

# Kwaku Adu-Gyamfi

323 Flanagan Building, East Carolina University  
Greenville, NC 27858  
Phone: 252-328-9369 adugwamfik@ecu.edu

## Degrees

- 2007 Ph.D., Mathematics Education, North Carolina State University, Raleigh, North Carolina
- 2003 M.S.E., Mathematics Education, North Carolina State University, Raleigh, North Carolina, United States
- 1998 B.Sc., Mathematics, University of Cape Coast, Cape Coast, Ghana
- 1998 Education, Education, University of Cape Coast, Cape Coast, Ghana

## Work Experience

- 2013 - Ongoing Associate Professor, East Carolina University, Greenville, United States of America
- 2007 - 2013 Assistant Professor, East Carolina University, Greenville, North Carolina
- 2006-2007 University Supervisor, North Carolina State University, Raleigh, North Carolina
- 2005 - 2006 Graduate Research Assistant, North Carolina State University, Raleigh, North Carolina
- 2003-2005 Developmental Math Coordinator, North Carolina State University, Raleigh, North Carolina
- 2001 - 2005 Graduate Teaching Assistant, North Carolina State University, Raleigh, North Carolina

## Mathematics Education Courses Taught

### Undergraduate

Functional Relationships (MATE 1267)

### Graduate

Capstone Project in Mathematics Education (MATE 6400)

Mathematics and Methods for Grades P-K-2 (MATE 3050)	Technology in Mathematics Education (MATE 6265)
Field Experience in Mathematics K-2 (MATE 3051)	Data Analysis & Probability in the Middle Grades (MATE 6351)
Mathematics and Methods for Grades 3-6 (MATE 3060)	Current Topics in Mathematics Education (MATE 6223)
Technology in Secondary Mathematics Education (MATE 4001)	Advanced Middle-Level Mathematics Methods (MATE 6321)
Internship in High School Mathematics (MATE 4324)	Research in Mathematics Education (MATE 6211)
Internship Seminar: Issues in Mathematics Education (MATE 4325)	Leadership in Mathematics Education (MATE 6206)
	Assessment in Mathematics Education (MATE 6200)

## Publications

- Adu-Gyamfi, K.**, Bosse, M. J., Preston, R. V., & Williams, D. A. (2020). The problem of simplification in school mathematics. *Mathematics Teacher: Learning and Teaching PK-12*, 113(2), 160–163.
- Adu-Gyamfi, K.**, Schwartz, C., Sinicrope, R., & Bossé, M. J. (2019). Making sense of fraction division: domain and representation knowledge of preservice elementary teachers on a fraction division task. *Mathematics Education Research Journal*, 31, 507–528.
- Adu-Gyamfi, K.**, Bosse, M. J., & Lynch-Davies, K. (2019). Three Types of Mathematical Translations: Comparing Empirical and Theoretical Results. *School Science and Mathematics*, 119(7), 396–404.
- Jobrack, M., Bossé, M. J., Chandler, K. C., & **Adu-Gyamfi, K.** (2018). Problem-solving trajectories in a dynamic mathematics environment: The Geometer's Sketchpad. *International Journal for Mathematics Teaching and Learning*, 19(1), 68–89.
- Bosse, M. J., Bayaga, A., Fountain, C., Lynch-Davis, K., Preston, R., & **Adu-Gyamfi, K.** (2018). Fraction Learners: Assessing Understanding through Language Acquisition. *International Electronic Journal of Elementary Education*, 11(2), 113–124.
- Jobrack, M., Bossé, M. J., Chandler, K., & **Adu-Gyamfi, K. (2018)**. Problem Solving Trajectories in Dynamic Mathematics Environments. *International Journal for Mathematics Teaching and Learning*.
- Thompson, A., & **Adu-Gyamfi, K.** (2017). Providing Feedback: An embedded signature assignment. *Research Council on Mathematics Learning Conference*.

- Grady, M. M., Sinicrope, R., Preston, R. V., Cayton, C. A., Schwartz, C. S., **Adu-Gyamfi, K.**, Middleton, C. W., & Hill, D. B. (2017). Literate Mathematics Educator's Quiz: Updated for a New Century. *The Centroid*, 43(1), 3–6.
- Grady, M. M., Cayton, C. A., Middleton, C. W., Sinicrope, R., Preston, R. V., Schwartz, C. S., **Adu-Gyamfi, K.**, & Hill, D. B. (2017). Literate Mathematics Educator's Quiz: Updated for a New Century. *Centroid*, 43(1), 3–6.
- Adu-Gyamfi, K.**, Bossé, M. J., & Chandler, K. (2017). Student Connections between Algebraic and Graphical Polynomial Representations in the Context of a Polynomial Relation. *International Journal of Science and Mathematics Education*, 15(5), 915–938.
- Adu-Gyamfi, K.**, Bossé, M. J., & Chandler, K. C. (2017). Student connections between algebraic and graphical polynomial representations in the context of a polynomial relation. *International Journal of Science and Mathematics Education*, 15(5), 915–938.
- Bossé, M. J., Lynch-Davis, K., **Adu-Gyamfi, K.**, & Chandler, K. C. (2016). Instruction and learning through formative assessments. *Mathematics Teacher*, 110(5), 372–379.
- Adu-Gyamfi, K.** (2016). Using integer manipulatives: Representational determinism. *International Journal for Mathematics Teaching and Learning*, 17(3), Article 3.
- Adu-Gyamfi, K.** (2016). Instruction and learning through formative assessments. *Mathematics Teacher*, 110(5), 372–379.
- Bossé, M. J., **Adu-Gyamfi, K.**, Chandler, K. C., & Lynch-Davis, K. (2016). Dynamic Boolean mathematics. *Computers in the Schools*, 33(2), 89–102.
- Adu-Gyamfi, K.** (2016). Dynamic Boolean mathematics. *Computers in the Schools*, 33(2), 89–102.
- Adu-Gyamfi, K.**, Michael, B., & Chandler, K. (2015). Situating Student Errors: Linguistic-to-Algebra Translation Errors. *International Journal for Mathematics Teaching and Learning*.
- Adu-Gyamfi, K.**, Bossé, M. J., & Chandler, K. C. (2015). Situating student errors: Linguistic-to-algebra translation errors. *International Journal for Mathematics Teaching and Learning*, 17(1), Article 1. <http://www.cimt.org.uk/journal/bosse6.pdf>
- Lee, H., Kersaint, G., Harper, S. R., Driskell, S. O., Jones, D. L., Robin, R., & **Adu-Gyamfi, K.** (2014). TEACHERS' USE OF TRANSDENUMERATION IN SOLVING STATISTICAL TASKS WITH DYNAMIC STATISTICAL SOFTWARE. *Statistics Education Research Journal*.
- Adu-Gyamfi, K.**, & Bosse, M. J. (2014). Processes and Reasoning in Representations of Linear Functions. *International Journal of Science and Mathematics Education*, 12(1), 167–192.
- Bosse, M., **Adu-Gyamfi, K.**, & Chandler, K. (2014). Students' Differentiated Translation Processes between Graphical and Algebraic Representations. *International Journal for Mathematics Teaching and Learning*.

- Bossé, M. J., **Adu-Gyamfi, K.**, & Chandler, K. C. (2014). Students' differentiated translation processes. *International Journal for Mathematics Teaching and Learning*.
- Adu-Gyamfi, K.**, Stiff, L., & Bosse, M. (2012). Lost in Translation: Examining Translation Errors Associated with Mathematics Representations. *School Science and Mathematics*, 112(3), 159–170.
- Bosse, M., & **Adu-Gyamfi, K.** (2011). Stop Teaching and Let the Students Learn Geometry. *Mathematics Teacher*, 105(4), 293–297.
- Bosse, M., **Adu-Gyamfi, K.**, & Cheetham, M. (2011). Assessing the Difficulty of Mathematical Translations: Synthesizing the Literature and Novel Findings. *International Electronic Journal of Mathematics Education*, 6(3), 113–133.
- Bosse, M., **Adu-Gyamfi, K.**, & Cheetham, M. (2011). Translations among Mathematical Representations: Teacher Beliefs and Practices. *International Journal for Mathematics Teaching and Learning*.
- Adu-Gyamfi, K.**, & Okech, A. (2010). Ethics in research in mathematics education. *Journal of Academic Ethics*.
- Adu-Gyamfi, K.**, Michael, B., & Faulconer, J. (2010). Assessing understanding through reading and writing in mathematics. *International Journal for Mathematics Teaching and Learning*.
- Bosse, M., & **Adu-Gyamfi, K.** (2009). -nspire Calculators: Better, But Still not Perfect. *Mathematics Teacher*.

#### *Proceedings*

- Bossé, M. J., Lynch-Davis, K., Adu-Gyamfi, K., & Chandler, K. C. (2017). Instructional and assessment tasks. *Proceedings of 15th Annual Hawaii International Conference on Education*. <http://hiceducation.org/wp-content/uploads/proceedings-library/EDU2017.pdf>

#### **Presentations**

- Adu-Gyamfi, K.** (2022, March). Fraction Division: Preservice Teachers Domain and Representation Knowledge. In *Research Council on Mathematics Learning Conference*.
- Thompson, A., & **Adu-Gyamfi, K.** (2020, March). Pre-Service Mathematics Teachers' Perceptions of the edTPA. In *Research Council on Mathematics Learning 47th annual Conference*.
- Adu-Gyamfi, K.**, & Thompson, A. (2020, March). Teacher Perceptions and Expectations: Ten Mathematical Translations, In *Research Council on Mathematics Learning 47th Annual Conference*.

- Schwartz, C. S., **Adu-Gyamfi, K.**, & Sinicrope, R. (2019, March). Supporting Preservice Teachers' Strategic Competence in a Non-routine Task. In *Research Council on Mathematics Learning Conference*.
- Schwartz, C., **Adu-Gyamfi, K.**, Sinicrope, R., & Lee, C. (2019, February). Supporting Pre-service Teachers' Strategic Competence in a Non-routine Task. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.**, & Thompson, A. (2019, February). Representations: Teacher Expectations, Beliefs, Instructional Practices. In *Research Council on Mathematics Learning Conference*.
- Thompson, A., & **Adu-Gyamfi, K.** (2019, February). The edTPA and Math Education: Perceptions, Possibilities and Problems. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.** (2018). Digital Technology: Activities and ideas for the Math Classroom. In *Annual Conference of the North Carolina Council of Teachers of Mathematics*.
- Adu-Gyamfi, K.**, & Thompson, A. (2018, February). Math Teacher's Technology Integration Practices: The SAMR Model. In *Research Council on Mathematics Learning Conference*.
- Thompson, A., & **Adu-Gyamfi, K.** (2018, February). Preparing Pre-Service Teachers to Provide Feedback in Mathematics. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.** (2017, November). Visual Fraction Models: Positive Fraction Identity. In *Annual Conference of the North Carolina Council of Teachers of Mathematics*.
- Bosse, M., Lynch-Davies, K., **Adu-Gyamfi, K.**, & Chandler, K. (2017). Instruction and Assessment Tasks. In *Hawaii International Conference on Education*.
- Thompson, A., & **Adu-Gyamfi, K.** (2017, April). Mathematical Modeling and the Common Core State Standards (CCSS). In *National Council of Teachers of Mathematics*.
- Thompson, A., **Adu-Gyamfi, K.**, Grady, M., & Cayton, C. (2016). Implementing the edTPA in mathematics: A wonderful, awful idea. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.**, & Anthony, T. (2016, February). Implementing reform initiatives: A case study of a high school teacher. In *Research Council on Mathematics Learning Conference*.
- Thompson, A., **Adu-Gyamfi, K.**, & Grady, M. (2015). The Challenges and Possibilities of the edTPA. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.** (2015). Fraction: What you wish your students knew and how to teach it. In *Annual Conference of the North Carolina Council of Teachers of Mathematics*.

- Adu-Gyamfi, K.**, & Thompson, A. (2014, February). Implementing the CCSS-M: A case study of two high school teachers. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.**, & Thompson, A. (2014). Accepting the Challenge: A case study of CCSS-M Implementation. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.** (2014). Mini-Session Magic: Minutes of Meaningful Morsels 6-12. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Grady, M., Sinicrope, R., & **Adu-Gyamfi, K.** (2014). Co-Teaching in Mathematics. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Thompson, A., & **Adu-Gyamfi, K.** (2014). Implementing the edTPA in Mathematics Education at East Carolina University. In *Research Council on Mathematics Learning Conference*.
- Adu-Gyamfi, K.** (2013, November). Mini-Session Magic: Assessment and the Common Core. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Preston, R., **Adu-Gyamfi, K.**, & Bosse, M. (2012, April). Mathematical Modeling and the Common Core State Standards (CCSS). In *National Council of Teachers of Mathematics*.
- Cooper, R., Harrison, L., & **Adu-Gyamfi, K.** (2012). Lights Camera Kinect. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Adu-Gyamfi, K.**, & Camut, B. (2012). Experiencing Fractions Through Language Arts: Grades 3-5. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Knies, A., & **Adu-Gyamfi, K.** (2012, October). A New Approach to an Old Algebra. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.
- Adu-Gyamfi, K.** (2010). Connecting mathematical concepts to student interpretations of mathematical representations. In *National Council of Teachers of Mathematics*.
- Adu-Gyamfi, K.** (2010). Connecting mathematical concepts to interpretations of mathematical representation. In *Association of Mathematics Teacher Educators Annual Meeting*.
- Adu-Gyamfi, K.** (2010). Connecting Multiple Representations: Equation solving a transforming experience with the Ti-nspire handheld. In *Annual Conference of the North Carolina Council of Teachers of Mathematics*.
- Bosse, M., **Adu-Gyamfi, K.**, & Preston, R. (2009). Learning Math as a Second Language. In *Association of Mathematics Teacher Educators Annual Meeting*.
- Adu-Gyamfi, K.** (2007, October). Number Sense: Does Place Value Really Have Value in Our Numeration System. In *North Carolina Council of Teachers of Mathematics Annual Fall Conference*.

## Grant Activity

NSF Robert Noyce Scholarship: *Investigating teachers' use of tasks, discourse and technology in high need school districts* (2017-2022). **[Grant Evaluator]**. Status funded. (\$ 1,192,468)

US Department of Education Grant: Teacher Quality & Student Achievement: A Comprehensive Data-driven School-University Partnership (2009 – 2018). **[Co-Principal Investigator]**. Status: Funded. PI Betty Beacham. (\$1, 411,798.38)

College of Education Smart Classroom Grant (2007-2008): The Use of Smart Classroom Technology to Increase Pre-Service Teachers' Capacity to Educate Diverse Learners. **[Co-Principal Investigator]**. Status: Funded. (\$100,000)

## Professional Service

Eastern Region President, North Carolina Council of Teachers of Mathematics (NCCTM)  
2021-Ongoing

Board of Directors, North Carolina Council of Teachers of Math (NCCTM)  
2020-Ungoing

External Examiner for Doctoral Dissertation. University of Zululand, South Africa  
2019-2021

External Reviewer (Tenure and Promotion). Department of Mathematics and Statistics,  
Texas A & M. Corpus Christie. 2019-2020

Board of Directors. North Carolina Association of Mathematics Teacher Educators  
(NCAMTE). 2017-2019

Editorial Board. Computers in the school Journal.  
2013-Present

### Reviewer

Mathematics Teacher: Learning and Teaching PK–12 2021-Present

Journal of Research in Mathematics Education 2020-Present

School Science and Mathematics Journal 2013-Present

Educational Studies in Mathematics 2020-Present

Computers in the School Journal 2013-Present

National Council Teachers of Mathematics 2013-Present

## Professional Memberships

North Carolina Association of Mathematics Teacher Educators (NC-AMTE) 2015-Present

Research Council on Mathematics Learning (RCML) 2013-Present

National Council for Teachers of Mathematics (NCTM) 2009-Present

North Carolina Council of Teachers of Mathematics (NCCTM) 2007-Present