Erica Slate Young

Director of Accreditation Activities
University of Alabama in Huntsville
Morton Hall 216A
erica.slate@uah.edu

Professional Preparation

Ph.D., Mathematics Education. University of Texas at Austin, 2005
Dissertation Title: An Examination of the Validity of the Mathematics Exit Level Texas Assessment of Knowledge and Skills
Dissertation Chair: Dr. Jill Marshall, University of Texas at Austin

M.A., Mathematics Education. Appalachian State University, 1999
Thesis Title: A Comparison of Performance in Algebra I in a Ninety-Minute Block Schedule and a Seven Period Schedule
Thesis Advisor: Dr. Deborah Crocker, Appalachian State University

B.S., Mathematics, Secondary Education. Appalachian State University, 1996
Honor Student Teacher, Gamma Beta Phi, Chancellor's List, Dean's List, North Carolina State Teaching Credential: Grade 9–12 Mathematics with Endorsement in Physics, Minor in Music

Appointments

2011-present	Director of Accreditation Activities/Assistant Professor, Department of Education, University of Alabama in Huntsville
2010-2011	Assessment and Evaluation Consultant, Department of Physics, United States Air Force Academy
2005-2008	Assistant Professor, Department of Mathematical Sciences, United States Military Academy at West Point
2001-2004	Graduate Research Assistant, Department of Science and Mathematics Education, University of Texas at Austin
1999-2000	Adjunct Faculty, Department of Mathematical Sciences, Appalachian State University
2000	Instructor, Department of Mathematics, Wilkes Community College, Wilkesboro, North Carolina
1999	Secondary Mathematics and Physics Teacher, Heavenly Mountain Ideal Girls' School, Boone, North Carolina

Research Experience

Graduate Research Assistant, University of Texas at Austin
Apprentice researcher (focusing on mathematics curriculum design and evaluation) in an interdisciplinary research team under Dr. Jere Confrey, director of the Systemic Research Collaborative for Education in Mathematics, Science, and Technology (SYRCE). (2000-2003)

Research Assistant, National Academy of Sciences
Served as one of two research assistants for the Steering Committee for the Review of the Evaluation Data on the Effectiveness of NSF-Supported and Commercially Generated Mathematics Curriculum Materials. Responsibilities included helping to coordinate two expert panels composed of research mathematicians, mathematics education specialists, evaluation and curriculum specialists, conducting extensive searches for literature, reviewing evaluation reports and journal articles and assisting in the analysis of the data and creating the framework for the committee's final report. (2001-2003)

Assessment and Evaluation Experience

Director of Accreditation Activities, University of Alabama in Huntsville, Department of Education, –
Serving as the Council for the Accreditation of Educator Preparation (CAEP) coordinator. In charge of collecting, analyzing and maintaining the department database of evidence, writing the Institutional Report and preparing for the Fall 2012 accreditation review. (July 2011-present)

(Assessment and Evaluation Experience, cont'd)

Extending Just-in-Time Teaching via Worked-Examples and Self-Explanation, Center for Physics Education Research (CPER), United States Air Force Academy, Department of Physics – Evaluation and Assessment Consultant**.** Designed and will implement the formative and summative assessment plans for this proposed project. (Proposal submitted January 2011)

iPad Project, United States Military Academy at West Point and Wyoming Seminary Preparatory School – Assessment Consultant and External Evaluator. Serving as the assessment specialist for this Mathematical Association of America (MAA) funded project investigating the effectiveness of using iPads as educational tools. (November 2010-Present)

Center for Physics Education Research (CPER), United States Air Force Academy, Department of Physics – Evaluation and Assessment Consultant**.** Conducting program evaluation of the Core Physics sequence including analysis of student performance statistics, student focus group interviews and instructor observations. (February 2010-Present)

DIY (Do It Yourself) Modeling – Evaluator for this 2-year National Science Foundation Course, Curriculum and Laboratory Improvement (CCLI) Grant. DIY is a large-scale software and curriculum development project focusing on both mathematics and physics applications, with six participating colleges and universities. (July 2009-present)

Teaching Experience

Visiting Assistant Professor, Department of Education, University of Alabama in Huntsville, Huntsville, Alabama
Developed and taught the Teaching Math in Middle and Secondary Schools course for pre-service teacher candidates. (2011-Present)

Assistant Professor, United States Military Academy, West Point, New York
Taught 12-13.5 semester hours each term. Courses taught were Mathematical Modeling and Introduction to Calculus, Differential Calculus, and Integral Calculus with Introduction to Differential Equations. All courses were computer intensive using both Mathematica and Excel. Responsibilities included teaching and mentoring cadets, assisting with developing course-wide assessment tools, and mentoring junior faculty. (2005-2007)

Mathematics Teacher, St. Francis Elementary School, Austin, Texas
Co-taught and co-designed (with Dr. Jere Confrey) an Algebra course for sixth graders at this private school. The course was computer intensive using software such as Excel, Fathom and Function Probe. (2002-2003)

Mathematics Teacher, East Side Story Program, Austin, Texas
Co-taught and co-designed (with Dr. Jill Marshall and others) "Math Path", a mathematics enrichment program, for elementary students in this inner city after school program. Responsibilities included designing materials and lessons, assisting with activities and teaching students ranging from 3rd to 6th grade. (2001-02)

Graduate Teaching Assistant, University of Texas at Austin
Teaching Assistant in Classroom Interactions, a secondary math and science pre-service course in the UTeach program, a secondary math and science teacher preparation program. (2001)

Adjunct Faculty, Appalachian State University, Boone North Carolina
Taught 8-13 semester hours each term. Courses taught were College Algebra, Pre-Calculus and Applications of Math. College Algebra and Pre-calculus were graphing calculator intensive. The Applications of Math course was both computer and writing intensive. (1999-2000)

(Teaching Experience, cont'd)

Part-time Instructor, Wilkes Community College, Wilkesboro, North Carolina
Taught 8 credit hours. Courses taught were Statistics, Discrete Math and conducted the Calculus III computer laboratory using Maple Software. (2000)

Math and Physics Teacher, Heavenly Mountain Ideal Girls' School, Boone, North Carolina
Taught three courses at this private girls' boarding secondary school. Courses taught were Algebra II, Calculus and Physics. I also conducted the mathematics portion of the SAT preparation course offered at the school. (1999)

Dance Teacher, Watauga County High School, Boone North Carolina, Taught dance classes in the Arts Department at this high school. Redesigned the curriculum to include not only dance technique in Ballet and Modern dance, but dance history and choreography as well. (1998-1999).

Graduate Teaching Assistant, Appalachian State University, Boone, North Carolina
Taught one College Algebra Course each semester. The course was graphing calculator intensive. (1996-1997)

Substitute Mathematics Teacher, Avery County High School, Newland, North Carolina
Worked as a substitute teacher in the Mathematics department of this high school after my student teaching was completed. (1996)

Student Teacher, Avery County High School, Newland, North Carolina
Taught three subjects in this 4x4 block scheduled high school: Technical Math II, using CORD materials, Geometry and Honors Algebra II. Other activities at the school included assisting the drama teacher by choreographing the spring musical production. (1996)

Instructional Assistant, Department of Mathematical Sciences, Appalachian State University, Boone, North Carolina
Assisted in the mathematics department with one course each term, Pre-calculus and Applications of Math. Each semester duties included teaching the class in the professor's absence, assisting in the computer lab and conducting study sessions outside of class. (1994,1995)

Instructional Assistant, Department of Psychology, Appalachian State University, Boone, North Carolina
Assisted a professor with his educational psychology sections. Helped with in-class activities, was responsible for running the computer lab and conducting study sessions. (1995)

Other Professional Activities

University of Alabama in Huntsville Prospective Teachers of Math Association (PTMA) – Founded and served as the faculty advisor for this organization for prospective teachers of math. The purpose of this organization is to provide support and professional development in a social setting to students interested in potentially becoming math teachers with the hopes of attracting and retaining bright and motivated students to the field.

National Science Foundation's Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics (TUES) Program – Reviewed proposals submitted in Mathematics for the Type 2 and Type 3 competition. (April 2011)

The College Board, College Level Examination Program (CLEP) – Served on an advisory panel tasked with making recommendations for a possible re-design of the existing CLEP exams and creation of a new "Interdisciplinary" exam. (June 2010)

Career Mentoring Workshop for Women (CaMeW) – Served as a mentor for women graduate students in mathematical sciences attending this workshop. (August 2007)

(Other Professional Activities, cont'd)

National Science Foundation, Course, Curriculum & Laboratory Improvement (CCLI) Program – Served on a panel to review proposals submitted in Mathematics for Phase 1 of the competition. (July 2007)

Journal of Online Mathematics and its Applications (JOMA) – Served as an Assistant Editor for a special issue of JOMA devoted to using GPS units in mathematics classrooms. (Spring 2007)

International Conference on Technology in Collegiate Mathematics (ICTCM) Pre-session, "Using GPS, Google Earth, Digital Photographs and Movies in Math Courses"
Assisted with the planning and execution of this all-day workshop. (February 2007)

Publications

Slate Young, E. (in preparation). Understanding our Students: Some potential effects of high-stakes testing on student reasoning processes. Problems, Resources and Issues in Mathematics Undergraduate Studies (PRIMUS).

Slate Young, E. (in preparation). Advantages to Using a Multifaceted Approach in Conducting Validity Studies. American Educational Research Journal.

Marshall, J. A., Slate Young, E. (2006). Preservice Teachers' Theory Development in Physical and Simulated Environments. Journal of Research in Science Teaching. *43* (9). 907-937.

Slate Young, E. (2006, April). Analysis of the 2004 Math Exit-Level TAKS: Student Approaches and Statistical Results. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Slate, E. R. (2005). An Examination of the Validity of the Mathematics Exit Level Texas Assessment of Knowledge and Skills. (Doctoral dissertation, University of Texas, Austin, 2005). (UMI No. 3217637).

Presentations

Slate Young, E. "Designing and Implementing the Technology-Based Lessons: Overcoming the Obstacles". Presentation given at the 2012 International Conference on Technology in Collegiate Mathematics. Orlando, Florida, March 2012.

Slate Young, E. "Improving the Validity of Assessments in Undergraduate Mathematics: Lessons We Can Learn From the Analysis of High Stakes Tests." Presentation given at the Joint Mathematical Meetings of Mathematical Association of America and the American Mathematical Society. San Diego, California. January 2008.

Slate Young, E. "Jumping into Calculus: An Exploration using GPS data." Presentation given at the 2007 International Conference on Technology in Collegiate Mathematics. Boston, Mass, February 2007.

Slate Young, E. "An Examination of the Validity of the 2004 Exit Level TAKS Mathematics Portion." Presentation for the United States Military Academy, Department of Mathematical Sciences Center for Faculty Development (CFD). West Point, New York. February 2007.

Slate Young, E. "Data Exploration and Modeling in a College Algebra Course: Use of Heart Rate Data to investigate Recovery Time of Athletes." Presentation given at the Joint Mathematical Meetings of Mathematical Association of America and the American Mathematical Society. New Orleans, Louisiana. January 2007.

Other Awards and Honors

Department of the Army Commander's Award for Public Service
Awarded for outstanding volunteer service to 4th Infantry Division of the United States Army. (June 2004)

Order of St. Joan D'Arc
Given by the United States Armor Association for significant volunteer service to the Armor and Cavalry Communities of the United States Army. (June 2007)

Department of the Army Commander's Award for Public Service
Awarded for outstanding service to United States Military Academy, Department of Mathematical Sciences. (December 2007)

Professional Memberships

National Council of Teachers of Mathematics (1994 - present)
Mathematical Association of America (2006 - present)
American Educational Research Association (2007 - 2009)
North Carolina Council of Teachers of Mathematics (1994 -1996)