

**Curriculum Vitae**

**Daniel Ness, Ph.D.**  
**Professor and Department Chair**  
**Department of Curriculum & Instruction**  
**St. John's University**

St John's University  
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**EDUCATION**

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Ph.D. *Columbia University, Graduate School of Arts and Sciences, 2001*  
Department of Mathematics, Science, & Technology; Specialization in  
Developmental Psychology and Mathematical Thinking

Dissertation Title: "The development of spatial thinking, emergent geometric  
concepts, and architectural principles in the everyday context"

Dissertation Advisor: Herbert P. Ginsburg

M. Phil. *Columbia University, Graduate School of Arts and Sciences, 1999*  
Departments of Human Development and Mathematics, Science, & Technology

M.S. *Columbia University, Teachers College, 1997*  
Departments of Human Development and Mathematics, Science, & Technology

M.A. *Columbia University, Teachers College, 1995*  
Departments of Human Development and Mathematics, Science, & Technology

M.A. *Columbia University, Graduate School of Arts and Sciences, 1993*  
Musicology, Department of Music

B.A. *State University of New York (SUNY) at Albany, 1991*  
Music and Mathematics

**PROFESSIONAL APPOINTMENTS/EMPLOYMENT**

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St. John's University, Queens, New York, 2018 – present  
*Professor, Department of Curriculum and Instruction*

St. John's University, Queens, New York, 2015 – 2018  
*Associate Professor, Department of Curriculum and Instruction*

Dowling College, Oakdale, New York, 2001 – 2015  
*Assistant Professor, Associate Professor, and Professor, Department of Human Development and Learning and Earth and Marine Sciences*

Queens College, City University of New York (CUNY), Flushing, NY, 2014– 2015  
*Adjunct Professor, Department of Secondary Education and Youth Services, STEM Specialist*

Queens College, City University of New York (CUNY), Flushing, NY, 1998 – 2001  
*Lecturer of Mathematics Education, Department of Elementary and Early Childhood Education*

*St. John's University Courses Taught* (courses taught in-class unless listed also as online)

Graduate:

Critical and Historical Perspectives within Education and Educational Research (Doctoral)  
Current Trends and Research in the Teaching of Mathematics;  
Human Relations in Multicultural and Inclusive Settings  
Innovative Strategies in Secondary Setting: Science;  
Innovative Strategies in Secondary Setting: Mathematics  
Mathematics Content and Best Practices  
Planning, Instructing, and Assessing  
Visions of Research: Quantitative Methods (Doctoral)

Undergraduate:

Innovative Strategies in Secondary Setting: Mathematics  
Human Development: Adolescence  
Mathematics Content for Elementary School Teachers  
Methods of Teaching Mathematics  
Student Teaching and Seminar/Childhood Education (1-6)

*Dowling College Courses Taught* (courses taught in-class unless listed also as online)

Graduate:

Cognition in Mathematics and Science (Human Development: In-class & Online);  
Assessing Mathematical Behaviors (Mathematics Education);  
Discovery in Learning Mathematics (Secondary Education);  
Advanced Studies in Mathematics Curriculum (Mathematics Ed., In-class & Online);  
Development of Mathematical Thinking and Learning (Mathematics Education);  
Cognition in Mathematics and Music (Mathematics Education);  
Integrating Science, Mathematics, and Technology (Mathematics Education);  
Teaching Science (Science Education)

Undergraduate:

Human Development and Learning (Human Development);  
Teaching Mathematics in the Elementary School (Curriculum);  
Education and Society (Foundations);  
Statistics (Mathematics);  
Science and the Concept of Evolution (Natural Science: In-class & Online);  
Science of Natural Systems (Natural Science: Online);  
Student Teaching Supervisor (Childhood, Adolescent, & Special Education)

*Queens College (CUNY) Courses Taught*

Undergraduate:

Mathematics Methods / Grades Pre-K to 2 (Curriculum: Undergraduate);  
Mathematics and Science Methods/Grades Pre K to 2 (Curriculum Undergraduate);  
Mathematics Methods / Grades 3-6 (Curriculum: Undergraduate);  
Mathematics and Science Methods/Grades 3-6 (Curriculum: Undergraduate);  
Introduction to Urban Education (Foundations: Undergraduate)

Graduate:

The Development of Mathematical Thinking (Curriculum Elective: Graduate)  
Teaching Science and Mathematics (Curriculum: Graduate);  
STEM Research Methods and Design (Research Design and Protocol: Graduate)

**RESEARCH GRANT ACTIVITY**

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Grants Awarded

*Principal Investigator.* St. John's University Summer Support of Research program (SSR). Funded by the St. John's University Internal Selection Committee. Award for \$10,000. Title: The Development of a Practitioner Version of the Space-Geometry-Architecture (SPAGAR) Coding System for Measuring Children's Spatial Development through Block, Brick, and Plank Play. July 1 – August 31, 2016.

*Co-Principal Investigator* - "Robert Noyce Scholarship Program Phase II," National Science Foundation (NSF), \$599,920. Awarded to Dowling College through the Institute for Urban and Minority Education. June 1, 2009 – May 31, 2013.

*Key Personnel* - "FIPSE: Policy Project on Aviation Education Enhancement (EDEN-AV)," Award No. P116J090045 (2010-2011).

Grant Submissions Pending

*Co-Principal Investigator – Principal Investigator.* New York City Department of Education, Total: \$1,500,000. Title: “*Resilience, Access, and Imagination for Success in Education (Project RAISE)*”. Recently submitted proposal – NYC DOE MTAC # R1211 for Title I Services Related to 1) Supplemental Instruction; 2) Counseling Services; 3) Tutoring Services; 4) Mentoring Services; 5) Parent Engagement Services; 6) Professional Development; and 7) Extended Year Program.

*Principal Investigator.* National Science Foundation (NSF), “EHR Core Research (ECR),” Total: \$1,322,927 (St. John's University: \$981,684; CUNY Queens College: \$341,243). Title: “*Collaborative Research”: A Collaborative Technology, Engineering, Architecture, Mathematics, and Science (TEAMS) Approach for Spatial Thinking as a Crosscutting Process in STEM Learning through an Engineering Learning Environment*”. Recently submitted proposal – NSF Proposal Number: 1760866

Grant Evaluator/Reviewer

“The Ultimate Block Party—Dissemination of Translational Research on Playful Pedagogy.” The John Templeton Foundation. 2012.

**PUBLICATIONS**

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**Books**

- Ness, D. (in contract). *Block Parties: Developing Emergent Mapping and Architectural Thinking through Play*. New York: Routledge.
- Abrams, S. S., Schaefer, M. B., & Ness, D. (Eds.), (in press). *Parent-Child Research Reimagined. Meaning Making with Digital and Nondigital Resources and Practices*. Amsterdam, Netherlands: Brill Publishers.
- Ness, D., Farenga, S. J., Garofalo, S. G. (2017). *Spatial Intelligence: Why It Matters from Birth through the Lifespan*. New York: Routledge.
- Ness, D., & Farenga, S. J. (Eds.). (2017). *Alternatives to Privatizing Public Education and Curriculum: Conversations in Honor of Dale D. Johnson*. New York: Routledge.
- Ness, D. (Ed.). (2013). *International Education: An Encyclopedia of Contemporary Issues and Systems*. Armonk, NY: M. E. Sharpe.
- Farenga, S. J., Ness, D., Johnson, B., Johnson, D. D. (2010). *The Importance of Average: How to Play the Game of School to Increase Success and Achievement*. Lanham, MD: Rowman & Littlefield.
- Johnson, D. D., Johnson, B., Farenga, S. J., & Ness, D. (2008). *Stop High Stakes Testing: An Appeal to America's Conscience*. Lanham, MD: Rowman & Littlefield.

Ness, D., & Farenga, S. J. (2007). *Knowledge under Construction: The Importance of Play in Young Children's Spatial and Geometric Thinking*. Lanham, MD: Rowman & Littlefield.

Johnson, D. D., Johnson, B., Farenga, S. J., & Ness, D. (2005). *Trivializing Teacher Education: The Accreditation Squeeze*. Lanham, MD: Rowman & Littlefield.

Farenga, S. J., & Ness, D. (Eds.). (2005). *Encyclopedia of Education and Human Development*. Armonk, NY: M. E. Sharpe.

### Refereed Journal Articles

Abrams, S. S., Schaefer, M. B., & Ness, D. (2019) Adolescents' digital literacies in flux: Intersections of voice, empowerment, and practices. *Journal of Media Literacy Education*, 11(2), 79 -94. DOI: <https://doi.org/10.23860/JMLE-2019-11-2-5>

Ness, D., & Farenga, S. J. (2016). Blocks, Bricks, and Planks: Relationships between Affordance and Visuo-Spatial Constructive Play Objects. *American Journal of Play*, 8(2), 201-227.

Ness, D., Farenga, S. J., Shah, V., & Garofalo, S. G. (2016). Repositioning Science Reform Efforts: Four Practical Recommendations from the Field. *Improving Schools*, 19(3), 258-266.

Farenga, S. J., Ness, D., & Sawyer, R. (2015). "Avoiding Equivalence by Leveling: Challenging the Consensus-Driven Curriculum that Defines Students as 'Average.'" *Journal of Curriculum Theorizing*, 30(3), 8-27.

Farenga, S. J., Ness, D., & Hutchinson, M. (2015). Discussion of Animal Stem Cells in the Classroom: Engaging Students through the Lens of Veterinary Medicine. *American Biology Teacher*, 77(6), 405-412.

Latario, L., Loffredo, L., Ness, D., Farenga, S. J., & Shah, V. (2014). Haves and Have-nots: The State of Nanotechnology and STEM Education in U.S. Baccalaureate Liberal Arts Colleges. *Journal of Nano Education*, 6(1), 63-69.

Farenga, S. J., Joyce, B. A., & Ness, D. (2010). Investigating Green: Creating Surveys to Answer Questions. *Science Scope*, 33(7), 12-16.

Farenga, S. J., & Ness, D. (2010). Going Locavore: Teaching Students about the Benefits of Food Produced Locally. *Science Scope* 33(5), 52-56.

Farenga, S. J., Ness, D., & Hutchinson, M. (2008). Developing an Awareness of Pet Stewardship. *Science Scope*, 32(2), 58-63.

Farenga, S. J., Ness, D., & Craven, J. (2008). Water Harvesting: Working toward Being Green. *Science Scope*, 31(7), 80-83.

- Ness, D., Farenga, S. J., & Craven, J. (2008). Water Harvesting: Developing Student Awareness. *Science Scope*, 31(5), 58-62.
- Farenga, S. J., Ness, D., & Flynn, G. (2007). Strategies for learning and metacognition—Identifying and remembering big ideas. *Science Scope*, 31(2): 82-88.
- Ness, D., & Diercks, M. (2005). Mapping Your Way to Geographic Awareness: Integrating Cartography with Literature, History, and Science. *Science Scope*, 28(4), 59-63.
- Ness, D. (2004). Mapping for Geographic Awareness. *Science Scope*, 28(3), 48-50.
- Ginsburg, H. P., Lin, C. L., Ness, D., & Seo, K. H. (2003). Young American and Chinese children's everyday mathematical knowledge. *Mathematical Thinking and Learning*, 5(1), 3-25.

### Chapters in Edited Books

- Ness, D. (2018). Young children count: Undoing Reverse Constructivism during Early Childhood Mathematical Experiences. In B. Johnson & Y. Pratt-Johnson (Eds.), *Inequalities in the early years* (pp. 13-32). New York: Routledge.
- Farenga, S. J., & Ness, D. (2017). SCALE down, SCALE back! Academic freedom under siege through standards proliferation by para-educational enterprises. In D. Ness & S. J. Farenga (Eds.), *Alternatives to Privatizing Public Education and Curriculum: Conversations in Honor of Dale D. Johnson*. New York: Routledge.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2006). Adaptive inquiry as the silver bullet: Reconciling local curriculum, instruction, and assessment procedures with state mandated testing in science. M. McMahon, P. Simmons, & R. Somers (Eds.), *Assessment in science: Practical experiences and educational research*. Washington, DC: National Science Teachers Association.
- Ness, D. (2002). Helping teachers recognize and connect the culturally-bound nature of young children's mathematical intuitions to in-school mathematics concepts. In L. Catelli & A. Diver-Stamnes (Eds.), *Commitment to excellence: Transforming teaching and teacher education in the inner city*. Creskill, NJ: Hampton Press.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2002). Reaching the Zone of Optimal Learning: The alignment of curriculum, instruction, and assessment. In R. Bybee (Ed.), *Learning science and the science of learning*. Washington, DC: National Science Teachers Association.

### Encyclopedia Articles

- Ness, D. (in press). Play. In M. Vellinga (Ed.), *Encyclopedia of Vernacular Architecture throughout the World*, second ed. London: Bloomsbury.

Articles in Ness, D. (Ed.), *International Education: An Encyclopedia of Contemporary Issues and Systems*. New York: Routledge.

Ness, D. (2013). Introduction (pp. xvii-xxii).

Herrity, V. A., Ho, H. Z., Ness, D., O'Connor-Petruso, S., & Ogawa, K. (2013). Topics in International Education: Introduction (pp. 3-9).

Articles in Farenga, S. J., & Ness, D. (Eds.). (2005). *Encyclopedia of Education and Human Development*. Armonk, NY: M. E. Sharpe.

Farenga, S. J., & Ness, D. (2005). Introduction (pp. xxiii-xxvi).

Ness, D. (2005). Development of Quantitative and Spatial Thinking (pp. 727-729).

Ness, D. (2005). Development of Spatial and Geometric Concepts (pp. 744-748).

Ness, D. (2005). Development of Mapping Concepts (pp. 748-750).

Ness, D. (2005). Procedural Knowledge versus Conceptual Knowledge (pp. 750-753).

Ness, D. (2005). Mathematically Related Learning Disorders (pp. 762-765).

### **Refereed Journal Columns**

Farenga, S. J., & Ness, D. (2008). Developing Sun Sense: Learning about Protection from the Sun's Rays. *Science Scope*, 31(9): 64-67.

Farenga, S. J., & Ness, D. (2007). It's All in the Pattern: Recognizing Symmetry in Architecture. *Science Scope*, 30(8): 70-73.

Farenga, S. J., & Ness, D. (2007). Making a community information guide about nonpoint source pollution, *Science Scope*, 30(5): 12-14.

Farenga, S., & Ness, D. (2006). Calories, energy, and the food you eat. *Science Scope*, 29(5): 50-52.

Farenga, S., & Ness, D. (2005). Science and algebraic thinking, Part II. *Science Scope*, 29(1): 62-64.

Farenga, S., & Ness, D. (2005). Science and algebraic thinking, Part I. *Science Scope*, 28(7): 58-61.

Farenga, S. J., Joyce, B. A., Ness, D. (2004). Creating young ethnologists. *Science Scope*, 28(1): 60-62.

Farenga, S. J., Joyce, B. A., Ness, D. (2004) Drop by drop, liter by liter. *Science Scope*, 27(8): 42-44.

Farenga, S. J., Joyce, B. A., Ness, D. (2004) Hazardous waste found in the home. *Science Scope*, 27(7): 48-50.

Farenga, S. J., Joyce, B. A., Ness, D. (2004). Home lighting investigation. *Science Scope*, 27(5): 52-54.

- Farenga, S. J., Joyce, B. A., Ness, D. (2004). Breaking the code: Examining your mail. *Science Scope*, 27(4): 40-42.
- Farenga, S. J., Joyce, B. A., Ness, D. (2003). Food for thought—Part II: Where does our food come from? *Science Scope*, 27(3): 48-51.
- Farenga, S. J., Joyce, B. A., Ness, D. (2003) Food for thought—Part I: The science of food safety. *Science Scope*, 27(2): 48-50.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2003). Museums as inquiry role models. *Science Scope*, 27(1): 52-54.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2003). Teaching observation: Gathering baseline data. *Science Scope*, 26(6): 56-58.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2003). Balancing the equity equation. *Science Scope*, 26(5): 12-15.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2003). Bringing the outside in: Examining galls. *Science Scope*, 26(4): 62-65.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2002). Newspaper science: Read all about it. *Science Scope*, 26(3): 56-58.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2002). Measure for measure. *Science Scope*, 26(2): 48-51.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2002). Science of the symphony II: Sound intensity. *Science Scope*, 25(5): 50-53.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2002). Science of the symphony: Part I. *Science Scope*, 25(4): 60-64.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2001). Science and mathematics of nature. *Science Scope*, 25(2): 10-13.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2001). Bridging the knowledge gap. *Science Scope*, 25(1): 10-14.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2001). Mapping our environment: Where do we go next? *Science Scope*, 24(5): 48-51.
- Farenga, S. J., Joyce, B. A., & Ness, D. (2001). Sea life in hot water. *Science Scope*, 24(4): 52-55.



### Audiovisual/Internet Productions

Ness, D. (Producer). (2018, September 26). *Resident teacher interns and the play-procedure continuum: Invisible boundaries in the STEAM curriculum* [Audio podcast]. Retrieved from <https://academicminute.org/2018/09/daniel-ness-st-johns-university-the-play-procedure-continuum/>

Ness, D., Farenga, S. J., & Garofalo, S. G. (2018, July 18). *Spatial intelligence: Why it matters from birth through the lifespan* [Video podcast]. Retrieved from <https://newlearningtimes.com/cms/article/5467/spatial-intelligence-with-dan-ness-steve-farenga>

### Research Reports, Conference Proceedings, and Op Eds.

Farenga, S. J., Ness, D., & Shah, V. (2014). Punitive culture, not money, fueling teacher attrition,” Op Ed to be published in *Education Week*, (January 22, 2014).

Farenga, S. J., Joyce, B. A., & Ness, D. (2000). The goal of empowering students mathematically—What the traditionalists misunderstand: A review of the article “Goodbye Pythagoras?” *The International Study Group on Ethnomathematics*, 15(2), 5-6.

Lin, C. L., & Ness, D. (2000). Taiwanese and American preschool children’s everyday mathematics. *ERIC/Clearinghouse for Early Childhood Education* (ERIC Document Reproduction Service No. 440 757).

Ness, D. (1998). “Toward a Psychology of Ethnomathematics: Relationships between Ethnomathematics and Vygotsky’s Socio-historical Psychology.” *Proceedings of the First International Congress on Ethnomathematics*. Ed. Luisa Oliveras Contreras. Granada: University of Granada, Dept. de Didactica de la Matematica.

Ness, D. (1997). “Mathematics Curricular Reform For the 21st-century Community College: An Interdisciplinary Approach for ‘Unremediating’ the Remedial Student.” *Conference Program and Proceedings: National Conference on the Adult Learner*. Columbia, SC: University of South Carolina.

### Book Reviews

Ness, D. (2007). Review of *Sona Geometry from Angola: Mathematics of an African Tradition* by Paulus Gerdes. *Zentralblatt für Didaktik der Mathematik (ZDM)*, 39(3): 261-263.

Ness, D. (1997). Review of *Great Books: My Adventures with Homer, Rousseau, Woolf, and other Indestructible Writers of the Western World* by David Denby. *Teachers College Record*, 99(2): 432-434.

### **Curriculum Publications**

- Ness, D. (2005). Numbers through 100. *Professional resources handbook, Grade 1, Unit 4*. Boston: Houghton Mifflin.
- Ness, D., Esposito, L., & Johnson, C. (2005). Numbers through 12. *Professional resources handbook, Grade K, Unit 4*. Boston: Houghton Mifflin.
- Esposito, L., & Ness, D. (2005). Getting started with numbers. *Professional resources handbook, Grade K, Unit 2*. Boston: Houghton Mifflin.

### **RESEARCH & PUBLICATIONS IN PROGRESS**

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- Ornstein, A. C., & Ness, D. *Defining Education: Historical, Social, and Economic Perspectives*. (book)
- Ness, D. *Defining Curriculum Culturally: Human Development and Educational Foundations* (book)
- Ness, D. The Identification of Emergent Spatial Thinking Skills: Coding through Observations in Constructive Free Play Environments (article)
- Ness, D. Imaginative Make-Believe Spatialities: The Intersection of Vernacular Architecture and Play (article)
- Ness, D. Reconceptualizing Affordance as a Cognitive Construct Dependent on Spatial Contexts (article)
- Ness, D. The Relation between Visuo-spatial Constructive Play Objects and Performance on Spatial Activities: A Meta-Analysis (article)

### **APPOINTMENTS**

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- Advisory Board Member, *Center for Environmental Research and Coastal Oceans Monitoring (CERCOM)*, 2013 – present. Responsible for early childhood and STEM collaboratives between CERCOM and preschools and early childhood centers
- Board of Trustee Member, The Science Museum of Long Island, 2014 – 2016. Responsible for early childhood, childhood, and adolescent initiatives and partnerships between The Science Museum of Long Island and preschools, early childhood centers, K-12 schools

### **EDITORSHIPS**

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- Reviewer, *Mathematics Teacher*, 2013 – Present
- Editor, *Mathematics Teacher* department entitled “Delving Deeper,” 2014 – 2019
- Reviewer of Presentation Proposals for the Annual Conference of the *American Educational Research Association (AERA)*, 2009-2011

Editor, *Science Scope* column entitled “After the Bell”, 2001–2009  
Invited Reviewer, *Teachers College Record*, 2004–2005  
Editor, *Journal of Ethnomathematics*, 2001–2002  
Editor, *International Study Group of Ethnomathematics Newsletter*, 1998–2002  
Internal Reviewer, *Teachers College Record*, 1995–1999  
Assistant Editor, *Current Musicology*, 1992 – 1994

## **INVITED TALKS/WORKSHOPS**

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EdLab Seminar: Spatial Intelligence with Dan Ness, Steve Farenga, and Salvatore Garofalo. Columbia University, Teachers College. New York, July 18, 2018. Invited Presentation. Issues of spatial cognition and spatial relations in spaces for teaching and learning, as well as in the everyday spontaneous experiences of children, students, and teachers

City University of New York, Queens College, Divisions of Social Sciences and Education. Queens, New York, October 27, 2017. Invited Presentation for Visiting Scholars from Japan. “When Are We Ever Going to Use This?: Recognizing Emergent NGSS Engineering and Architectural Skills within the STEM Curriculum”

City University of New York, Queens College, Division of Education and the Department of Secondary Education and Youth Services. Queens, New York, October 18, 2017. Invited Presentation. “Spatial Thinking as a Crosscutting Process in STEM Learning”

St. John’s Preparatory School. Professional Development Workshop on STEM and Education for Secondary School Teachers. Date: March 9, 2017. Invited Speaker. Presentation Title: STEM for Teachers at St. John’s Prep.

The Office of the Superintendent of Catholic School Support Services – Roman Catholic Diocese of Brooklyn. St. John Neumann Principal Professional Development. Date: December 1, 2015. Invited Speaker. Invited by Presentation Title: “Why Early Math Matters: The Importance of Formative Instruction and Assessment in the Early Grades.”

The Queens College, CUNY Women and Gender Studies Program. Flushing, NY. Date: Monday, February 23, 2015. Invited for paper presentation with Stephen J. Farenga. “Does Gender Influence Spatial Development?: From Constructive Play to STEM.”

Advocacy for Gifted and Talented Education (AGATE). Brookville, New York, October 23, 2009, Paper Presentation with Stephen J. Farenga. Title: “Assessing Young Children’s Spontaneous Advanced Spatial-Geometric Thinking through Block Play”

26th Annual University of Wisconsin Reading Research Symposium. *Literacy Research in Action: \* Accountability \* Authenticity \* Advocacy*. University of Wisconsin – Madison Campus – Pyle Center - 702 Langdon Street. Writing, Publishing, and the Creative Process. Invited for presentation with Stephen J. Farenga, June 16, 2007.

Workshops on Writing for the column “After the Bell,” in *Science Scope*, internationally-recognized middle-school science journal, held at the National Science Teachers Association (NSTA) National Conference in San Diego, California (March 2002-2009).

Workshop on Writing for the column “After the Bell,” in *Science Scope*, internationally-recognized middle-school science journal, held at the National Science Teachers Association Eastern Regional Conference in Baltimore, Maryland (November 2000).

Preschool Science in Action: Science Their Way. A workshop for identifying science activities in our classrooms to preschool teachers and caretakers in Community School Board 27, Queens, New York (April 14, 2000).

Blue’s Clues™, Consultation on mathematical (spatial/geometric/architectural) thinking in children’s block play) for airing in April 2001 (April 12, 2000).

Rutgers University, Afternoon Series, Newark, New Jersey, April 7, 1999

Workshop: *Everyday mathematics in the Preschool: A Comparison of Culture and Class—Young Children from the United States and Taiwan.*

Rutgers University, Newark, New Jersey, March 28, 1996

Workshop: *The Mathematics Involved in the Music of Ghanaian Asante Kete Drumming.*

## **CONFERENCE PRESENTATIONS**

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American Educational Research Association. San Francisco, California, Date in 2020  
TBA. Accepted for roundtable paper presentation with Sandra Schamroth Abrams and Mary Beth Schaefer. Title: Renewed Visions for Qualitative Research: Methods to Engage in Parent-Child Co-Investigations.

American Educational Research Association. Toronto, Ontario, Monday, April 8, 2019.  
Accepted for roundtable paper presentation with Sandra Schamroth Abrams, Charlotte Abrams, Mary Beth Schaefer, Molly Kurpis, and Eric Ness. Title: Conducting Parent-Child Research amid Inherent Tensions.

International Conference on Spatial Cognition. Rome, Italy. Friday, September 14, 2018.  
Accepted for paper presentation with Min Wang. Title: “Let’s Do It More Bigger”: Relationships between Spatial Language and Constructive Play”

- Piaget Society Annual Conference. Amsterdam, Netherlands. Saturday, May 31, 2018.  
Accepted for paper presentation with Sandra Schamroth Abrams, Mary Beth Schaefer, Eric Ness, Charlotte Abrams, and Molly Kurpis. Title: "Rethinking Piaget and adolescent intellectual development through play: Adolescent co-researchers examine multimodal digital activities"
- Piaget Society Annual Conference. Amsterdam, Netherlands. Saturday, May 31, 2018.  
Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Spatial thinking and object affordance: An ontological perspective"
- Piaget Society Annual Conference. Amsterdam, Netherlands. Saturday, May 31, 2018.  
Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "The underpinnings of an engineering learning model: Activity theory, constructivism, and constructionism"
- American Educational Research Association. New York, New York, April 17, 2018.  
Accepted for paper panel presentation. Title: "Resident Teacher Interns and the Play-Procedure Continuum: Invisible Boundaries in the STEM Curriculum"
- American Educational Research Association. New York, New York, April 16, 2018.  
Accepted for roundtable paper presentation with Elizabeth Chase and Nancy Morabito. Title: "Exploring Boundaries for Teacher Educators in School-Based Partnerships"
- American Educational Research Association. New York, New York, April 16, 2018.  
Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Cognition and Spatial Concept Formation: Comparing Nondigital and Digital Instruction Using Three-Dimensional Models in Science"
- American Educational Research Association. New York, New York, April 15, 2018.  
Accepted for roundtable paper presentation with Sandra Schamroth Abrams, Charlotte Abrams, Mary Beth Schaefer, Molly Kurpis, and Eric Ness. Title: "Middle-Grades Children and Their Parent-Researchers Co-Examine Metacognitive and Self-Regulatory Processes"
- Literacy Research Association Annual Conference. Tampa, Florida, December 1, 2017.  
Accepted for paper presentation with Sandra Schamroth Abrams, Charlotte Abrams, Mary Beth Schaefer, Molly Kurpis, and Eric Ness. Title: "Empowered Literacy Processes: Young Adolescents Co-Researching their Digital and Nondigital Practices"
- National Council of Teachers of English Annual Conference. St. Louis, Missouri, November 17, 2017. Accepted for paper presentation with Sandra Schamroth Abrams, Charlotte Abrams, Mary Beth Schaefer, Molly Kurpis, and Eric Ness. Title: "Exploring the Potential of Technology for Agency and Transformation in Literacy Instruction"

Piaget Society Annual Conference. San Francisco, California. Saturday, June 8-10, 2017.

Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Do Digital Devices Hinder Cognition of Spatial Concept Formation?: The Case of DNA Structure and Function"

Piaget Society Annual Conference. San Francisco, California. Saturday, June 8-10, 2017.

Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Reconceptualizing Affordance as a Cognitive Construct Dependent on Spatial Context"

American Association for the Advancement of Curriculum Studies (AAACS) National Conference, San Antonio, Texas. Thursday, April 27, 2017, panel presentation accepted with Sandra Abrams, Elizabeth Chase, Tess Dussling, and Mary Beth Schaefer. Discussant and Moderator: Autumn Tooms Cypres. Title: "Working toward the Elimination of Boundaries in Educational Settings: Conversations in Curriculum and Literacy"

University of Pennsylvania, 38th Annual Ethnography in Education Research Forum Philadelphia, Pennsylvania, February 24, 2017. Accepted for paper presentation with Nancy Morabito and Samuel Jackson. Title: "STEM On-Site: Dissolving Boundaries to cultivate Conceptually-Rich Teaching Practice"

University of Pennsylvania, 38th Annual Ethnography in Education Research Forum Philadelphia, Pennsylvania, February 24, 2017. Accepted for paper presentation with Sandra Abrams Mary Beth Schaefer, Charlotte Abrams, Molly Kurpis, and Eric Ness. Title: "Children as Co-researchers of their Digital Activities"

Piaget Society Annual Conference. Chicago, Illinois. Saturday, June 10, 2016. Accepted for poster presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Our Place in Space: GIS and Its Relationship to Affordance"

Piaget Society Annual Conference. Chicago, Illinois. Friday, June 9, 2016. Accepted for paper presentation with Stephen J. Farenga and Salvatore G. Garofalo. Title: "Place, Space, & VCPOs: Relationships among Affordance, Creativity, and Visuo-Spatial Constructive Play Objects"

American Association for the Advancement of Curriculum Studies (AAACS) National Conference, Washington, DC. Thursday, April 7, 2016, panel presentation accepted with Elizabeth Chase, Autumn Dodge, Stephen J. Farenga, Bonnie Johnson, Richard D. Sawyer, and Todd Price. Title: "Multiple Perspectives in Challenging Educational Inequities: The Juncture of Individual Experience, Literacy, and Policy"

Piaget Society Annual Conference. Toronto, Ontario. Saturday, June 4, 2015. Accepted for paper presentation with Stephen J. Farenga. Title: "A Theoretical Perspective Regarding the Affordance of Visuospatial Constructive Play Objects (VCPOs) in Optimizing Spatial Thinking Skills"

- Society for Research in Child Development. Philadelphia, Pennsylvania. March 19, 2015. Presented with Stephen J. Farenga. Title: "Affordance of Visuospatial Constructive Play Objects in Optimizing Spatial Thinking Skills: A Theoretical Perspective"
- Piaget Society Annual Conference. San Francisco, CA. Saturday, June 1, 2014. Accepted for paper presentation with Stephen J. Farenga. Title: "Assessing young children's spatial development through block and Lego® play and its relationship to STEM disciplines"
- Mathematical Association of America (MAA) Regional Conference. Garden City, NY. Saturday, May 3, 2014. Accepted for paper presentation with Emad Alfar. Title: "Making Connections between Mathematics and Music: The Case of the Golden Ratio"
- American Association for the Advancement of Curriculum Studies (AAACS) National Conference, San Francisco, California. Wednesday, April 2, 2014, accepted for presentation with Stephen J. Farenga. Title: "Reformatting (Not Reforming) Curriculum: The Deleterious Consequences of Empowering Para-Educational Agencies"
- Piaget Society Annual Conference. Chicago, Illinois. June 6-8, 2013. Accepted for poster presentation with Stephen J. Farenga. Title: "What can we learn about four- and five-year-old children's spatial thinking during play and its connection with STEM? The development and use of a practitioner-based coding system"
- American Association for the Advancement of Curriculum Studies (AAACS) National Conference, San Francisco, California. April 24-27, 2013, accepted for presentation with Stephen J. Farenga and Richard Sawyer. Title: "School Systems as Potemkin Villages: How American Education Policy Has Alienated Average Students."
- Society for Research in Child Development. Seattle, Washington. April 19, 2013. Presented with Stephen J. Farenga. Title: "Four- and Five-Year-Old Children's Euclidean Constructs during Block and Brick Play"
- Piaget Society Annual Conference. Toronto, Ontario. June 2, 2012. Presented with Stephen J. Farenga. Title: "Assessing Young Children's Spatial Development through Block and Lego® Play and Its Relationship to STEM Disciplines"
- American Educational Research Association (AERA) National Conference, Vancouver, British Columbia, April 14, 2012, *Chair of Session* entitled "What Did I Read? Multiple Literacies in STEM Teacher Education." Division K - Teaching and Teacher Education; Roundtable Session
- Piaget Society Annual Conference. Berkeley, California. June 3, 2011. Presented with Stephen J. Farenga. Title: "Young children's Euclidean thinking during block and brick play."

- American Educational Research Association (AERA) National Conference, New Orleans, Louisiana, April 8, 2011, *Discussant of Session* entitled “Teaching and Teacher Education / Section 1: STEM. Science, Technology, Engineering and Mathematics.”
- American Association for the Advancement of Curriculum Studies (AAACS) National Conference, New Orleans, Louisiana. April 6, 2011, accepted for presentation with Stephen J. Farenga. Title: “Hidden Federal and State Education Policies: Equivalence by Leveling.”
- New York State Mathematics Association of Two-Year Colleges Regional Conference. Garden City, New York. October 23, 2010. Presented with Emad Alfar. Title: “Introducing One of the Fundamental Concepts of Calculus for Liberal Arts Students.”
- New York State Mathematics Association of Two-Year Colleges Annual Conference. Ithaca, New York. April 18, 2010. Presented with Emad Alfar. Title: “A Hands-on Activity for Finding an Area under a Curve.”
- American Educational Research Association (AERA) National Conference, San Diego, California, Monday, April 13, 2009, *Discussant of Session* entitled “Understanding and Scaffolding Learning in the Upper Elementary Grades”
- American Educational Research Association (AERA) National Conference, San Diego, California, Tuesday, April 14, 2009, Poster Session. Title: Mathematics Teacher Education in Taiwan: An Investigation of the Origins and Influences of the Mathematics Program at National Taiwan Normal University
- American Educational Research Association (AERA) National Conference, San Diego, California, Wednesday, April 15, 2009, *Discussant of Session* entitled “Math and Science Teaching and Learning in Early Childhood”
- American Educational Research Association (AERA) National Conference, San Diego, California, Wednesday, April 15, 2009, Paper Presentation with Stephen J. Farenga. Title: “The Role of Lego and Block Play in Young Children’s Everyday Spatial Thinking”
- National Council of Teachers of Mathematics (NCTM) National Conference, Washington, DC, Friday, April 24, 2009, Paper Presentation with Emad Alfar. Title: “Calculus for Kids: Introducing the Two Fundamental Concepts to Middle School Students”
- American Educational Research Association (AERA) National Conference, New York, New York, Wednesday, March 26, 2008. Poster Title: “Young American and Chinese Children’s Spatial and Geometric Thinking during Block Play”



American Association for the Advancement of Curriculum Studies (AAACS) National Conference, New York, New York, Sunday, March 23, 2008, accepted for presentation with Stephen J. Farenga, Erica Meiners, and Therese Quinn. Title: “Studying Up: Social Justice, Queer Lives, and Accountability in the Politics of Teacher Education Accreditation.”

American Association for the Advancement of Curriculum Studies (AAACS) National Conference, Chicago, Illinois, Sunday, April 13, 2007, accepted for presentation with Stephen J. Farenga. Title: “Standards Pushing in the 21<sup>st</sup> Century,” Part of Panel entitled NCATE—A Potemkin village on the Potomac: Using standards and high-stakes testing to ignore issues of social justice.

National Council of Teachers of Mathematics (NCTM) Regional Conference. Atlantic City, New Jersey, October 21, 2006. Title: “Calculus for Kids?”

Association for the Advancement of Curriculum Studies (AAACS), Berkeley, California, April 9, 2006. Paper presentation with Stephen J. Farenga. Title: “Standards Pushing in the Twenty-first Century.” Part of Panel entitled Autonomy Lost: Usurping Control of Curriculum through the Promulgation of Standards by Semi-Regulatory Educational Organizations.

Metropolitan NY Section of the Mathematical Association of America (MAA) Spring 2005 Meeting, York College, Jamaica, NY, Saturday, May 7, 2005. Title: “Can Kids Learn Calculus?”

National Council of Teachers of Mathematics (NCTM) National Conference, Anaheim, California, April 9, 2005. Paper presentation with Stephen J. Farenga. Title: “Working Their Way through Play: Young Children Doing Mathematics.”

National Council of Teachers of Mathematics (NCTM) National Conference, Anaheim, California, April 7, 2005. Paper presentation with Stephen J. Farenga. Title: “Calc for Kids.”

National Council of Teachers of Mathematics (NCTM), Philadelphia, PA, April 23, 2004. Title: “Block Math: Do Children’s Lego and Block Play Promote Mathematical Activity?”

National Science Teachers Association (NSTA) National Conference, Atlanta, Georgia, April 1, 2004. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: “Starting Ahead: Recognizing Young Children’s Propensities for Scientific Thinking”

National Science Teachers Association (NSTA) National Conference, Philadelphia, Pennsylvania, March 29, 2003. Paper presentation with Stephen A. Farenga & Beverly A. Joyce. Title: “Implementing Adaptive Inquiry as a Means of Reaching the Zone of Optimal Learning”

- National Science Teachers Association (NSTA). National Conference, Philadelphia, Pennsylvania, March 28, 2003. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: "Little Kids Doing Big Science: Examining Young Children's Science and Mathematics Knowledge through Play"
- National Science Teachers Association (NSTA) National Conference, San Diego, California, March 29, 2002. Paper presentation with Stephen A. Farenga & Beverly A. Joyce. Symposium on "Learning Science and the Science of Learning: A Symposium," Presentation of book chapter entitled, "Reaching the Zone of Optimal Learning: The alignment of curriculum, instruction, and assessment," Rodger Bybee, editor, *Learning Science and the Science of Learning*.
- National Science Teachers Association (NSTA) National Conference, San Diego, California, March 28, 2002. Paper presentation with Stephen J. Farenga and Beverly A. Joyce. Title: "Working Their Way through Play: Fostering Young Children's Science and Mathematics Skills"
- National Science Teachers Association (NSTA) National Conference, St. Louis, Missouri, March 17, 2001. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: "The Young Child as Scientist and Mathematician"
- National Science Teachers Association (NSTA) National Conference, St. Louis, Missouri, March 17, 2001. Paper presentation with Stephen A. Farenga & Beverly A. Joyce. Title: "Adaptive Inquiry: Standards in Action"
- Association for Teacher Education (ATE) Conference, New Orleans, Louisiana, February 18, 2001. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: "Adaptive Inquiry: Standards in Action for Integrated Elementary Science and Mathematics Instruction"
- National Science Teachers Association Eastern Regional Conference, Baltimore, Maryland, October 16, 2000. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: "Instructing Teachers on How to Use Adaptive Inquiry"
- National Science Teachers Association Eastern Regional Conference, Baltimore, Maryland, October 16, 2001. Paper presentation with Stephen J. Farenga & Beverly A. Joyce. Title: "Standards in Action."
- American Educational Research Association, AERA, New Orleans, Louisiana, April 27, 2000. Paper presentation with Ginsburg, H. P., Lin, C.-L., & Ness, D. (2000, April). Title: "Taiwanese and American Preschool Children's Everyday Mathematics."
- California Mathematics Council (CMC), Meetings of the Northern Chapter at Asilomar Conference Center, Pacific Grove, California, December 4, 1999. Title: "Preschool Children's Spatial and Geometric Awareness."

- National Council of Teachers of Mathematics, San Francisco, California, April 24, 1999.  
Title: "Identifying Geometric and Spatial Thinking of Preschool Children from Different Socioeconomic and Ethnic Backgrounds."
- Society for Research in Child Development, Albuquerque, New Mexico, April 15, 1999.  
Poster Title: "Geometric and Spatial Thinking in the Free Play of American and Taiwanese Preschool Children."
- First International Congress on Ethnomathematics (ICEM 1), Granada, Spain, September 4, 1998. Title: "Toward a Psychology of Ethnomathematics: Relationships between Ethnomathematics and Vygotsky's Socio-Historical Psychology."
- National Council of Teachers of Mathematics, Washington, DC, April 2, 1998. Title: "Asante Kete Drumming: Spontaneous Mathematics in Music."
- Socialist Scholars Conference, New York, New York, March 21, 1998. Title: "Mathematics and Sensitivity: Common Themes between Vygotsky's Sociohistorical Theory and D'Ambrosio's Ethnomathematics Program."
- Sixth Conference on the Teaching of Mathematics, Milwaukee, Wisconsin, June 20, 1997. Title: "College Students' Beliefs about Mathematics Prior to Calculus: Using a Problem Solving Skills Protocol to Investigate Students' Understanding and Strategies."
- National Conference on the Adult Learner, Columbia, South Carolina, May 26, 1997.  
Title: "Community College Mathematics Reform: Identification of Student Learning Styles and their Use of Everyday or Conventionally Systematic Concepts."
- University of Pennsylvania, 18th Annual Ethnography in Education Research Forum Philadelphia, Pennsylvania, March 7, 1997. Title: "Ratios and Proportions in the Drumming Patterns of Asante Kete Musicians: The Development from Additive to Multiplicative Thinking."

## **CURRICULUM WRITING AND PROGRAM DEVELOPMENT**

- Co-sponsor, co-developer, and co-designer of two (2) B.S.(B.A.)/M.S. Bachelor's/Master's Five-Year Programs for Childhood/TESOL and Adolescent Education/TESOL (St. John's University).
- Sponsor, Developer, and Designer of nine (9) B.S.(B.A.)/M.S. Bachelor's/Master's Five-Year Programs for STEM and Education (St. John's University).
- Sponsor, Developer, and Designer of NYS Approved fully online Master's Program for Gifted Education (including student teaching component).
- Sponsor, Developer, and Designer NYS Approved fully online Master's Program for Childhood Education (including student teaching component).

mA+h plus Curriculum Co-Developer – CERTA Research Corporation

Master of Science Programs – Dowling College, School of Education

Developer and designer of Five Master of Science Programs – Early Childhood/Childhood Education with Specializations in Science; Mathematics; Early Childhood; Gifted Education; and Language Arts

## **ADMINISTRATIVE DUTIES**

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Chair, Department of Curriculum and Instruction, St. John's University, 2018 – 2020

Program Coordinator, Adolescent Education, Department of Curriculum and Instruction, St. John's University, 2017 – present

Site Director, American Association for the Advancement of Curriculum Studies Conference, St. John's University, April 11-13, 2018

Assistant Chair, Department of Curriculum and Instruction, St. John's University, 2017 – 2018

Chair, Department of Human Development and Learning, Dowling College, 2010 – 2012

Coordinator for Secondary Education, Department of Human Development and Learning, Dowling College, November 2006 – August 2007

Long-Range Planning and Development Committee, Dowling College, September 2001– August 2005.

Security Committee, Dowling College, January 2001 – August 2002.

Committee Member, Secondary Mathematics and Science program, Dowling College, September 2000 – September 2001.

Partnership with Computer Associates™

## **AWARDS & HONORS**

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*St. John's University Faculty Recognition Award*, St. John's University, 2018-2019

*St. John's University Faculty Recognition Award*, St. John's University, 2017-2018

*St. John's University Faculty Recognition Award*, St. John's University, 2016-2017

*Kappa Delta Pi*, Honorary Inductee, Dowling College, Oakdale, New York, 2002

*Teachers College General Scholar Award*, Columbia University, Teachers College, New York, 1994–1998

*Andrew W. Mellon Fellowship*, Columbia University, Graduate School of Arts and Sciences, New York, 1991–1993

## **CERTIFICATION**

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### **Mathematics (grades 7-12)**

New York State

Certification date: September 1998

## **PROFESSIONAL EXPERIENCE – TEACHING / RESEARCH**

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The Center for Enrichment, Remediation, Tutoring, and Advancement (CERTA)  
Learning and Research Center, 2004 – present

Research Associate

The Center for Enrichment, Remediation, Tutoring, and Advancement (CERTA), 2002 – present

Curriculum and Program Developer

The Center for Enrichment, Remediation, Tutoring, and Advancement (CERTA), 2001 – present

*Professional Development Trainer in Gifted Education*

The GLOBE Program Trainer, An International Environmental Education & Science Partnership, 2006 – present

Project Wet Trainer, New York State Department of Environmental Conservation, 2005 – present

*Teachers College Record*—Academic Journal of Education—Columbia University, Teachers College, 1998–1999

*Manager of Book Reviews*

Institute on Education and the Economy, Community College Research Center, Columbia University, Teachers College, New York, 1997-1998

*Research Fellow*

“Mathematics and Multicultural Education” with Joel Schneider, Director of Children’s Television Workshop (CTW), Columbia University, Teachers College, New York, 1997

*Administrative Coordinator and Lecturer*

## **AFFILIATIONS**

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American Association for the Advancement of Curriculum Studies (AAACS)

American Educational Research Association (AERA)

Jean Piaget Society (JPS)

National Association of American Biology Teachers (NABT)

National Council of Teachers of Mathematics (NCTM)

National Science Teachers Association (NSTA)

Society of Research of Child Development (SRCD)