

CURRICULUM VITAE
Aimee J. Ellington
Virginia Commonwealth University

Education:

University of Tennessee – Knoxville, Tennessee, 2000

Doctor of Philosophy in Mathematics Education

Dissertation – “The Effects of Hand-held Calculators on Precollege Students in the Mathematics Classroom – A Meta-Analysis.”

University of North Texas – Denton, Texas, 1993

Master of Science in Mathematics

Research Project – “NP Completeness and the Graph Coloring Problem”

Columbia Union College – Takoma Park, Maryland, 1991

Bachelor of Science in Mathematics with Computer Science Minor

Twenty hours toward secondary education certification.

Academic Appointments:

Virginia Commonwealth University – Richmond, Virginia, 2007 – Present

Associate Professor, Department of Mathematics & Applied Mathematics

Virginia Commonwealth University – Richmond, Virginia, 2001 – 2007

Assistant Professor, Department of Mathematics & Applied Mathematics

University of Tennessee at Chattanooga – Chattanooga, Tennessee, 1994 – 2001

Instructor, Department of Mathematics

Southern Adventist University – Collegedale, Tennessee, 1993 – 1994

Instructor, Department of Mathematics

University of North Texas – Denton, Texas, 1991 – 1993

Teaching Fellow, Department of Mathematics

Special Awards, Fellowships, and Other Honors:

Academic Achievement Award , University of Tennessee at Knoxville, College of Education, 2000

Outstanding Teacher Award, University of Tennessee at Chattanooga, Student Support Services, 1995 – 1996

Scholarly Contributions

Refereed Papers Published or In Press:

Ellington, A. J., Whitenack, J. W., Inge, V., Murray, M., & Schneider, P. (In Press). *Assessing K-5 Teacher Leaders' Mathematical Understanding: What Have the Test Makers and the Test Takers Learned?* School Science and Mathematics.

Ellington, A. J. (In Press). *The Impact of Calculators on Student Achievement in the K-12 Mathematics Classroom*. International Handbook of Student Achievement. New York, NY: Routledge Publishers

Ellington, A. J., & Haver, W. E. (In Press). *Modeling-based college algebra at Virginia Commonwealth University*. MAA Reports: Partner Discipline Recommendations for Introductory College Mathematics and the Implications for College Algebra. Washington, DC: Mathematical Association of America.

Ellington, A. J. & Hardin, J. R. (In Press). *The Use of Tablet PCs in a Rational Numbers course for Elementary Mathematics Specialists*. Mathematics and Computer Education.

Ellington, A. J., & Whitenack, J. W. (2010). *The Important Role of the Mathematics Specialist in Supporting 5th Grader's Understanding of Fractions (The Funky Cookie Story)*. Teaching Children Mathematics, 16 (9), 532-539.

Whitenack, J. W., & Ellington, A. J. (2010). *What we are learning about the elementary mathematics specialist's role: Some reflections about math coaching*. Journal of Mathematics and Science: Collaborative Explorations, 12, 29-43.

Ortiz-Robinson, N. L., & Ellington, A. J. (2009). Learner-Centered Strategies and Advanced Mathematics. *Primus*, 19 (5) 463-472.

Whitenack, J. W., Cavey, L. O., & Ellington, A. J. (2009). The Instructor's Important Role in Supporting Mathematical Arguments in a K-5 Mathematics Specialist Program. Conference Proceedings of the 12th Conference on Research in Undergraduate Mathematics Education.

Whitenack, J. W., & Ellington, A. J. (2009). K-5 Mathematics Specialists' Teaching and Learning About Fractions. *Journal of Mathematics and Science: Collaborative Explorations*, 11, 109-126.

Ellington, A. J. & Hardin, J. R. (2008). The Use of Video Tutorials in a Mathematical Modeling Course Taken by Pre-service Teachers, *Mathematics and Computer Education*, 42(2), 109-117.

Ellington, A. J. (2007) A capstone course for pre-service mathematics teachers which uses technology as its unifying theme, *Mathematics and Computer Education*, 41 (1), 55 – 66.

Ellington, A. J. & Haver, W. E. (2006). The impact of assessing introductory mathematics courses. In B. Madison (Ed.), *Assessment of Student Learning in College Mathematics: Towards Improved Programs and Courses* (pp. 76 – 96). Tallahassee, FL: Association for Institutional Research.

Ellington, A. J. & Haver, W. E. (2006). Contribution of a first year mathematics course to quantitative literacy. In R. Gillman (Ed.), *Current Practices in Quantitative Literacy* (pp. 97-103). Washington, DC: Mathematical Association of America.

Ellington, A. J. (2006). The effects of graphing calculators on student achievement and attitude levels in mathematics – A meta-analysis. *School Science and Mathematics*, 106 (1) 16-26.

Ellington, A. J. (2006). An assessment of general education mathematics courses' contribution to quantitative literacy. In L. Steen (Ed.), *Supporting Assessment in Undergraduate Mathematics* (pp. 81-85). Washington, DC: Mathematical Association of America.

Ellington, A. J. (2005). A modeling-based approach to college algebra. *Academic Exchange Quarterly*, 9 (3), 131-135.

Ellington, A. J. (2005). A modeling-based college algebra course and its effect on student achievement. *Primus*, 15 (3), 193-214.

Hardin, J. R., & Ellington, A. J. (2005). Using multimedia to facilitate software instruction in an introductory modeling course. *INFORMS Transactions on Education*, 5 (2), January 2005 online (ite.pubs.informs.org)

Ellington, A. J. (2004). Investigations in geometry – A hands-on course for 6-8 preservice teachers. *Journal of Mathematics and Science: Collaborative Explorations*, 7, 17-21.

Ellington, A. J. (2004). The calculator's role in mathematics attitude. *Academic Exchange Quarterly*, 8 (2), 110-114.

Ellington, A. J. (2003). A meta-analysis of the effects of calculators on students in precollege mathematics classes. *Journal for Research in Mathematics Education*, 34 (5), 433-463.

Invited Publications:

Ellington, A. J. (2001). An annotated list of web sites for mathematics educators. *Journal of Adventist Education*, 63 (5), 43-45.

Dessart, D. J., DeRidder, C. M., & Ellington, A. J. (1999). The research backs calculators. In Z. Usiskin (Ed.), *Mathematics Education Dialogues* (Vol. 2, No. 3, pp. 6). Reston, VA: National Council of Teachers of Mathematics.

Research Presentations at Professional Meetings:

Ellington, A. J., & Haver, W. E. *Impact of MSP-prepared Mathematics Specialists on Middle School Instruction and Student Success*, MSP Learning Network Conference, Washington, DC, January 2011.

Whitenack, J. W., Ellington, A. J., & Cavey, L. O. *The Instructor's Proactive Role in Supporting Teachers' Arguments*. The Research Pre-session of the Annual Meeting of the National Council of Teachers of Mathematics, Washington, DC, April 2009.

Whitenack, J. W., Cavey, L. O., & Ellington, A. J. *The Instructor's Important Role in Supporting Mathematical Arguments in a K-5 Mathematics Specialist Program*. Twelfth Conference on Research in Undergraduate Mathematics Education for the Special Interest Group of the Mathematical Association of America on Research in Undergraduate Mathematics Education, Raleigh, NC, March 2009.

Whitenack, J. W., Ellington, A. J., Hodges, V., Bernie, S., Abdeljawad, C., Sinclair, E., Miller, S. *Mathematics Specialists' Roles in Elementary Schools: Successes and Challenges in Supporting Teacher and Student Learning*. Annual Meeting of the Virginia Council of Teachers of Mathematics, Virginia Beach, VA, March 2009.

Ellington, A. J. & Whitenack, J. W. *Numbers and Operations Instructors Workshop*, Mathematics Specialists Program Instructor's Professional Development Workshop, Richmond, VA, March 2008

Campbell, P., Ellington, A., Haver, W., & Whitenack, J. *Virginia Mathematics Specialist Projects: Preliminary Findings*, National Science Foundation Brown Bag Session, Washington, DC, February 2008

Whitenack, J., Ellington, A., & Haver, W. *Quality of Virginia's Mathematics Specialists*, 2008 Learning Network Conference – Teacher Quality, Quantity, and Diversity, Washington, DC, January 2008

Dunbar, S., Edwards, B., Ellington, A., Gordon, S., Herriott, S., McGowen, M., & Waller, W. *Tracking Our Students: Where they Come From, How they Do, Where they Go and Where They Don't Go*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, San Diego, CA, January 2008.

Whitenack, J., Cavey, L., & Ellington, A. *Exploring Rational Numbers with K-5 Mathematics Specialists: A Case for Examining the Density Property*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, San Diego, CA, January 2008.

Ellington, A. J. *Exploring the Geometer's Sketchpad*, Central Virginia Community College Area Math Conference, Lynchburg, VA, November 2007

Whitenack, J., Ellington, A., Schneider, P., Warren, G., Adler, L., Eberle, K. *Teachers Exploring Place Value and the Operations Using DMI Materials*, Regional Meeting of the National Council of Teachers of Mathematics, October 2007

Campbell, P., Heaton, R., Whitenack, J. W., Nelson, B. S., & Ellington, A. J. *The Development, Activity, Pedagogical Practices and Impact of Mathematics Coaches in Elementary and Middle Schools*, Annual Meeting of the American Educational Research Association, April 2007

Ellington, A. J., Inge, V., & Whitenack, J. W. *Assessing K-5 Teacher Leaders' Mathematical Learning: What Have the Test Makers and the Test Takers Learned?* Annual Meeting of the National Council of Supervisors of Mathematics, Atlanta, GA, March 2007

Whitenack, J. W., Heaton, R., & Ellington, A. J. *Developing Case Studies of Elementary and Middle Level Teacher Leaders*, Annual Meeting of the National Council of Supervisors of Mathematics, Atlanta, GA, March 2007

Burrill, G., Ellington, A. J., & Zbiek, R. M. *The Impact of Graphing Calculators on Student Performance: Implications for the Classroom*, Research Presession for Annual Meeting, National Council of Teachers of Mathematics, Atlanta, GA, March 2007

Whitenack, J. W. & Ellington, A. J. *Teachers Explore the Nature of Rational Numbers: A Case for Inquiry in a Mathematics Specialist Program*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, New Orleans, LA, January 2007

Ellington, A. J. *The Effects of Graphing Calculators on Student Achievement and Attitude Levels in Mathematics – A Meta-Analysis*, Annual Meeting, National Council for Teachers of Mathematics, St. Louis, MO, April 2006

Dick, T., Ellington, A., Heaton, R., Newborn, D., Whitenack, J. *Preparing Mathematics Specialists*, Research Presession for Annual Meeting, National Council for Teachers of Mathematics, St. Louis, MO, April 2006

Ellington, A., Haver, W., Inge, V., & Whitenack, J. *Quality of Virginia's Mathematics Specialists*, 2006 Learning Network Conference – Teacher Quality, Quantity, and Diversity, Washington, DC, January 2006

Agras, N., & Ellington, A. *Building Learning Communities*, Presentation and Panel Discussion for Project NEXT participants at the Joint Meetings of the American Mathematical Society & Mathematical Association of America, San Antonio, TX, January 2006

Ellington, A. J. *A Modeling-based College Algebra Course and Its Effect on Student Achievement*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, San Antonio, TX, January 2006

Ellington, A. J. *Calculators in the Classroom – A Review of Recent Research Findings*, Southwest Consortium for the Improvement of Mathematics and Science Teaching (SCIMAST) Spring Forum, Baton Rouge, LA, April 2004

Cai, J., Ellington, A., Izsak, A., Silver, E., & Williams, S. *Publishing in the Journal for Research in Mathematics Education*, 90 minute Research Pre-session talk at the Annual Meeting of the National Council of Teachers of Mathematics, Philadelphia, PA, April 2004

Ellington, A. J. *An Assessment of the Contribution of Two General Education Mathematics Courses on the Quantitative Reasoning of Students*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, Phoenix, AZ, January 2004

Ellington, A. J. *Graphing Calculators in the Classroom – What Does the Research Say?* VCU Mathematics Department Colloquium, Richmond, VA, December 2003

Ellington, A. J., & Farley, R. W. *Virginia Commonwealth University B.S. in Science Program* Statewide Conference on the Preparation of Middle School Science and Mathematics Teachers, Harrisonburg, VA, October 2003

Ellington, A. J. *Math 303 Investigations in Geometry – A Hands-on Course for K-8 Preservice Teachers* Statewide Conference on the Preparation of Middle School Science and Mathematics Teachers, Harrisonburg, VA, October 2003

Ellington, A. J. *Calculators in the Classroom: A Review of Recent Research Findings* Annual Meeting, National Council for Teachers of Mathematics, San Antonio, TX, April 2003

Ellington, A. J. *An Assessment of General Education Mathematics Courses Contribution to Quantitative Literacy at Virginia Commonwealth University*, Joint Meetings of the American Mathematical Society & Mathematical Association of America, Baltimore, MD, January 2003

Ellington, A. J. *Assessing Quantitative Literacy* Mathematical Association of America PREP Assessment Workshop, Baltimore, MD, January 2003

Ellington, A. J. *Calculators in the Classroom: A Look at Results of Recent Research* Spring Conference, Greater Richmond Council for Teachers of Mathematics, Richmond, VA, March 2002

Ellington, A. J. *Assessing The Quantitative Literacy Skills of Students Who Complete A Contemporary Mathematics Course* FIPSE Sponsored Colloquium, Richmond, VA, July 2002

Ellington, A. J. *Preparing Middle School Teachers* FIPSE Sponsored Colloquium, Richmond, VA, July 2002

Ellington, A. J. *Assessing Quantitative Literacy* Mathematical Association of America PREP Assessment Workshop, Richmond, VA, May 2002

Ellington, A. J. *Calculators in the Classroom: What Does the Research Say?* Joint Meetings of the American Mathematical Society & Mathematical Association of America, San Diego, CA, January 2002

Ellington, A. J. *The Effects of Calculators in the Classroom – Results of a Meta-Analysis* Richmond City Mathematics Teachers Colloquium, Richmond, VA, August 2001

Ellington, A. J., Hard, D., & Pratt, E. *Statistics for the Classroom: Focusing Teachers' Attention on Ongoing Teaching and Learning* 45th Annual Conference of the Tennessee Mathematics Teachers Association, Knoxville, TN, April 1997

Grants and Contracts:

National Science Foundation, MSP Institute: Mathematics Specialists in Middle Schools, co-Lead Researcher, \$5,000,000, September 2009 – September 2014

National Science Foundation, Researching the Expansion of K-5 Mathematics Specialist Program into Rural School Systems (Co-PI with R. Farley, P. Campbell, V. Inge, and J. Whitenack), \$4,713,684, January 2010 – January 2015

Virginia Department of Education, Virginia Algebra Project, continuation of project, PI for sub-award through the University of Virginia, requested \$58,073, October 2009 – September 2010

Virginia Department of Education, Teacher Preparation: Algebra, Functions, and Data Analysis, PI for sub-award through the University of Virginia, \$42,614 May 2009 – September 2010

National Science Foundation Institutes: Preparing Virginia's Mathematics Specialists (with W. Haver, D. Walston, E. Gross, and V. Inge), co-Principal Investigator, \$3,726,915, August 2004 – July 2009.

Virginia Department of Education, Preparing Highly Qualified Middle School Mathematics Teachers Across Virginia, sub-award through the University of Virginia from the Virginia Department of Education through federal NCLB act, Principal Investigator for subaward, \$44,891, March 2006 – September 2007.

Virginia Department of Education, Preparing Highly Qualified Middle School Mathematics Teachers Across Virginia, sub-award through the University of Virginia from the Virginia Department of Education through federal NCLB act, Principal Investigator for subaward, \$69,660, May 2005 – September 2006.

National Science Foundation, Enhancing Workforce Preparation in Computer Science, Engineering, and Mathematics (with R. Farley, W. Haver, R. Moore, and B. Cregar), co-Principal Investigator, \$398,748, October 2002 – June 2006

Exploring Tablet PCs in the Classroom, VCU Center for Teaching Excellence, Lenovo Tablet PC (approximately \$2000), 2007 – 2008

Academic Technology Faculty Mentoring Grant, Principal Investigator, Dell laptop and geometry software (approximately \$2500), 2004 – 2005

Professional Organizations:

- Mathematical Association of America, Member 1993 – Present, Member of Committee on Assessment 2010 – 2013
- National Council of Teachers of Mathematics, Member 1995 – Present
- Greater Richmond Council of Teacher of Mathematics, Member 2001 – Present
- School Science and Mathematics Association, Member 2005 – Present
- Greater Richmond Council of Teachers of Mathematics (GRCTM), Program Committee Member for Fall 2002 Conference entitled “Infinity and Beyond” that was held at the Maggie L. Walker Governor’s School on October 27, 2002

Reviewing for Refereed Journals:

- *Journal for Research in Mathematics Education*, National Council of Teachers of Mathematics, 2003 – Present
- *Mathematics and Computer Education*, The MATYC Journal, 2002 – Present
- *School Science and Mathematics*, School Science & Mathematics Association, Inc. 2006 – Present

- *American Educational Research Journal – Teaching, Learning, and Human Development*, American Educational Research Association, 2008 – 2010
- *On-Math, Online Journal of School Mathematics*, National Council of Teachers of Mathematics, 2007 – 2010

Major University, College and Department Committees

University:

- College of Humanities & Sciences Representative to Faculty Senate, 2004 – 2007
- Faculty representative on Student Activities Advisory Committee (SAAC), 2004 – 2006
- Commencement Marshall for May Graduation Ceremony, 2003 – 2010
- Member of Selection Committee for the Board of Visitors Award, 2006 – 2011

College of Humanities & Sciences:

- Department of Mathematics and Applied Mathematics Representative to Faculty Council, 2006
- Member of Task Force to determine suitable course alternatives for students with documented disabilities in mathematics and foreign language, 2005 – 2006
- Member of Selection Committee for College of Humanities & Sciences Faculty Awards, 2004 – 2005

Inter-Departmental Committees & Programs:

- Member of the Advisory Committee for the Liberal Studies for Early and Elementary Education degree program, 2004 – Present
- Member of STEP Committee for VCU’s Standards-Based Teacher Education Program in Mathematics and English Education, 2003 – 2009

Department of Mathematics and Applied Mathematics:

- Member of the Executive Committee of the Department of Mathematics and Applied Mathematics, January 2007 – Present
- Member of the Management Team for the project “Preparing Virginia’s Mathematics Specialists” supported by a National Science Foundation Mathematics and Science Partnership grant, August 2004 – Present

- Member of the Management Team for the project “Mathematics Specialists in K-5 Schools: Research and Policy Pilot Study” supported by a National Science Foundation grant, June 2004 – Present
- Member of the Management Team for the project “Preparing Future Middle School Mathematics and Science Teachers: An Opportunity for Virginia” supported by a US Department of Education Funds for the Improvement of Post Secondary Education grant, January 2002 – December 2005
- Chair of the Department Diversity Committee, 2010 – Present
- Chair of Undergraduate Credentials Committee, 2004 – 2007 (member from 2001)
- Member of Math 490 Mathematical Expositions Committee, 2004 – Present
- Member of Three Department Tenure and Promotion Committees, 2009 – 2011
- Research Director for the Gateway Committee for Project PRISM: Producing Results in Science and Mathematics, 2003 – 2009
- Chair of SACS Assessment Committee, 2007 – 2010 (member since 2002)

Teaching

Courses Redesigned or Introduced at Virginia Commonwealth University:

- Math 591 Calculus for the Algebra Add-on Endorsement – Introduced Spring 2011
- Math 303 Investigations in Geometry – Redesigned in Spring 2009
- Math 362 Algebra and Functions – Redesigned Fall 2007
- Math 504 Algebraic Structures – Redesigned Spring 2007
- Math 361 Numbers and Operations – Introduced Spring 2006
- Math 661 Numbers & Operations for K-5 Math Spec – Introduced Summer 2004
- Math 554 Using Technology in the Teaching of Mathematics – Introduced Fall 2004
- Math 505 Modern Geometry – Redesigned in Fall 2003
- Math 691 Geometry with Applications – Introduced in Fall 2002

Courses Taught:

Virginia Commonwealth University, 2001 – Present:

- Math 141 Algebra with Applications
- Math 200 Calculus I
- Math 303 Investigations in Geometry
- Math 310 Linear Algebra
- Math 361 Numbers and Operations
- Math 362 Algebra & Functions

- Math 504 Algebraic Structures, Functions, Sequences, and Series
- Math 505 Modern Geometry
- Math 554 Using Technology in the Teaching of Mathematics
- Math 591 Euclidean and Non-euclidean Geometry
- Math 591 Linear Algebra for Educators
- Math 591 Calculus for the Algebra Add-on Endorsement
- Math 691 Geometry with Applications
- Math 661 Numbers and Operations for K-5 Mathematics Specialists
- Math 665 Rational Numbers and Proportional Reasoning for K-5 Math Specialists

University of Tennessee at Chattanooga, 1994 – 2001:

- Math 105 Elementary Algebra
- Math 106 Intermediate Algebra
- Math 123 Mathematics in our Modern World
- Math 131 College Algebra
- Math 136 Calculus for Management, Life, and Social Sciences
- Math 144 Precalculus I
- Math 145 Precalculus II
- Math 151 Calculus I
- Math 152 Calculus I Laboratory
- Math 161 Calculus II
- Math 210 Introductory Statistics
- Math 214 Principles of Elementary Mathematics

Southern Adventist University, 1993 – 1994:

- Math 080 Elementary Algebra
- Math 103 Survey of Mathematics
- Math 120 Precalculus Algebra
- Math 181 Calculus I
- Math 200 Elementary Linear Algebra