

# CURRICULUM VITA

Andrea Kay Knapp

## 1. Academic History

**Name:** Andrea Kay Knapp

**Address:** Mathematics and Science Education  
University of Georgia Griffin Campus  
1109 Experiment St.  
325 Flynt Building  
Griffin, GA, 30223

**Present Rank:** Lecturer, 100% Instruction

**Tenure Status:** Career Track

### **Education:**

2007 Ph.D., Mathematics Education, Illinois State University;  
Major Professor: Jeffrey Barrett, Ph.D.  
Thesis: Prompting Mathematics Teacher Development through Dynamic Discourse

2005 M.S., Elementary & Middle School Mathematics Education,  
Illinois State University  
Thesis: Is GK-12 Effective for High School Algebra Students?

1995 B.A., Mathematics, Illinois State University, 1995

1993 A.A.S., Mathematics, Illinois Central College, 1993

### **Academic Positions:**

2007-present: Lecturer, Department of Mathematics and Science Education, The University of Georgia

2006-2007: Evaluator, Partnerships for Research in Science and Mathematics Education, Illinois State University

2004-2006: Graduate Teaching Fellow, Partnerships for Research in Science and Mathematics Education, Illinois State University

1999: Mathematics Instructor, Heartland Community College, Normal, IL

1996-1997: Mathematics Instructor, Illinois Central College, East Peoria, IL

### **Other Professional Employment:**

1999-2004: High School Mathematics Teacher, Normal Community High School, Normal, IL

1991-1993, 1996-1997: Mathematics Laboratory Tutor, Illinois Central College, East Peoria, IL

## **2. Resident Instruction and Continuing Education**

### **b. Courses Taught**

- EMAT 6420 *Mathematics Methods for Early Childhood Education* (3 hours)  
Course focused on content, methods, and curricula for PreK through 5<sup>th</sup> grade mathematics instruction. Particular attention was paid to implementing the NCTM Number and Operations and process standards.  
Spring 2008 (14G)
- EMAT 7010 *Teaching Mathematics in the Elementary School* (3 hours)  
Course focused on content, methods, and curricula appropriate for PreK through 5<sup>th</sup> grade instruction of algebra. Particular attention was paid to implementing the NCTM algebra and process standards while developing a leadership disposition with respect to algebra instruction.  
Spring 2008 (18G)
- EMAT 6000 *Special Problems in Mathematics Education* (2 hours)  
*Issues in Early Childhood Mathematics Education*  
Course focused on professional development issues for PreK through 5<sup>th</sup> grade instructors of mathematics.  
Spring 2008 (2G)
- MATH 070 *Fundamentals of Mathematics* (Heartland Community College 3 hours)  
Course focused on basic operations with whole numbers, fractions, decimals, and signed numbers as well as solving equations and problem solving.  
Spring 1999 (~15U)
- MATH 110 *Concepts of Mathematics* (Illinois Central College 3 hours)  
Course focused on a survey of mathematics including algebra and discrete mathematics content.  
Summer 1997 (~15U)
- MAT 108 *Intermediate Algebra* (Illinois Central College 3 hours)  
Course focused on intermediate algebra concepts such as factoring and graphing polynomial functions. Graphing calculator technology used.  
Spring 1997 (~15U)
- MAT 104 *Elementary Algebra* (Illinois Central College 5 hours)  
Course focused on basic algebraic concepts such as solving equations and graphing.  
Fall 1996 (~15 U)

### **c. Advising Responsibilities**

Currently serving as mathematics education advisor for 32 M.Ed/Ed.S. students.

### **d. Tutoring Responsibilities** (Illinois Central College)

Tutored remedial mathematics through differential equations.

### **3. Scholarly Activities**

#### **a. Publications**

##### Refereed Research Papers Published in Conference Proceedings

Knapp, A. K., Barrett, J. E., & Kaufmann, M. L. (2007). Prompting mathematics teacher knowledge development using dynamic geometry software. In T. Lamberg & L. Wiest (Eds.) *Proceedings of the 29<sup>th</sup> annual meeting of the North American chapter of the International Group for the Psychology of Mathematics Education* (pp. 1098-1105), State Line (Lake Tahoe), NV: University of Nevada, Reno. (Knapp, 50%)

##### Bulletins or Reports

Knapp, A. K. (2007). *Mathematics and science teachers' and fellows' development of pedagogical content knowledge: 2006-2007 Partnerships for Research in Science and Mathematics Education (PRISM)* Unpublished Annual Evaluator Report. Illinois State University.

##### Work Submitted

Knapp, A. K., Bomer, M., & Moore, C. J. (2008). Lesson study as a learning environment for mathematics coaches. In J. Cortina (Ed.) *Proceedings of the 32<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education*. Morelia, Mexico: PME. Manuscript submitted 1/2008. (Knapp, 70%)

Knapp, A. K., & Moore, C. J. (2008). The effects of collaborative coaching in a dynamic geometry environment. Paper submitted to the *Partnership for Reform in Science and Mathematics conference, "Accepting the STEM Challenge"* Atlanta, GA. (Knapp, 95%)

#### **b. Grants Received**

Caterpillar Foundation \$250, 5/2005

National Science Foundation Matching Funds \$250

*The Geometer's Sketchpad* Software for Saint Mary's School-Pontiac

Beyond the Books Grant \$1000, 4/2005

National Science Foundation Matching Funds \$1000

*The Geometer's Sketchpad* Software for Kingsely Jr. High

Heart of Illinois/CEFCU Kids Count Grant \$1000, 3/2005

National Science Foundation Matching Funds \$1000

*The Geometer's Sketchpad* Software for Chiddix Junior High

Illinois Power, Bright Schoolutions Grant \$1000, 12/2002

National Science Foundation Matching Funds \$1000

CBR's and CBL's for Normal Community High School

Normal Community High School Tech Prep Funding \$200, 10/2003

Tech Prep money for the Activities in Algebra class I was teaching

**c. Recognitions and Outstanding Achievements**

Ada Belle Clark Welsh Scholarship, 4/2005

Ora Bretall Scholarship, 4/2005

Illinois Council of Teachers of Mathematics Illinois Promising New Teacher of Mathematics Award, 10/2004

ISU Math Dept. Outstanding Senior Math Education Major Award, 5/1995

ISU Math Department Senior Scholastic Achievement Award, 5/1995

**d. Areas of Research**

Teacher and student development of geometric reasoning through dynamic geometry software, Collaborative teacher development through coaching and lesson study

**e. Convention Papers**

\* Identifies a paper with a published or submitted for publication counterpart

\*Knapp, A. K., & Moore, C. J. (2008, September). The effects of collaborative coaching in a dynamic geometry environment. Paper submitted to the *Partnership for Reform in Science and Mathematics conference, "Accepting the STEM Challenge"*. Atlanta, GA. Proposal submitted 12/2007.

\*Knapp, A. K., Bomer, M., & Moore, C. J. (2008, July). Lesson study as a learning environment for mathematics coaches. In J. Cortina (Ed.) *Proceedings of the 32<sup>st</sup> Conference of the International Group for the Psychology of Mathematics Education*. Morelia, Mexico: PME. Proposal submitted 1/2008.

\*Knapp, A. K. (2007, October). *Prompting teacher development using dynamic geometry software*. Paper presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Stateline (Lake Tahoe), NV.

Knapp, A. K., & Walesby, S. (2006, September). *Activities in Algebra: Is GK-12 effective for high school algebra students?* Paper presented at the regional conference of the National Council of Teachers of Mathematics, Chicago, IL. (Knapp, 65%)

Knapp, A. K., & Gibbens, B. (2003, April). *Bridging the gap with college algebra*. Connections Conference, St. Charles, IL. (Knapp, 50%)

**f. Other Conference Presentations**

\*\* Denotes invited presentations.

\*\*Bomer, M., & Knapp, A. (2006, February). *Activities for improving basic facts*. Heart of Illinois Teachers of Mathematics Mini-Conference, Peoria, IL (Knapp, 40%).

\*\*Knapp, A. K., & Douangchampa, U. (2006, February). *Geometry activities for 4<sup>th</sup>-8<sup>th</sup> grade*. Heart of Illinois Teachers of Mathematics Mini-Conference, Peoria, IL. (Knapp, 50%)

Knapp, A. K., & Douangchampa, U. (2005, October). *Forensics, probability, and percents*. Illinois Council of Teachers of Mathematics, Annual Conference, Peoria, IL. (Knapp, 85%)

\*\*Knapp, A. K. (2005, February). *Activities in algebra: General math transformed*. Heart of Illinois Teachers of Mathematics Mini-Conference, Peoria, IL.

Plantholt, M., Knapp, A. K., Matejka, L., Narciso, L., Ladewski, E., & McLear, R. (2004, October). *Graduate student partnerships with teachers*. Illinois Council of Teachers of Mathematics, Annual Conference, Peoria, IL. (Knapp, 17%)

Knapp, A. K. (2004, October). *Activities in algebra: General math transformed*. Illinois Council of Teachers of Mathematics, Annual Conference, Peoria, IL.

\*\*Foster, H. J., & Knapp, A. K. (2004, February). Calculator based rangers. Heart of Illinois Teachers of Mathematics Mini-Conference, Peoria, IL. (Knapp, 25%)

\*\*Foster, H. J., & Knapp, A. K. (2003, October). *Here it comes, there it goes: Using CBRs and pendulums to graph sinusoidal functions*. Illinois Council of Teachers of Mathematics, Annual Conference, Chicago, IL. (Knapp, 40%)

#### **g. Other Presentations and Workshops**

\*\* Denotes invited presentations.

Knapp, A. K. (2007, October). *Pascal's patterns*. The University of Georgia Griffin Campus Information Session, Griffin, GA.

Knapp, A. K. (2007, September). *Coin toss games*. Henry County School District Information Session, McDonough, GA.

Knapp, A. K. (2007, September). *Coin toss games*. Newton County School District Information Session, Covington, GA.

Knapp, A. K. (2007, September). *Pascal's patterns*. The University of Georgia Griffin Campus Information Session, Griffin, GA.

\*\*Knapp, A. K. (2006, October). *Middle school Geometer's Sketchpad workshop II*. Kingsley Jr. High School, Normal, IL.

\*\*Knapp, A. K. (2006, October). *Middle school Geometer's Sketchpad workshop I*. Kingsley Jr. High School, Normal, IL.

Knapp, A. K. (2006, June). *Spring into action research*. Illinois State University Partnerships for Research in Science and Mathematics Education (PRISM) Workshops, Normal, IL.

Knapp, A. K. (2006, June). *Teaching mathematics through problem solving*. Illinois State University PRISM Workshops, Normal, IL.

Knapp, A. K. (2006, June). *Basic skills, geometry, and proportional reasoning*. Illinois State University PRISM Workshops, Normal, IL.

Knapp, A. K. (2006, June). *High school Geometer's Sketchpad workshop*. Illinois State University PRISM Workshops, Normal, IL.

- Knapp, A. K. (2006, June). *K-8 Geometer's Sketchpad workshop*. Illinois State University PRISM Workshops, Normal, IL.
- Knapp, A. K. (2006, June). *Graphing around on the TI-73*. Illinois State University PRISM Workshops, Normal, IL.
- Knapp, A. K., Bomer, M., & Metroff, B. (2006, May). *Introduction to Geometer's Sketchpad K-8*. Holy Trinity Junior High Workshop, Bloomington, IL. (Knapp, 50%)
- \*\*Knapp, A. K., & Kaufmann, M. L. (2006, March). *Teaching through activity*. Presentation to secondary student teachers at Illinois State University, Normal, IL. (Knapp, 50%)
- \*\*Knapp, A. K., & Douangchampa, U. (2006, March). *7<sup>th</sup>-8<sup>th</sup> grade mathematics activities*. Peoria Public Schools Staff Development Day, Peoria, IL. (Knapp, 50%).
- \*\*Kaufmann, M. L., Bomer, M., Knapp, A. K., & Douangchampa, U. (2006, February). *Fence those cows!: Minimizing perimeter*. Illinois Council of Teachers of Mathematics Mathematics Contest Guest Speakers, Illinois Central College, East Peoria, IL.
- \*\*Knapp, A. K. (2006, January). *K-8 Geometer's Sketchpad workshop II*. Saint Mary's School, Pontiac, IL.
- \*\*Knapp, A. K., & Bomer, M. (2006, January). *Introduction to PRISM*. Fairview Elementary Staff Development Day, Normal, IL. (Knapp, 50%)
- \*\*Douangchampa, U., Kaufmann, M. L., & Knapp, A. K. (2005, October). *Geometry for middle school*. Charles Lindberg Middle School Staff Development Day, Peoria, IL. (Knapp, 10%)
- \*\*Knapp, A. K. (2005, October). *Geometer's Sketchpad for high school*. Normal Community High School Staff Development Day, Normal, IL.
- \*\*Knapp, A. K. (2005, September). *Geometer's Sketchpad for elementary school*. Saint Mary's School Workshop, Pontiac, IL.
- \*\*Barrett, J. E., Knapp, A. K. (2005, August). *Geometer's Sketchpad for middle school*. Unit 5 Staff Development Day, Normal, IL. (Knapp, 25%)
- Knapp, A. K., & Matejka, L. (2005, August). *Geometer's Sketchpad and art for 6<sup>th</sup> grade*. Illinois State University PRISM Workshop, Normal, IL. (Knapp, 50%)
- Knapp, A. K. (2005, August). *Action research*. Illinois State University PRISM Workshop, Normal, IL.
- Knapp, A. K. (2005, July). *Math in motion with CBL's and CBR's*. Illinois State University PRISM Workshop, Normal, IL.
- Knapp, A. K. (2005, June). *Math in motion with CBL's and CBR's*. Illinois State University PRISM Workshop, Normal, IL.
- Knapp, A. K. (2005, June). *Graphing around with the TI-83*. Illinois State University PRISM Workshop, Normal, IL.

- Knapp, A. K. (2005, June). *Going geometric with Geometer's Sketchpad*. Illinois State University PRISM Workshop, Normal, IL.
- \*\*Knapp, A. K. (2005, June). *Hands-On Equations*. Charles Lindberg Middle School Workshop, Peoria, IL.
- Knapp, A. K. (2004, November). *Grant writing*. Illinois State University PRISM Fellows Meeting, Normal, IL.
- \*\*Knapp, A. K. (2004, October). *Hands-On Equations teaching demonstrations*. Lockport, IL High School Special Education Department
- \*\*Knapp, A. K. (2004, September). *Hands-On Equations*. Lockport, IL High School Special Education Department.
- Knapp, A. K. (2004, August). *Action research*. Illinois State University PRISM Fellows Training, Normal, IL.
- Knapp, A. K., & Matejka, L. (2004, July). *Geometer's Sketchpad*. Illinois State University PRISM Workshop, Normal, IL. (Knapp, 50%)
- Knapp, A. K. (2004, July). *CBL/CBR activities*. Illinois State University PRISM Workshop, Normal, IL.
- Knapp, A. K. (2004, June). *Activities for geometry*. Illinois State University PRISM Workshop at Unit 5, Normal, IL.
- Knapp, A. K. (2004, June). *Activities for Algebra I*. Illinois State University PRISM Workshop for Unit 5, Normal, IL.
- Matejka, L., & Knapp, A. K. (2004, June). *Actions with fractions*. Illinois State University PRISM Workshop, Normal, IL.
- Knapp, A. K. (2004, June). *Activities for Algebra II*. Illinois State University PRISM Workshop for Unit 5, Normal, IL.
- Knapp, A. K. (2004, June). *Activities for Algebra Part I*. Illinois State University PRISM Workshops (3 days) for Unit 5, Normal, IL.
- Knapp, A. K. (2004, April). *Algebra tiles*. School Improvement Day, Unit 5 Mathematics Department, Normal, IL.
- \*\*Knapp, A. K. (2004, March). *Action research with algebra tiles and activities in algebra*. PRISM Teacher/Fellow Meeting, Normal, IL.
- Foster, H. J. & Knapp, A. K. (2003, March). *Now we've got them, what do we do with them?: Using CBR's and CBL's in the mathematics classroom*. Normal Community High School Mathematics Department Workshop, Normal, IL. (Knapp, 25%)

#### **4. Public Service**

##### **a. Presentations and Workshops in Griffin, GA**

- Knapp, A. K. (2008, January). *GPS middle school math workshops: TI-73 and TI-83 graphing calculators*. University of Georgia Griffin Campus Recruiting Workshop, Griffin, GA.

Knapp, A. K. (2008, January). *Introduction to Geometer's Sketchpad*. Cowan Road Middle School Building Leaders Workshop, Griffin, GA.

Knapp, A. K. (2007, November). *Introduction to Geometer's Sketchpad*. Griffin-Spalding County School District Curriculum Directors Workshop, Griffin, GA.

Knapp, A. K. (2007, October). *Symmetric Masks*. Griffin-Spalding County Kindergarten Teachers CARES Meeting, Griffin, GA.

Knapp, A. K. (2007, September). *Contig*. Griffin-Spalding County First Grade Teachers CARES Meeting, Griffin, GA.

Knapp, A. K. (2007, September). *Dream house area and perimeter*. Griffin-Spalding County Third Grade Teachers CARES Meeting, Griffin, GA.

Knapp, A. K. (2007, September). *Fair share method*. Griffin-Spalding County Fourth Grade Teachers CARES Meeting, Griffin, GA.

Knapp, A. K. (2007, September). *Coin toss games*. Griffin-Spalding County Fifth Grade Teachers CARES Meeting, Griffin, GA.

**b. Grants Submitted for Griffin-Spalding County School District**

Knapp, A. K., & Anderson, C. (2007, December). *Goody's Geometer's Sketchpad and Tinker Plots Grant*. Submitted for Kennedy Road Middle School 12/29/2007. \$10,000 (Knapp, 75%)

**c. Local Community Service and Relations**

Metro Math participant. Participated in discussions on implementing the GPS.  
Fall 2007, Gwinnett Co.  
Winter 2007, Henry Co.

WHIE Radio guest. Participated in discussion about economic development of Griffin through new UGA Griffin academic programs.

**5. Department, College, and University Service**

MAT Committee: Served on committee charged with drafting the course of study for the Master of Arts in Teaching in Mathematics Education (Fall 2007)

Griffin Academic Programs: Represented Mathematics and Science Education, particularly in the area of recruiting (Fall 2007-present)

M.Ed. exam and portfolio reader (Fall 2007)

Assisted with M.Ed. portfolio revisions

MATH 7003 Course Development: Collaborated with instructor to incorporate GPS Tasks (Fall 2007)