

Jane Robertson Evia

Collegiate Assistant Professor, Department of Statistics
Virginia Polytechnic Institute and State University, Blacksburg, VA

Education

2007 – 2012	The University of North Carolina Chapel Hill, NC School of Education Department of Educational Psychology, Measurement, and Evaluation <i>Dissertation: Self-efficacy and Collaborative Learning: An Intervention Study</i>	Ph.D.
2005 – 2007	Appalachian State University Boone, NC Department of Mathematics <i>Master's Project: The Trouble with Fractions</i>	M.A.
1990 – 1994	North Carolina State University Raleigh, NC Department of Statistics	B.S.

Academic Experience

Teaching Appointments

2016 – present	Collegiate Assistant Professor Department of Statistics Virginia Polytechnic Institute and State University
2012 – 2016	Assistant Professor of Practice Department of Statistics Virginia Polytechnic Institute and State University
2011 – 2012	Graduate Teaching Assistant School of Education The University of North Carolina at Chapel Hill
2008 – 2010	Instructor Department of Statistics Alamance Community College, Graham, NC

2005 – 2007 Graduate Teaching Assistant
 Department of Mathematics
 Appalachian State University, Boone, NC

Administrative Positions

2017 – present Director of Undergraduate Studies
 Department of Statistics
 Virginia Polytechnic Institute and State University

Courses Taught

Virginia Polytechnic Institute and State University

STAT 1004 First Year Experience in Learning from Data

The first-year experience course is intended to give students the opportunity to explore the world of statistics, while also getting settled into their new lives as college students. They meet guest statisticians who work in various fields of statistics, including actuarial sciences, pharmaceutical research, bioinformatics, and academia. They also have the opportunity to explore data and begin to think about solving various problems using statistics.

STAT 3005 Statistical Methods

Basic statistical methodology: exploratory data techniques, estimation, inference, comparative analysis by parametric, nonparametric, and robust procedures. Analysis of variance (one-way), multiple comparisons, and categorical data.

STAT 3604 Statistics for the Social Sciences

Statistical methods for nominal, ordinal, and interval levels of measurement. Topics include descriptive statistics, elements of probability, discrete and continuous distributions, one and two sample tests, and measures of association. Emphasis on comparison of methods and interpretations at different measurement levels.

STAT 4024 Communication in Statistical Collaborations

Theory and examples of effective communication in the context of statistical collaborations. Practice developing the communication skills necessary to be effective statisticians using peer feedback and self-reflection. Topics include helping scientists answer their research questions, writing about and presenting statistical concepts to a non-statistical audience, and managing effective statistical collaborations.

The University of North Carolina at Chapel Hill, Chapel Hill, NC

EDUC 744 Advanced Assessment Techniques

Provided basic psychological principles upon which graduate student prospective teachers can design effective instructional programs and validly assess these programs of instruction. Topics included determining learning goals and objectives, formative assessment, summative assessment, item development, aligning learning goals with assessments and instruction, grading policies, and communication with others about student assessment and learning.

EDUC 644 Development, Learning, and Assessment

Provided graduate student prospective teachers with a conceptual understanding of child/adolescent development in order to enable them to respond to student behavior in an instructive manner. Topics included transitions in adolescence, peer and family influence, motivation to learn, cognitive development theories, differentiation in instruction, identity, and using technology to support instruction.

Alamance Community College, Graham, NC

MAT 151 Statistics I

Project-based approach to the study of basic probability, descriptive and inferential statistics, and decision making. Emphasis was placed on measures of central tendency and dispersion, correlation, regression, discrete and continuous probability distributions, quality control, population parameter estimation, and hypothesis testing. Students learned to describe important characteristics of a set of data and draw inferences about a population from sample data. Students were taught to use various types of technology, including graphing calculators, statistical software, and online applications in order to enhance their understanding and application of statistical topics.

Appalachian State University, Boone, NC

STT 2810 Introduction to Statistics

Introduction to statistical problem solving and methodology. Topics included tabulation and graphical representations of univariate and bivariate data; probability, statistical distributions, confidence intervals and hypothesis testing. Emphasis was on conceptual understanding and interpretation of results. Statistical software was utilized in the analysis of data and in the development of statistical and probabilistic concepts.

Course and Program Development

Virginia Polytechnic Institute and State University

2016 – 2017

Data Analytics and Decision Sciences Pathways Minor

- Worked with an interdisciplinary team to develop curriculum for the Data Analytics and Decision Sciences Destination Area Pathways minor
- Collaborated to develop individual courses, develop minor objectives and goals, determine resource needs, and develop an implementation plan

2015 – 2016

STAT 3604: Statistics for Social Sciences

- Significantly redesigned course to follow a flipped classroom model
 - Developed full semester of materials for students to review outside of class and activities and applications for students to complete during class
- Students compose a research question based upon variables from a nationally collected data set
 - Students apply statistical methods learned in pursuit of answering their research question
 - Each student produces a project describing the statistical analyses they conducted that answers their research question

2013

STAT 3005: Statistical Methods

- Collaborated with colleagues to develop a new section of the first statistical methods course offered to statistics majors only
- Helped to ensure that statistics majors develop a more in-depth understanding of foundational statistical methods, as well as to expose majors to technology they are almost sure to use in practice
- Currently teach this special majors-only section

- 2012 – present STAT 1004: First Year Experience in Learning from Data
- Serve as head of the First Year Experience program and development committee
 - Collaborated with colleagues to design this course to ensure that our first year students gain a solid understanding of the field of statistics and opportunities available to them upon graduation
 - Annually refine the course based upon feedback from the students, input from colleagues, and developments from the corporate partners

Student Advising and Committees

Virginia Polytechnic Institute and State University

- 2017 Master’s Project Committee - Claire Walraven
- 2015 Master’s Oral Examination Committee - Amanda Miller
- 2014 - 2018 Statistics Club Faculty Sponsor
Provided support and guidance for Statistics Club student officers and members
- 2013 - 2015 Roc Solid Club Faculty Sponsor
Provided support and guidance for Roc Solid Club student officers and members
- 2013 Master’s Oral Examination Committee - Matt Keefe
- 2012 – 2018 Statistics Major and Actuarial Sciences Minor Advising
- Provide academic and post-graduation guidance for approximately 65 statistics majors and 60 actuarial sciences minors
 - Work with students to ensure that they reach graduation upon their individual timeline
 - Collaborate with Career and Professional Development to ensure that majors and minors reach their academic and/or professional goals upon graduation
 - Maintain and foster good working relationships with corporate partners to help students obtain internships and permanent jobs

Significant Professional Development

2017	Advance VT Workshop
2017	US Conference on Teaching Statistics (USCOTS)
2016	Advance VT Workshop
2016	Conference on Teaching Large Classes
2016	Electronic Conference on Teaching Statistics (eCOTS)
2016	Virginia Tech Uplifting Black Men Conference
2015	Conference on Teaching Large Classes
2015	US Conference on Teaching Statistics (USCOTS)
2015	Workshop on Conducting Large Class Poster Sessions
2014	Electronic Conference on Teaching Statistics (eCOTS)

Teaching Awards

2018	Thank a Teacher Award, CIDER (1)
2016	Thank a Teacher Award, CIDER (5)
2015	Thank a Teacher Award, CIDER (2)
2014	Thank a Teacher Award, CIDER (1)

Service

Virginia Polytechnic Institute and State University

Department of Statistics

2018	Member, Search Committee, Business Manager
2018	Member, Search Committee, Statistics Instructor
2017 – present	Member, Department of Statistics Diversity Committee
2017 – present	Member, Department of Statistics Executive Committee

- 2017 – 2018 Chair, Search Committee, Undergraduate Advisor
- 2016 – 2018 Member, Search Committee, Assistant Collegiate Faculty (3 positions)
- 2016 – 2017 Chair, Departments of Geosciences and Statistics Diversity Committee
- 2016 – 2017 Member, Department of Statistics Internal Review Committee
- 2016 Member, Search Committee, Director of the Laboratory for Interdisciplinary Statistical Analysis
- 2015 – present Liaison, Society of Actuaries (SOA)
- 2015 – 2016 Member, Search Committee, Statistics Instructor
- 2014 – present Faculty sponsor, Statistics Club
- 2014 – 2016 Member, Statistics Department Undergraduate Curriculum Committee
- 2014 – 2015 Member, Search Committee, Statistics Instructor
- 2013 – present Chair, Department of Statistics Scholarship Committee
- 2013 – 2015 Lead Collaborator, Laboratory for Interdisciplinary Statistical Analysis
- 2012 – 2018 Undergraduate advisor, Statistics majors and Actuarial Sciences minors
- 2012 – present Member, Statistics Department Undergraduate Committee

College of Science

- 2016 – 2018 Chair, College of Science Diversity Committee
- 2014 – present Member, College of Science Diversity Committee

University

- 2016 – 2017 Member, Data Analytics and Decision Sciences Curriculum Committee
- 2014 Member, Pathways Quantitative and Computational Curriculum Committee
- 2013 – 2014 Member, University Council

*The University of North Carolina at Chapel Hill*School of Education

- 2009 – 2010 Service Co-chair, Graduate Student Association
- 2009 Member, Research Symposium Committee
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Consulting

- 2011 – present Program Evaluation Assistant
 Peterman Consulting, Durham, NC
Collect and analyze data collected from students, teachers, and fellows who participate in large-scale PK-12 STEM programs across the United States. Work with state-wide science festivals to evaluate impact and to help improve future offerings. Collaborate with various national science foundations and organizations to better understand how to evaluate public engagement with science. Provide written, graphical, and oral reports to multiple audiences and stakeholders.
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Research ExperienceGrants

- 2018 – 2023 CAREER: Quantifying heterogeneity and uncertainty in the transmission of vector borne diseases with a Bayesian trait-based framework (\$267,311), Senior Personnel
 National Science Foundation
 Dr. Leah Johnson, Principal Investigator
- 2018 – 2020 STEM Pathways Minor for non-STEM Majors Grant (\$50,000), Co-Investigator
 VT Office of General Education
Monies to develop curriculum and deliver the Communicating and Engaging with Science Pathways minor
- 2018 – 2019 First Year Experience Grant (\$5,000.00), Principal Investigator
 VT Office of First Year Experience
Monies to be used to fund a graduate assistant for the course

- 2017 – 2018 Pathways to Success Grant (\$10,000.00), Principal Investigator
VT Office of First Year Experience
Monies to be used to acquire resources to support first year student learning and to invite guest speakers from the field of statistics
- 2016 – 2017 Pathways to Success Grant (\$10,000.00), Principal Investigator
VT Office of First Year Experience
Acquired resources to support first year student learning and paid for travel of guest speakers from the field of statistics
- 2016 – 2017 Design and Develop Award (\$8,949.47), Principal Investigator
VT Technology-enhanced Learning and Online Strategies (TLOS)
Redesigned Statistics for Social Sciences online course
- 2015 – 2016 Pathways to Success Grant (\$10,000.00), Principal Investigator
VT Office of First Year Experience
Acquired resources to support first year student learning and paid for travel of guest speakers from the field of statistics
- 2014 – 2015 Pathways to Success Grant (\$19,000.00), Principal Investigator
VT Office of First Year Experience
Sponsored one graduate teaching assistant, acquired resources to support first year student learning, and paid for travel of guest speakers from the field of statistics
- 2013 – 2014 Pathways to Success Grant (\$23,000.00), Principal Investigator
VT Office of First Year Experience
Purchased equipment for use with first year students. Sponsored guest speakers from the field of statistics.

Research Groups

- 2013 – 2017 Education and Curriculum Consultant
Bayesian Visual Analytics (BaVA) Research Group
BaVA offers a framework to transform standard data analytics methods into interactive data exploration approaches that inherently accounts for the expert. BaVA combines visual analytics and Bayesian statistics to transform standard analytic methods into interactive data exploration approaches.

2013 – 2017 Education and Curriculum Consultant
Critical Thinking with Data Visualization (CTDV) Research Group
A subset of the BaVA group, the CTDV research group works to provide hands-on, interactive data visualization experiences for K-12 students. Using an application developed by computer scientists at Virginia Tech, and through the Be the Data educational programming, the CTDV group helps students visualize multi-dimensional data while participating as the data.

Research Assistantships

2011 – 2012 Graduate Research Assistant
Teacher Performance Assessment Consortium (TPAC) Coordinator and Assistant to the Assistant Dean for Academic Affairs
School of Education
The University of North Carolina, Chapel Hill, NC
Worked with a national consortium of educators at Institutions of Higher Education (IHEs) during the field test year to further validate the Teacher Performance Assessment.

2008 – 2009 Graduate Research Assistant
Cognition and Learning Laboratory
School of Education
The University of North Carolina, Chapel Hill, NC
Served as the lead graduate researcher in a laboratory that studies the self-regulated learning strategies employed by high school students. Coordinated all functions of the lab and trained junior level graduate research assistants.

2007 – 2011 Graduate Research Assistant
Evaluation and Research Team
LEARN North Carolina
The University of North Carolina, Chapel Hill, NC
Worked with a research team to collect and evaluate Teacher Working Conditions data from PK-12 educators across approximately 26 state initiatives. Evaluated end of course data collected from PK-12 educators who completed online professional development courses offered by LEARN NC.

Publications and Scholarly Activity

Peer reviewed articles

Chen, X., Self, J.Z., House, L., Wenskovitch, J., Sun, M., Wycoff, N., **Robertson Evia, J.**, Leman, S., North, C. (2018). Be the Data: Embodied visual analytics. *IEEE Transactions on Learning Technologies*, 11(1), 81-95.

Dierker, L., **Robertson Evia, J.**, Singer-Freeman, K., Woods, K., Zupkus, J., et. al. (2018). Project-based learning in introductory statistics: Comparing course experiences and predicting positive outcomes for students from diverse educational settings. *International Journal of Educational Technology and Learning*, 3(2), 52-64.

Robertson Evia, J., Peterman, K., Cloyd, E., Besley, J. (2018). Validating a scale that measures scientists' self-efficacy for public engagement with science. *International Journal of Science Education, Part B*, 8(1), 40-52.

Peterman, K., **Robertson Evia J.**, Cloyd, E., Besley, J. (2017). Assessing public engagement outcomes by the use of an outcome expectations scale for scientists. *Science Communication*, 39(6), 782-797.

Peterman, K., Pan, Y., & **Robertson, J.** (2014). Self-report and academic factors in relation to high school students' success in an innovative biotechnology program. *Journal of Technology Education*, 25(2).

Greene, J. A., Bolick, C. M., **Robertson, J.** (2010). Fostering historical and thinking skills using hypermedia learning environments: The role of self-regulated learning. *Computers & Education*, 54(1), 230-243.

Greene, J. A., Costa, L., **Robertson, J.**, Pan, Y., & Deekens, V. M. (2010). Exploring relations among college students' prior knowledge, implicit theories of intelligence, and self-regulated learning in a hypermedia environment. *Computers & Education*, 55(3), 1027-1043.

Book Chapters

Greene, J. A., **Robertson, J.**, Costa, L. C. (2011). Assessing self-regulated learning using think-aloud methods. In Zimmerman, B. & Schunk, D. (Eds.). *Handbook of self-regulation of learning and performance*. New York: Routledge.

Greene, J. A., Torney-Purta, J., Azevedo, R., **Robertson, J.** (2010). Using cognitive interviewing to explore primary and secondary students' epistemic and ontological cognition. In L. D. Bendixen & F. C. Haerle (Eds.). *Personal epistemology in the classroom: Theory, research, and implications for practice*. New York: Cambridge University Press.

Paper Presentations

All presentations had refereed abstracts

Chen, X., House, L., Self, J.Z., Leman, S., **Evia, J.R.**, Fry, J. T., North, C. (2016). Be the Data: An exploratory study of embodied experience for learning data analytics. Annual Meeting American Educational Research Association (AERA 2016) at Washington, DC.

Greene, J. A., Bolick, C. M., **Robertson, J.** (2010). *Fostering historical knowledge and thinking skills using hypermedia learning environments: The role of self-regulated learning*. American Educational Research Association Annual Meeting, Studying and Self-Regulated Learning Special Interest Group.

Bolick, C. M., Greene, J. A., **Robertson, J.** (2009). *Student Learning, achievement, and reflections with hypermedia learning environments*. Meeting of the College and University Faculty Assembly.

Greene, J. A., Costa, L. C., **Robertson, J.**, Pan, Y., & Deekens, V. (2009). *Exploring relations among college students' prior knowledge, implicit theories of intelligence, and self-regulated learning in a hypermedia environment*. American Educational Research Association Annual Meeting, Studying and Self-Regulated Learning Special Interest Group.

Conference and Workshop Presentations

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| 2017 | US Conference on Teaching Statistics (USCOTS)
<i>Critical Thinking with Data Visualization workshop. Demonstrated and facilitated activities for university faculty using Andromeda, a tool to allow for visualization of multi-dimensional data.</i> |
| 2016 | Electronic Conference on Teaching Statistics (eCOTS)
<i>Supporting presenter for Passion Driven Statistics workshop. Presented historical experience, benefits, and challenges of teaching large sections of social science students.</i> |
| 2016 | Open Education Resources Webinar
<i>Discussed the benefits and challenges of using open education resources in college courses.</i> |

Professional Memberships

American Statistical Association
 Statistical Consulting Section
 Statistical Educational Section