons from an Interdisciplinary Collaboration between Cognitive Scientists and Geoscientists. Talk presented at the Eastern Psychology Society Conference, Philadelphia, PA.
- Ormand, C.J., Shipley, T.F., Dutrow, B., Goodwin, L., Hickson, T., Tikoff, B., Atit, K., Gagnier, K.M., & Resnick, I. (2015). Teaching Spatial Thinking in Undergraduate Geology Courses Using Tools and Strategies from Cognitive Science Research. Talk presented at the annual meeting of the American Geophysical Union, San Francisco, CA.
- Ormand, C.J., Shipley, T.F., Tikoff, B., Dutrow, B., Goodwin, L., Hickson, T., Atit, K., Gagnier, K.M., & Resnick, I. (2014). Transforming Spatial Reasoning Skills in the Upper-Level Undergraduate Geoscience Classroom Through Curricular Materials Informed by Cognitive Science Research. Talk presented at the annual meeting of the American Geophysical Union, San Francisco, CA.
- Gagnier, K.M., Atit, K., Ormand, C., & Shipley, T., F. (2014). Comprehending diagrams: Sketching to support spatial reasoning from diagrams. Poster to be presented at the *International Mind Brain and Education Society*, Fort Worth, TX.
- Gagnier, K.M., Atit, K., Ormand, C., & Shipley, T., F. (2014). Understanding 3D: Generating diagrams from 3D models

improves diagrammatic reasoning. Talk presented at the annual meeting of the *American Educational Research Association*, Philadelphia, PA.

Gagnier, K. M., & Shipley, T.F. (2013). Biases in the perception of 3D forms from 2D cross-sectional views. Poster presented at the annual meeting of the *Psychonomic Society*, Toronto, CA.

Ormand, C.J., Shipley, T.F., Tikoff, B., Manduca, C., Dutrow, B., Goodwin, L., Hickson, T., Atit, K., Gagnier, K.M., & Resnick, I. (2013). Improving spatial visualization skills in the undergraduate geoscience classroom through interventions based on cognitive science research. Poster presented at *Geological Society of America* annual conference, Denver, CO.

Gagnier, K.M., & Shipley, T.F. (2013). Completion in the wild: perception of 3D forms from 2D cross-sections. Poster presented at the *Cognitive Science Society*, Berlin, Germany.

Ormand, C.J., Shipley, T.F., Tikoff, B., Manduca, C., Dutrow, B., Goodwin, L., Hickson, T., Atit, K., Gagnier, K.M., & Resnick, I. (2013). Improving spatial reasoning skills in the undergraduate geoscience classroom through interventions based on cognitive science research. Talk presented at *AAPG Hedberg Research Conference*, Reno, NV.

Gagnier, K.M., Atit, K., Ormand, C., & Shipley, T., F. (2013). The inside story: Using alignment & sketching to help students make inferences about diagrams. Poster presented at *Improving Middle School Science Instruction Using Cognition Science*, Washington DC.

Gagnier, K.M., Atit, K., Ormand, C., & Shipley, T., F. (2012). Improving penetrative thinking via progressive alignment and directed sketching. Talk presented at the annual meeting of the *Geological Society of America*, Charlotte, NC.

Gagnier, K.M., Boone, A., & Shipley, T., F. (2012). Looking behavior and penetrative thinking: Examining the relationship between eye movements and performance. Poster presented at the annual meeting of the *Geological Society of America*, Charlotte, NC.

Gagnier, K. M. (2012). Gesture and sketching: Indicators of knowledge. Talk presented at the *Association of Science and Technology Centers*, Columbus, OH.

Gagnier, K. M., Atit, K., Shipley, T.F., Ormand, C., Manduca, C., & Tikoff, B. (2012). Improving penetrative thinking skills for geoscience education. Presented at the *Inter-Science of Learning Centers* conference, San Diego, CA.

Michod K.O. (2010). Remembering unseen space: Evidence that scene representation goes beyond the visual input. Talk presented at *The International Conference on Spatial Cognition*, Portland, OR. August 19, 2010.

Michod K.O., & Intraub, H. (2009). Don't look! Fixating occluded objects distorts scene memory. Poster presented at the annual meeting of the *Vision Sciences Society*, Naples, FL.

Michod K.O., Dickinson, C.A., & Intraub, H. (2008). Multiple fixations do not lead to better spatial memory. Poster presented at the annual meeting of the *Vision Sciences Society*, Naples, FL.

Michod K.O., & Intraub, H. (2007). Conceptual Masking: Is concept the key or does layout play a role? Talk presented at the annual *Object Perception, Attention and Memory* meeting, Long Beach, CA.

Michod K.O., & Intraub, H. (2007). Conceptual masking: Is it really all about the concept or does layout matter? Poster presented at the annual meeting of the *Vision Sciences Society*, Sarasota, FL.

Michod K.O., Horowitz, T.S., & Wolfe, J.M. (2005). Picture memory demands attention. Poster presented at the annual meeting of the *Vision Sciences Society*, Sarasota, FL.

Kunar, M.A., Michod, K.O., & Wolfe, J.M., (2005). When we use the context in contextual cueing: Evidence from multiple target locations. Poster presented at the annual meeting of the *Vision Sciences Society*, Sarasota, FL.

Michod, K.O., Wolfe, J.M, Horowitz, T.S., & Palmer E.M. (2004). Does guidance take time to develop during a visual

search trial? Poster presented at the annual meeting of the *Vision Sciences Society*, Sarasota, FL.

SERVICE

- Global Science of Learning Network, Teacher Support Network Working Group 2020
- Scientific Advisory, Baltimore Friends School, Baltimore, MD. 2020
- Head's Advisory Council, Baltimore Friends School, Baltimore, MD. 2019
- Design Team Advisor, Teaching and Learning Academy, St. Andrew's Episcopal School, Potomac, MD, 2016-2019
- Advisory Board, All the Way to K and Beyond, Children's Museum of Manhattan, New York, NY, 2017-2019
- Catalyzing a Paradigm Shift: Research Translation for Advancing Science *and* Society Roundtable Organizer, Society for Research in Child Development (SRCD), 2017
- Communicating Science to Non-scientific Audiences Workshop Chair, the American Association for the Advancement of Science (AAAS), 2017
- Consultant for Baltimore Grade Level Reading Campaign, 2016
- Science of Learning Workshop Chair, International Mind, Brain, and Education Society (IMBES) 2014
- Inter-Science of Learning Center (iSLC) Conference Chair, 2013
- Advisory Board, *Creating Communities of Learners for Informal Cognitive Science Education*, NSF Grant, Museum of Science, Boston, MA. Term: November 2011-2016
- SILC Coordinator for the Philadelphia Science Festival 2012, 2013, 2014
- Philadelphia Science Festival Educator Workshop developer, 2014, 2015

Reviewer:

Mathematics Education Research Journal
British Journal of Educational Psychology
Journal of Experimental Psychology: Human, Perception and Performance
Spatial Cognition
PLOS ONE
National Science Foundation
Quarterly Journal of Experimental Psychology
Cognitive Research: Principles and Implications
Mind, Brain, and Education
Journal of Cognitive Psychology
International Conference on Spatial Cognition, Cognitive Processing,
National Association of Research in Science Teaching
Empirical Studies of the Arts
Mind, Brain, and Education
Geosphere
Journal of Geoscience Education

PROFESSIONAL SOCIETIES

Society for Research in Child Development (SRCD)
American Association for the Advancement of Science (AAAS)
Society for Research in Educational Effectiveness (SREE)
American Psychological Association (APA)
Association for Psychological Science
NSF Spatial Intelligence Learning Center
Cognitive Science Society
American Education Research Association (AERA)
National Association of Research in Science Teaching (NARST)
International Mind Brain and Education Society (IMBES)
Association of Science and Technology Centers (ASTC)
Vision Science Society (VSS)
Geological Society of America (GSA)

TEACHING AND MENTORSHIP

2018 – present	Women in Science and Engineering (WISE) Mentor Johns Hopkins University
2017 - present	Intendent Study Student Advisor Johns Hopkins University
2016 -2017	Science for Public Consumption Professional Development Series Johns Hopkins University
2016 Spring	Bryn Mawr Senior Thesis Program Mentor Johns Hopkins University, Baltimore, MD
2015-2016	Distinguished Science of Learning Fellowship Program coordinator Johns Hopkins University, Baltimore, MD
2011 Spring	Visiting Instructor, <i>Cognition</i> University of Delaware, Newark, DE
2010 Fall	Teaching Assistant, <i>Cognition</i> University of Delaware, Newark, DE
2009 Spring	Teaching Assistant, <i>Psychology of Language</i> University of Delaware, Newark, DE
2008 Fall	Teaching Assistant, <i>Cognition</i> University of Delaware, Newark, DE
2003-2004	Teaching Assistant, <i>Introduction to Brain and Cognitive Sciences</i> Massachusetts Institute of Technology, Cambridge, MA
2002-2003	Clinical Psychology Mentor Program

AWARDS AND HONORS

Gift of Play, Research Award, Hasbro International (2/6/2012)
SILC Travel Award, International Conference on Spatial Cognition (8/19/2010)
University Dissertation Fellows Award, University of Delaware (9/1/2009-8/31/2010)
Department of Psychology Competitive Research Assistantship, University of Delaware (9/1/2005 – 8/31/2006)
Dean's List with Distinction - University of Arizona (2001, 2003)
Psi Chi – National Honor Society (2002-2003)

PROFESSIONAL REFERENCES

Dr. Nora Newcombe, newcombe@temple.edu
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Dr. Kathy Hirsh-Pasek, khirschpa@temple.edu
Dr. Carol Ormand, cormand@carleton.edu
Dr. Jeremy Wolfe, wolfe@search.bwh.harvard.edu