

## **Chandra Hawley Orrill**

Associate Research Scientist

Learning and Performance Support Laboratory

611 Aderhold Hall  
Athens, GA 30602

Office: (706) 583-0879  
Email: [corrill@uga.edu](mailto:corrill@uga.edu)

### **EDUCATION**

- Ph.D.: Instructional Systems Technology, Indiana University, December, 1999  
Dissertation Title: *Building technology-based, learner-centered environments: Professional development in real time* (Major Advisor: Thomas Duffy)
- M.S.: Instructional Systems Technology, Indiana University, December, 1996
- B.A.: The New College, magna cum laude, The University of Alabama, May, 1993  
Depth Study: Computer Applications in Music

### **PROFESSIONAL EXPERIENCE**

**Associate Research Scientist:** Learning and Performance Support Laboratory  
University of Georgia (July, 2006 – present)

**Assistant Research Scientist:** Learning and Performance Support Laboratory  
University of Georgia (September, 2000 – July, 2006)

**Adjunct Faculty:** Educational Psychology & Instructional Technology  
University of Georgia (June, 2003 – present)

**Instructional Design Consultant:** Transparent Media  
Athens, GA (September, 2000 – 2004)

**Assistant Professor:** Instructional Technology – Educational Studies  
Ohio University (September, 1999 – August, 2000)

**Research Assistant:** (May, 1996 – June 1999)  
Center for Innovation in Assessment – “Sage” Project (PIs: Roger Farr, Thomas Duffy, Beth Greene & Larry Mikulecky)

**Graduate Assistant:** (May, 1995 – December, 1997)  
Center for Adolescent Studies, Indiana University (Director: Dr. Kris Bosworth)  
Webmaster - Adolescent Directory On-line & Teacher Talk Forum,  
Editor/Webmaster - Teacher Talk (Vol. 3)

**Volunteer Intern:** (May, 1995 - August, 1995)  
Teaching and Learning Technologies Lab, Indiana University  
Instructional Consultant work with faculty and TLTL staff, Multimedia Developer on parts of ongoing projects

## **SELECTED RESEARCH & DEVELOPMENT EXPERIENCE**

**PI:** Does it Work?: Building Methods for Understanding Effects of Professional Development. With Andrew Izsák & Allan Cohen (2007-2009). In this research project we are exploring the relationships between teacher professional development experiences, teacher learning, teacher practice, and impact on student test scores.

**PI:** RESA GPS Collaborative Professional Development Project  
With: Tom Koballa, Art Recesso, & Jim Wilson (2005-2009)  
The RESA Collaborative is a community of learning among the professional developers in the state in mathematics and science. In mathematics, we have focused on developing a shared understanding of standards-based practice.

**PI:** Exploring Mathematics/Technology Integration in Mathematics/Exploring Mathematics. (June, 2001- June, 2009). This is a series of professional development projects focused on the improvement of mathematics teaching and learning through a focus on the use of open-ended investigations, technologies, and manipulatives.

**Co-PI:** CoSTAR (Coordinating Student and Teacher Algebraic Reasoning)  
PI: Andrew Izsák; Co-PIs: John Olive & Chandra Orrill (2003-2007).  
CoSTAR was a research project concerned with understanding student and teacher learning by exploring the ways they understand classroom phenomenon. In this effort, we used interviews focused on classroom practices to probe student thinking, then coordinate that with teacher thinking related to the same topics.

**Project Manager:** InterMath  
PIs: Jim Wilson, Mike Hannafin, & Paul Ohme (2000 – 2006). InterMath is an NSF-funded statewide professional development program for mathematics educators focused on using technology tools in mathematics and increasing the mathematics content knowledge of middle-grades teachers. <http://intermath.coe.uga.edu>.

## **TEACHING**

### *University Courses Taught*

EMAT 8990: Doctoral Topical Seminar (Fall, 2007)  
Topic: Understanding *Mathematics in Context*, 1 Credit Hour

EMAT 8990/ESCI 8990/EDIT 9990: Doctoral Topical Seminar (Summer, 2007)  
Topic: Research on Professional Development, 3 credit hours

EDIT 9990: Doctoral Topical Seminar (Spring, 2006)  
 Co-Instructor with Tom Reeves, Topic: Design-Based Research Methods in  
 Instructional Technology, 3 credit hours

Masters Research Project (Spring, 2000)  
 Educational Studies, Ohio University – Chillicothe Campus

Educational Applications of the Internet (Spring, 2000)  
 Educational Studies, Ohio University – Athens Campus

Instructional Design (Winter, 2000; Spring, 2000)  
 Educational Studies, Ohio University – Zanesville & Southern Campuses  
 Spring, 2000 – Co-instructor with Jason Orrill

Internship: Theory into Practice (Winter, 2000)  
 Educational Studies, Ohio University – Chillicothe Campus

Technology Applications in Education (Fall, 1999)  
 Educational Studies, Ohio University

Teaching With the Internet Across the Curriculum (3 times – 1998-99)  
 Instructional Systems Technology, Indiana University

Developing WWW Sites for Public Schools (Summer, 1998)  
 Instructional Systems Technology, Indiana University

#### *Other University Teaching-Related Activities*

Guest Lecturer: EMAT 8990: Doctoral Seminar (Fall, 2008; Fall, 2007)

Guest Lecturer: EDIT 6100: Introduction to Instructional Technology (Fall, 2004)  
 Instructional Technology Department, UGA.  
 Course Instructor: Dr. David Noah

Guest Lecturer: EDIT 8990: Doctoral Seminar (Spring & Fall, 2004)  
 Instructional Technology Department, UGA.  
 Course Instructors: Dr. Michael Hannafin & Dr. Janette Hill

Guest Lecturer: *General Secondary Teaching Methods* (Spring, 1998)  
 Curriculum & Instruction, Indiana University  
 Course Instructor: Dr. Kathleen Cruikshank

#### *K-12 Teaching & Professional Development*

Over 300 hours of face-to-face workshop instruction with grades 3-8 mathematics  
 teachers and teacher leaders. Content from across NCTM content and process  
 standards.

Three years of experience (over 150 hours) in supporting mathematics professional  
 developers to support Georgia Performance Standards roll-out K-12.

Multiple demonstration lessons for standards-based mathematics (grades 3-10).

Co-teach high school Pre-algebra – Morgan County High School (Georgia), Spring  
 2001.

## GRANTS & CONTRACTS RECEIVED

### *Research and Development Grants*

Diagnosing Teachers' Multiplicative Reasoning – National Science Foundation – DRK-12 program. October, 2008-December, 2010. \$944,163. (PI: Andrew Izsák. Co-PI with Allan Cohen, Joann Lobato, & Jonathan Templin)

Does it Work? Building Methods for Understanding Effects of Professional Development. National Science Foundation – REESE program. January, 2007-December, 2009. \$999,958. (PI, with Co-PIs Allan Cohen & Andrew Izsák).

Coordinating Student and Teacher Algebraic Reasoning (CoSTAR). National Science Foundation – ROLE program. January, 2003-December, 2007. \$1.1 million (PI: Andrew Izsák. Co-PI with Bradford Findell and John Olive.)

Understanding Mathematics Reform from the Teachers' Perspective. Office of the Vice President of Research – University of Georgia, January – December, 2002, \$7,842. (PI)

Learning to Teach with Technology Studio. U.S. Department of Education, July, 2001 – August, 2004. UGA Subaward: \$104,500. (PI on UGA Subaward. Grant PI was Thomas Duffy, Indiana University).

### *Professional Development Grants*

Building a Technology Research Agenda – An Early Career Symposium. August, 2008 – August, 2009. National Science Foundation. \$31,712. (PI with Co-PI Michael Hannafin.)

The Dragon Connection. Georgia Math and Science Partnership. July 2007 – June, 2009. UGA subaward \$52,938. (PI on UGA subaward.)

Fostering Research: A Colloquium for Technology Researchers. National Science Foundation. \$20,199 (Co-PI with PI: Mike Hannafin)

Exploring Standards-Based Mathematics 3-5 – Franklin County. Georgia's Teacher Quality Program. August, 2007 - May, 2008. \$34,500. (PI)

Exploring Standards-Based Mathematics 6-8 – Franklin County. Georgia's Teacher Quality Program. August, 2007 - May, 2008. \$35,787. (PI)

Deeper Explorations in Mathematics – Geometry (Richmond County). Georgia's Teacher Quality Program. August, 2007 - May, 2008. \$44,346. (PI)

Deeper Explorations of Mathematics – Richmond County & Exploring Math – Richmond County. Georgia's Teacher Quality Program. June 2006 – June, 2007. Combined total \$157,352. (PI)

Wilkes County Math & Science Partnership. Georgia Math and Science Partnership. August, 2006 – July, 2007. UGA subaward \$23,274. (PI on UGA subaward.)

Jefferson City Math & Science Partnership. Georgia Math and Science Partnership. August, 2006 – July, 2007. UGA subaward \$19,094. (PI on UGA subaward.)

- Technology Integration in Mathematics – Richmond County. Georgia’s Teacher Quality Program. May, 2005 – May, 2006. \$52,623. (PI).
- Richmond County Board of Education Partnership. Georgia Math and Science Partnership. September, 2004 – May, 2007. UGA subaward \$87,469. (PI on UGA subaward.)
- ALPS: All Learners are Problem Solvers. Georgia’s Teacher Quality Grant Program. May, 2004 – May, 2005. \$59,872. (PI, with Co-PI Denise Mewborn).
- Madison County Mathematics Improvement with Technology. Georgia’s Teacher Quality Grant Program. May, 2004 – May, 2005. \$32,697. (PI)
- Technology Integration in Mathematics. Georgia’s Teacher Quality Grant Program. May, 2003 – May, 2004. \$76,424. (PI, with Co-PI Art Recesso.)
- EisenSWET (Eisenhower – Scientific Workings of Everyday Things). Georgia’s Eisenhower Higher Education Program, May, 2002 – May, 2003. \$23,524. (Co-PI with J. Steve Oliver.)
- Exploring Math: Primary grade math through technology and investigations. Eisenhower Higher Education, March, 2001-May, 2002, \$57,364. (Project Director with PI Michael Hannafin).

#### *Professional Development Contracts*

- Morgan County Mathematics. Morgan County Board of Education. \$48,296. (PI with Co-PI Andrew Izsák)
- RESA GPS Collaborative Professional Development Project. Funded through a subaward on an NSF Mathematics and Science Partnership Grant to the Georgia Board of Regents. August, 2005 – September, 2008. \$607,338. (PI on UGA subaward, with Co-PIs Tom Koballa (2006-2008) & Art Recesso (2005-2006).)
- eMath: Title IId Enhancing Education through Technology. June, 2004 – September, 2006. \$45,000. (PI on contract.)

## **PUBLICATIONS**

#### *Journal Articles & Book Chapters Under Review & In Progress*

- Izsák, A., Orrill, C. H., Cohen, A., & Brown, R. E. (submitted). Using the mixture Rasch model to assess middle grades teachers’ reasoning about rational numbers. Manuscript submitted to *Elementary School Journal*.
- Orrill, C. H., Anthony, H. G., & Recesso, A. (submitted). Making sense of barriers and influences in the first year of standards-based mathematics curriculum use. Manuscript submitted to *Journal of Mathematics Teacher Education*.
- Geisler, S. K., Orrill, C. H., Brown, R. E., Li, F., & Brunaud-Vega, V. L. (submitted). Questioning teacher goals in professional development: Do goals really make a difference? Manuscript submitted to *Journal of Teacher Education*.

Sexton, S., Orrill, C. H., Lee, S., & Brown, R. (*in progress*). Mathematics teachers' abilities to make sense of drawn representations. Anticipated submission December, 2008.

*Journal Articles & Book Chapters (\*indicates peer reviewed journal)*

Wise, A. F., Orrill, C. H., Duffy, T. M., del Valle, R., & Kirkley, J. R. (2008). When a peer group isn't needed: Effective online learning in an individual mentoring model. In L. Moller, D. Harvey, & J. Huett (Eds.), *Learning and instructional technologies for the 21<sup>st</sup> century: Visions of the future*. Springer Science+Business Media, LLC.

\*Kwon, N.Y. & Orrill, C. H. (2007). Understanding a teacher's reflection: A case study of a middle school mathematics teacher. *School Science and Mathematics*, 107(6), 246-257.

\*Bleich, L., Ledford, S., Orrill, C. H., & Polly, D. (2006). An analysis of using graphical representations in participants' solutions. *The Mathematics Educator*, 16(1), 22-34. (Special issue on InterMath project).

\*Orrill, C. H. & the InterMath Team (2006). What learner-centered professional development looks like: The pilot studies of the InterMath professional development project. *The Mathematics Educator*, 16(1), 4-13. (Special issue on InterMath project).

\*Erbas, A. K., Ledford, S., Orrill, C. H., Polly, D. (2005). Promoting problem solving across geometry and algebra by using technology. *Mathematics Teacher*, 98(9), p. 599-603.

\*Hannafin, M., Orrill, C., Kim, H., & Kim, M. (2005). Educational technology research on postsecondary settings: Potential, performance, and prospects. *Journal of Computing in Higher Education*, 16(2), 3-22.

Duffy, T. & Orrill, C. (2004). Constructivism. In A. Kovalchick & K. Dawson (Eds.) *Education and Technology: An Encyclopedia* (Vol. 1, 165-172). Santa Barbara, CA: ABC-CLIO.

\*Erbas, A. K., Ledford, S., Polly, D., & Orrill, C. H. (2004). Engaging students through technology: Using technology-enhanced investigations in the middle grades. *Mathematics Teaching in the Middle School*, 9(6), 300-305.

\*Orrill, C. H. (2004). Guest Editorial...Do you need a Ph.D. to teach K-8 mathematics in ways respected by the mathematics education community? *The Mathematics Educator*, 14(1), 1-7.

Orrill, C. (2004). Learner-centered environment (LCE). In A. Kovalchick & K. Dawson (Eds.) *Education and Technology: An Encyclopedia* (Vol. 2, 401-406). Santa Barbara, CA: ABC-CLIO.

\*Design-Based Research Collective (2003). Design-based research: An emerging paradigm for educational inquiry. *Educational Researcher*, 32(1), 5-8.

- Orrill, C. H., Hannafin, M. J., Glazer, E. R. (2003). Research on and research with emerging technologies revisited: The role of disciplined inquiry in the study of technology innovation. In D. H. Jonassen (Ed.) *Handbook of research for educational communications and technology* (2<sup>nd</sup> ed.). Mahwah, NJ: Erlbaum.
- Orrill, C. & Hill, J. (2002). Maya Thomas. In P. A. Ertmer & J. Quinn (Eds.) *The ID casebook: Case studies in instructional design* (2<sup>nd</sup> ed.). Upper Saddle River, NJ: Merrill.
- \*Orrill, C. H. (2002). Supporting online PBL: Design considerations for collaborative problem-solving communication tools. *Distance Education*, 23(1), 41-57.
- Brown, S., Galloway, C., Orrill, C., & Umberger, S. (2002). Lead your students in mathematical discovery. *Learning & Leading with Technology* 29(5), 22-27, 64.
- Orrill, C. H. (2001). Learning objects to support inquiry-based, online learning. In D. A. Wiley (Ed.) *The instructional use of learning objects*. Bloomington, IN: Association for Educational Communications and Technology
- \*Orrill, C. H. (2001). Building learner-centered classrooms: A professional development framework for supporting critical thinking. *Educational Technology Research and Development*, 49(1), pp. 15-34.
- Duffy, T. M., Dueber, B., & Hawley (Orrill), C. L. (1999). Critical thinking in a distributed environment: A pedagogical base for the design of conferencing systems. In C. J. Bonk & K. King (Eds.) *Electronic Collaborators: Researching the Discourse of Learner-Centered Technologies* (pp. 51-78). Hillsdale NJ: Lawrence Erlbaum & Associates.
- Hawley (Orrill), C. L. (1997). Snapshots of systemic change: A roadmap. *Educational Technology*, 37(6), 57-64.

### Books

- Recesso, A. & Orrill, C. H. (2008). *Integrating technology into teaching: The technology & learning continuum*. New York: Houghton-Mifflin Company.

### Published Proceedings of Conference Presentations (\*indicates peer reviewed)

- \*Orrill, C.H., Geisler, S., Brown, R., & Brunaud-Vega, V. (2008). Questioning teacher goals in professional development: Do goals really make a difference? In *The International Conference of the Learning Sciences 2008: Proceedings of ICLS 2008*. Mahwah, NJ: International Society of the Learning Sciences.
- \*Orrill, C.H., Sexton, S., Lee, S-J, & Gerde, C. (2008). Mathematics teachers' abilities to use and make sense of drawn representations. In *The International Conference of the Learning Sciences 2008: Proceedings of ICLS 2008*. Mahwah, NJ: International Society of the Learning Sciences.

- \*Orrill, C.H., Anthony, H. G, Izsák, A., & Singleton, E. (June, 2006). Tupelo enacted: How teachers shape learning opportunities in middle grades mathematics. In S. A. Barab, K. E. Hay, & D. T. Hickey (Eds.), *The International Conference of the Learning Sciences 2006: Proceedings of ICLS 2006* (p. 968-969). Mahwah, NJ: International Society of the Learning Sciences.
- \*Erbas, A. K., Umberger, S., Glazer, E. M., & Orrill, C. H., (2002). InterMath: Technology-enhanced, learner-centered professional development. In Mewborn, D. S., Sztajn, P., White, D. Y., Wiegel, H. G., Bryant, R. L., Nooney, K. (Eds.). *Proceedings of the 24<sup>th</sup> annual meeting of the North American Chapter of the international group for the Psychology of Mathematics Education* (pp. 1608-1612). Columbus, OH: ERIC Clearinghouse on Science, Mathematics, and Environmental Education.
- \*Izsák, A., Findell, B., Olive, J., & Orrill, C. (2002). Coordinating students' and teachers' algebraic reasoning (COSTAR). In D. S. Mewborn, P. Sztajn, D. Y. White, H. Weigel, R. Bryant, & K. Nooney (Eds.) *Proceedings of the Twenty-Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (Vol. 1. pp. 119–126). Athens, GA.
- \*Orrill, C. H., Glazer, E. M., & Erbas, A. K. (2002). Responsive design: Creating a scaffolding system to support teacher professional development. In Mewborn, D. S., Sztajn, P., White, D. Y., Wiegel, H. G., Bryant, R. L., Nooney, K. (Eds.). *Proceedings of the 24<sup>th</sup> annual meeting of the North American Chapter of the international group for the Psychology of Mathematics Education* (pp. 1557-1566). Columbus, OH: ERIC Clearinghouse on Science, mathematics, and Environmental Education.
- Brown, S., Erbas, A. K., Glazer, E., & Orrill, C. H.; Umberger, S. (2001). Learner-Centered Professional Development Environments in Mathematics: The InterMath Experience. In Simonson, M. (Ed.) *2001 annual proceedings: Selected research and development papers presented at the national convention of the Association for Educational Communications and Technology* (pp. 329-335). Bloomington, IN: AECT.
- Orrill, C. H. & Galloway, C. (2001). Developing a Scaffolding System to Support Mathematical Investigations. In Simonson, M. (Ed.) *2001 annual proceedings: Selected research and development papers presented at the national convention of the Association for Educational Communications and Technology* (pp. 417-425). Bloomington, IN: AECT.
- Hawley, C. L. & Duffy, T. M. (1998). Design model for learner-centered, computer-based simulations. In N. J. Maushak & C. Schlosser (Eds.). *20<sup>th</sup> annual proceedings: Selected research and development presentations at the 1998 convention of the Association for Educational Communications and Technology* (pp. 159-166). Ames, IA: Iowa State University.

Hawley, C., Moore, J., Chuang, W., & Angeli, C. (1996). Electronic mail. An examination of high-end users. In M. R. Simonson, M. Hays, & S. Hall (Eds.) *18<sup>th</sup> Annual Proceedings of Selected Research and Development Presentations at the 1996 Convention of the Association for Educational Communications and Technology* (pp. 264-269). Ames, IA: Iowa State University.

## PRESENTATIONS

### *International, National & State Conferences*

- Lee, S.J., Brown, R.E., Orrill, C.H., & Sexton, S. (April, 2009). *Middle school teachers' problem solving strategies for interpreting rational number items using drawn representations*. Poster to be presented at the Research Presession of the 87<sup>th</sup> Annual Meeting of the National Council of Teachers of Mathematics: Washington, D.C.
- Orrill, C. (November, 2008). *Does it work?: Building methods for understanding effects of professional development*. Paper to be presented at 2008 Association for Educational Communications and Technology Convention. Orlando, FL.
- Strobel, J., Orrill, C., Richardson, J. & Moller, L. (November, 2008). *Invited panel: Grant management*. Invited panel discussion to be presented at 2008 Association for Educational Communications and Technology Convention. Orlando, FL.
- Davis, J., Huddleston, D., Koballa, T., Orrill, C., & Pierce, C. (September, 2008). *Partnerships for professional developer development: Building a statewide community of support*. Panel discussion at 2008 PRISM Conference: Accepting the STEM Challenge. Atlanta.
- Kwon, N. & Orrill, C. (July, 2008). *A comparison study of a teacher's reflection*. Poster to be presented at the Joint Meeting of PME 32 and the PME-NA XXX.
- Orrill, C.H., Sexton, S., Lee, S., Gerde, C. (June, 2008). *Mathematics teachers' abilities to use and make sense of drawn representations*. Paper to be presented at the International Conference of the Learning Sciences. Utrecht, Netherlands.
- Orrill, C.H., Geisler, S., Brown, R., & Brunaud-Vega, V. (June, 2008). *Questioning teacher goals in professional development: Do goals really make a difference?* Poster to be presented at the International Conference of the Learning Sciences. Utrecht, Netherlands.
- Sexton, S., Orrill, C., & Gerde, C. (March, 2008). *Middle grades teachers' flexibility with drawn representations*. Paper presented at the Annual Meeting of the American Educational Research Association. New York.
- Geisler, S. & Orrill, C. (October, 2007). *Creating classroom video of teacher best practices to affect change in teacher pedagogy*. Session presented at Georgia Mathematics Conference. Eatonton, GA.
- Murray, E., Rhodes, G., & Orrill, C. (October, 2007). *Mining the mathematics*. Session presented at Georgia Mathematics Conference. Eatonton, GA.

- Orrill, C., Huddleston, D. & Bleich, L. (October, 2007). *Selecting textbooks for the high school GPS*. Session presented at the Georgia Mathematics Conference, Eatonton, GA.
- Orrill, C., Rhodes, G., & Murray, E. (October, 2007). *Professional development for professional developers*. Session presented at Georgia Association of Mathematics Teacher Educators Conference. Eatonton, GA
- Orrill, C., Rhodes, G., & Murray, E. (October, 2007). *Creating high cognitive demand GPS tasks for middle school*. Working session presented at Georgia Mathematics Conference. Eatonton, GA.
- Rhodes, G., Murray, E., & Orrill, C. (October, 2007). *Creating high cognitive demand GPS tasks for high school*. Working session presented at Georgia Mathematics Conference. Eatonton, GA.
- Rhodes, G., Murray, E., & Orrill, C. (October, 2007). *Supporting teachers through hands-on learning*. Session presented at Georgia Association of Mathematics Teacher Educators Conference. Eatonton, GA.
- Recesso, A. & Orrill, C. (April, 2007). Technology and today's educator. Invited presentation at *Teaching in the 21<sup>st</sup> Century* seminar hosted by Houghton Mifflin Company (TeamUp Faculty Programs). Chicago.
- Orrill, C. H. & Kwon, N-Y (April, 2007). *Understanding teacher reflection: Analysis of reflection over time*. Poster presented at the National Council of Teachers of Mathematics Research Pre-session, Atlanta, GA.
- Bleich, L., Huddleston, D., Ledford, S., & Orrill, C. (October, 2006). *Selecting textbooks for the GPS*. Session presented twice at the Georgia Mathematics Conference, Eatonton, GA.
- Geisler, S. & Orrill, C. (2006). *Creating classroom video of teacher best practices to affect change in teacher pedagogy*. Presented at the 2006 Conference of the Association for Educational Communications and Technology. Dallas, TX.
- Orrill, C. & Polly, D. (2006). *Using data to design and refine a technology-integrated professional development model*. Paper presented at the 2006 Convention of the Association for Educational Communications and Technology. Dallas, TX.
- Recesso, A. & Orrill, C. (2006). *Emerging Methods: Video as a research tool*. Panel presented at the 2006 Convention of the Association for Educational Communications and Technology. Dallas, TX.
- Ledford, S., Bleich, L., & Orrill, C. (October, 2006). *GPS call for using GSP*. Session presented at the Georgia Mathematics Conference, Eatonton, GA.
- Orrill, C.H., Anthony, H. G, Izsák, A., & Singleton, E. (June, 2006). *Tupelo enacted: How teachers shape learning opportunities in middle grades mathematics*. Poster presented at the International Conference of the Learning Sciences, Bloomington, IN.

- Duffy, T., Kirkley, J. R., & Orrill, C. (June, 2006). *Design strategies for online professional development: Design process and issues of collaboration, community, and access*. Paper discussion at 2006 AECT Summer Research Symposia, Bloomington, IN.
- Bleich, L. B., Ledford, S. D., Orrill, C. H., Polly, A. B. (2006). *Crazy data: The analysis of justification, flow, and explanation in the problem-solving process*. Paper discussion (roundtable) presented at the American Education Research Association Annual Meeting, San Francisco.
- Orrill, C. H., Hannafin, M. J., & Recesso, A. (October, 2005). *Teacher development through technology: One lab's initiatives*. Paper presented at the International meeting of the Association for Educational Communications and Technology, Orlando.
- Orrill, C. H., Izsák, A., Singleton, E., & Anthony, H. G. (October, 2005). *Mathematical connections in open-ended problem-solving environments*. Poster presented at Psychology of Mathematics Education – North America, Roanoke, VA.
- Orrill, C. H., Rich, P., Shepherd, C., & Singleton, E. (October, 2005). *The data-driven evolution of a technology-integrated professional development model*. Paper presented at the International meeting of the Association for Educational Communications and Technology, Orlando.
- Polly, D., Bleich, L., Ledford, S., & Orrill, C. H. (October, 2005). *InterMath GPS: Addressing teachers' needs with the design of a learner-centered professional development course*. Paper presented at the International meeting of the Association for Educational Communications and Technology, Orlando.
- Recesso, A., Hannafin, M., Orrill, C. (October, 2005). *Transforming teacher preparation and development through technology: One Lab's initiatives*. Invited presentation 2005 Annual Conference of the Southeastern Association for Science Teacher Education, Athens, GA.
- Izsák, A. G., Orrill, C. H., & Tunç-Pekkan, Z. (April, 2005). *Teaching and Learning Fraction Multiplication Using Drawn Representations*. Poster presented at 83<sup>rd</sup> Annual Meeting of the National Council of Teachers of Mathematics: Anaheim.
- Orrill, C. H., Anthony, H. G., Singleton, E. (April, 2005). *Connection and conflict in one teacher's implementation of reform-oriented materials*. Roundtable to be presented at American Educational Research Association: Montreal
- Polly, A., Ledford, S., & Orrill, C. (April, 2005). *Learning technology in the context of professional development*. Roundtable to be presented at American Educational Research Association: Montreal.
- Bleich, L., Orrill, C., & Ledford, S. (October, 2004). *InterMath: Professional development for middle grades teachers*. Presentation at Georgia Mathematics Conference: Eatonton, GA.

- Polly, A., Orrill, C., Ledford, S., & Bleich, L. (October, 2004). *Patterns and algebraic thinking through spreadsheets*. Presentation at Georgia Mathematics Conference: Eatonton, GA.
- Singleton, E. Orrill, C., Rich, P. & Shepherd, C. (October, 2004). *Math and technology for young learners*. Presentation at Georgia Mathematics Conference: Eatonton, GA.
- Orrill, C., Ledford, S., Polly, D., & Erbas, A. K. (April, 2004). *InterMath: Five Implementations*. Poster presented at the Research Pre-session of the 82<sup>nd</sup> Annual Meeting of the National Council of Teachers of Mathematics: Philadelphia.
- Izsák, A. G., Orrill, C. H., Findell, B. R. (2004). Coordinating problem-solving strategies and multiplication knowledge in one sixth-grade classroom. Paper presented at the Annual Meeting of the American Educational Research Association: San Diego.
- Schuh, K. & Orrill, C. H. (April, 2004). Negotiating meaning: An analysis of interactions. Roundtable to be presented at the Annual Meeting of the American Educational Research Association: San Diego.
- Orrill, C. H., Barbour, M., Bleich, L., Calhoun, J., & Sikes, C. (March, 2004). *Teacher learning in an online self-directed environment*. Paper to be presented at Society for Information Technology & Teacher Education 2004: Atlanta.
- Orrill, C., Polly, D., Ledford, S., & Erbas, K. (March, 2004). *Technology-enhanced mathematical investigations – The InterMath project*. Poster presented at Society for Information Technology & Teacher Education 2004: Atlanta.
- Polly, D., Erbas, K., Ledford, S., Orrill, C. (March, 2004). *Teacher growth through technology-enhanced mathematical investigations: The InterMath experience*. Brief paper presented at Society for Information Technology & Teacher Education 2004: Atlanta
- Singleton, E., Bleich, L., Orrill, C., Rich, P., & Shepherd, C. (March, 2004). *Technology integration in mathematics*. Poster presented at Society for Information Technology & Teacher Education 2004: Atlanta.
- Barbour, M., Orrill, C., & Bleich, L. (February, 2004). *Online professional development for technology integration*. Concurrent session to be presented at 2004 Georgia Educational Technology Conference: Macon, GA.
- Orrill, C., Erbas, K., Polly, D., & Ledford, S. (February, 2004). *Using technology in mathematics: InterMath professional development*. Concurrent session to be presented at 2004 Georgia Educational Technology Conference: Macon, GA.
- Polly, D., Orrill, C.H., Erbas, A.K., Ledford, S. (February, 2004). *Learner-Centered Professional Development in Mathematics*. Paper presented at the Eastern Educational Research Association's Annual Meeting: Clearwater, FL.
- Hickey, D. & Orrill, C. (April, 2003). Design-based research: A new paradigm for instructional technology research. Invited presentation at the Annual Meeting of the American Educational Research Association: Chicago.

- Orrill, C. H. & Anthony, H. G. (April, 2003). *Implementing reform curriculum: A case of who's in charge*. Presented at the Annual Meeting of the American Educational Research Association: Chicago.
- Orrill, C. H. & Ledford, S. (February, 2003). *InterMath*. Presented as part of a session titled Realizing Opportunities in Mathematics: Improving Student Achievement. Presented at Georgia Educational Technology Consortium Conference 2003.
- Erbas, A. K., Umberger, S., Glazer, E. M., Orrill, C. H. (October, 2002). *InterMath: Technology-enhanced, learner-centered professional development*. Short paper presented at Psychology of Mathematics Education – North America: Athens, GA.
- Orrill, C. H., Erbas, A. K., Glazer, E. M. (October, 2002). *Responsive design: Creating a scaffolding system to support teacher professional development*. Paper presented at Psychology of Mathematics Education – North America: Athens, GA.
- Brown, S., Erbas, A. K., Glazer, E., Orrill, C. H., Umberger, S. (November, 2001). *Learner-centered professional development environments in mathematics: The InterMath experience*. Roundtable presented at the International meeting of the Association for Educational Communications and Technology: Atlanta.
- Orrill, C. H., Black, C. & Hackenberg, A. (November, 2001). *Implementing change: A case study in one mathematics classroom*. Paper presented at the International meeting of the Association for Educational Communications and Technology: Atlanta.
- Orrill, C. H. & Galloway, C. (November, 2001). *Developing a scaffolding system to support mathematical investigations*. Paper presented at the International meeting of the Association for Educational Communications and Technology: Atlanta.
- Orrill, C. H. (April, 2001). Supporting online PBL: Design considerations for collaborative problem-solving communication tools. In T. Koschmann (chair), *Studying collaboration in distributed PBL environments*. Structured Poster Symposium to be presented at American Educational Research Association Annual Meeting: Seattle, WA.
- Orrill, C. H. (April, 2000). Designing a problem for online delivery. In S. Sage (chair) *Problem-based learning in an online instructional technology course*. Structured Poster Symposium to be presented at American Educational Research Association Annual Meeting: New Orleans, LA.
- Orrill, C. H. (February, 2000) *Building learner-centered classrooms: A professional development framework for supporting critical thinking*. Presented at the Association for Educational Communications and Technology National Convention: Long Beach, CA.
- Dueber, B., Hawley (Orrill), C., & Duffy, T. (February, 1998). *Supporting critical thinking with web-based conferencing*. Paper presented at the Association for Educational Communication and Technology National Convention: St. Louis.

- Hawley (Orrill), C. L. & Duffy, T. M. (April, 1998). *The role of the teacher in simulation learning environments*. Poster presented at American Educational Research Association Annual Meeting: San Diego, CA.
- Hawley (Orrill), C. L., & Duffy, T. M. (February, 1998). *Design model for learner-centered, computer-based simulations*. Presented at the Association for Educational Communications and Technology Annual Meeting: St. Louis, MO.
- Hawley (Orrill), C. L., Kirkley, J. R., Moore, J. A., Duffy, T. M. (April, 1998). *The impact of technology on building learner-centered environments in higher education: Four case studies*. Roundtable presented at American Educational Research Association Annual Meeting: San Diego, CA.
- Kirkley, J., Moore, J., Hawley (Orrill), C., & Duffy, T. (February, 1998). *Using technology to create innovative learning environments in higher education: Four studies*. Presented at the Association for Educational Communications and Technology National Convention: St. Louis, MO.
- Boling, E., Hawley (Orrill), C., Michael, N., & Schwartz, N. (February, 1997) *How to produce professional level work in an academic course*. Presented at the Association for Educational Communications and Technology National Convention: Albuquerque, NM.
- Duffy, T. M., & Hawley (Orrill), C. L. (March, 1997) *A design analysis of the Chelsea Bank program*. Paper presented at American Educational Research Association Annual Meeting: Chicago, IL.
- Hawley (Orrill), C. L. & Duffy, T. M. (April, 1997) *Student teacher interactions in the Chelsea Bank simulation*. Paper presented at American Educational Research Association Annual Meeting: Chicago, IL.
- Hawley (Orrill), C. L., & Kirkley, J. R. (February 1997). *Computer and Internet use in K-12 classrooms: Myths and realities*. Roundtable presented at the Association for Educational Communications and Technology National Convention: Albuquerque, NM.
- Slemp, C., Bray, M., Hawley (Orrill), C. (February, 1997) *Creating a showcase for instructional and technological innovations: The DID WWW site*. Presented at the Association for Educational Communications and Technology National Convention: Albuquerque, NM..
- Hawley (Orrill), C., Moore, J., & Chuang, W. (February, 1996) *Attitudes of high-end email users*. Paper presented at the Association for Educational Communications and Technology National Convention: Indianapolis, IN.
- Moore, J., Kirkley, J., Hawley (Orrill), C., & Duffy, T. (November, 1996) *Teaching with technology in higher education: A cross-case analysis*. Paper presented at Hypermedia '96: Indianapolis, IN.

*Workshops Outside of Grant-Funded Teacher Professional Development Efforts*

- Orrill, C. & Hannafin, M. (2008). *Building a technology research agenda: An early career symposium*. 1.5 day workshop for the Association for Educational Communications & Technology. (Funded by the National Science Foundation.)
- Hannafin, M. & Orrill, C. (2007). *Writing effective federal grant proposals: Lessons learned from successful researchers*. Half-day symposium for the Association for Educational Communications & Technology. (Funded by the National Science Foundation.)
- Orrill, C. & Joseph, D. (2006). *Problems in planning: Attacking the issues of planning design-based research*. Presented at International Conference of the Learning Sciences: Bloomington, IN.
- Orrill, C. & Black, C. (2001). *Strategies for math instruction (5<sup>th</sup> grade – high school)*. Presented at Teaching Mathematics for Student Success: Watkinsville, GA. (Sponsored by Northeast Georgia RESA)
- Duffy, T. M. and Hawley (Orrill), C. L. (May, 1997) *Distance education tools and a pedagogical framework*. Presented at the Connecticut Higher Education Technology Association's Digital Video Expo XVII, Hartford, CT.
- Duffy, T. M. and Hawley (Orrill), C. L. (Feb, 1997) *Distance education tools and a pedagogical framework*. Presented at the Association for Educational Communications and Technology National Convention, Albuquerque, NM.
- Duffy, T. M. and Hawley (Orrill), C. L. (July, 1996) *Problem based learning and the internet*. Presented at DePaul University, Chicago, IL.
- Hawley (Orrill), C. L. & Orrill, J. (1996) *Searching the internet*. Presented to the Martinsville Teachers on the Internet, Martinsville, IN.

**TECHNICAL REPORTS**

- Orrill, C. H., Izsák, A., & Cohen, A. (2008). *Does it work: Building methods for understanding effects of professional development. Year 2 annual report*. (Submitted to the National Science Foundation)
- Orrill, C. H., Izsák, A., & Cohen, A. (2007). *Does it work: Building methods for understanding effects of professional development. Year 1 annual report*. (Submitted to the National Science Foundation)
- Orrill, C. H. (2007). *Jefferson City Schools math science partnership 2006-2007: Effectiveness of professional development: Evaluating the Jefferson City Schools math science partnership*. Athens, GA: Learning & Performance Support Laboratory.
- Orrill, C. H. (2007). *Richmond County math and science partnership 2006-2007: Effectiveness of professional development: Evaluating the Richmond County math and science partnership*. Athens, GA: Learning & Performance Support Laboratory.

- Orrill, C. H. (2007). *Washington-Wilkes math science partnership 2006-2007: Effectiveness of professional development: Evaluating the Washington-Wilkes/UGA math science partnership*. Athens, GA: Learning & Performance Support Laboratory.
- Izsák, A., Findell, B., Olive, J., & Orrill, C. (2004). *Coordinating students' and teachers' algebraic reasoning: Year 2 annual report*. (Submitted to the National Science Foundation).
- Izsák, A., Findell, B., Olive, J., & Orrill, C. (2003). *Coordinating students' and teachers' algebraic reasoning: Year 1 annual report*. (Submitted to the National Science Foundation).
- Orrill, C. H., Calhoun, J. K., & Sikes, C. K. (2002). *Learning in LTTS: Value, usability, and professional growth*. Athens, GA: Learning & Performance Support Laboratory.
- Center for Innovation in Assessment (2001). *A study examining three issues concerning an innovative classroom program: Distance education, accountability, and problem solving, 1998-2001. Final Report – August 31, 2001*. Bloomington, IN: Author.
- Center for Innovation in Assessment (1998). *Assessing learning and supporting the "teacher as coach" in Chelsea Bank simulations*. Bloomington, IN: Author.
- Center for Reading and Language Studies (1996). *Cognitive, social, and literacy competencies: The Chelsea Bank simulation report*. (Year One Final Report) Bloomington, IN: Author.
- Fischler, A., Hawley, C., & Kirkley, J. (1995) *Building educational tools for educational concerns: A needs analysis of the concerns facing Internet use in the K-12 educational systems*. Bloomington, IN: Center for Excellence in Education – Research and Development.
- Hawley, C., Kirkley, J., Moore, J., Duffy, T. (1996) *Teaching with technology at Indiana University - A cross-case analysis*. Bloomington, IN: Office of Information Technology, Indiana University.
- Orrill, C. H. (2000) *Summary: Building technology-based, learner-centered environments: Professional development in real time*. Athens, OH: Ohio University. (Prepared for the New York City School Board Division of Assessment and Accountability)

## **SOFTWARE DEVELOPMENT & INSTRUCTIONAL DEVELOPMENT PROJECTS**

- GPS in Action (2005-2008). Online videos designed to support mathematics and science teachers in implementing the new state standards. Served as coordinator for science videos and director for mathematics videos. (Online at: <http://lpsl.coe.uga.edu/mile3/resa/gpsinaction/introduction.html>)

- Obtaining Hardware and Software: How do I write a fundable grant for obtaining technology in my school (2002). Online graduate course developed for the Learning to Teach with Technology Studio. Served as primary author of course.
- eWorkshop design for Ohio University Without Boundaries (2001-2003): Development of online strategy for design of self-paced, reorganizable workshops for personal growth.
- Learning Objects in Support of the MBAWB (2000-2001): Online information database to support problem-based learning MBA program. Acted as instructional designer and initial information architect and navigation designer.
- Pilot MPA Program: Ohio University Without Boundaries (2000): Create a framework for converting face-to-face MPA program to online program. Acted as instructional designer and developed initial prototype.
- Problem Solving in Classroom Inc. Simulations (1997-1998): Video for integrating problem-solving skills into teaching. Acted as project manager and co-instructional designer.
- Wisdom Tools: Benchmarks Project (1997): "All-in-One" course development tools for the Web co-evaluator.
- DocuHelp (1996): Computer-based interactive manual. Acted as interface designer and co-instructional designer.
- Martinsville Teachers on the Internet (1996): Training and support effort for teachers using the Internet. Acted as consultant, trainer, and instructional designer.
- Peaceful Classrooms (1996-1997): Video developed to improve classroom management. Acted as project manager, co-wrote instructional manual.
- AECT-DID Website Design Project (1995): Website designed for members of the Division of Instructional Development in the Association for Educational Communications and Technology. Acted as project manager working with a large team. Continued as site manager until 1999.
- Multimedia Exploration of Motown Instruments (1995): Interactive CD-ROM developed for faculty member to support his students in learning the sounds of musical instruments common to Motown music. Acted as interface designer.

## **COMMITTEE MEMBERSHIPS**

### *National*

- Association of Educational Communications and Technology
- President-elect, President, & Past President of Research & Theory Division (2005-2008)
  - Member of Leadership Planning Committee (1998-2000)
  - Member of Electronic Services Committee (1998-2001)
  - DID (Division of Instructional Development) Webmaster (1997-1999)

*University of Georgia*

Dean's Diversity Action Team – Partnership Action Team (2007-2008)

Learning & Performance Support Lab faculty search committees (2005-2008)

*Ohio University*

Undergraduate Curriculum Committee, Ohio University (1999-2000)

Curriculum & Instruction Master's Program Committee, Ohio University (2000)

Educational Studies Finance Committee, Ohio University (1999-2000)

**PROFESSIONAL ACTIVITIES***Grant Reviews*

National Science Foundation: Reviewer for six programs in EHR and CISE (2005-present)

National Priorities Research Program for the State of Qatar (2007)

Georgia's *Improving Teacher Quality* grants program

SBIR Program through Office of Educational Research and Improvement – Department of Education (2002)

Research Center for Educational Technology (Kent State University) grant program (2000 - 2003)

*Conference Reviews*

International Conference of the Learning Sciences (ICLS) Annual Meeting (2004, 2005, 2007)

Reviewer for the National Council of Teachers of Mathematics (NCTM) Research Pre-session (2007)

IADIS CELDA conference, Barcelona, Spain. (2006)

AECT Annual Meeting (1998-2007)

IPSI International Symposium on Challenges in the Internet and Interdisciplinary Research (2004) (reviewer by invitation)

Computer Supported Collaborative Learning Conference hosted by the International Society of the Learning Sciences (2004)

AERA Annual Meeting:

- Division C, Section 3: Mathematics Education (2004-2005)
- Division C, Section 5: Learning Environments (2001-2003)
- Division C, Section 7: Technology Research (2002-2004)
- SIG: Advanced Technologies for Learning (2004-2007)
- SIG: Instructional Technology (2004-2006)
- SIG: Research in Mathematics Education (2005-2006)

*Journal & Book Reviews*

- Reviewer for *Journal for Research in Mathematics Education* (2008)
- Reviewer for *Educational Technology Research & Development* (2007-present)
- Reviewer for *Interdisciplinary Journal of Problem-based Learning* (2006-present)
- Reviewer (by invitation) for *Journal of Educational Computing Research* special issue on Cognitive Tools for Collaborative Communities (2006)
- Reviewed book proposal for Lawrence Erlbaum Associates (2004)
- Reviewer (by invitation) for *TechTrends* (2005)

*Other Professional Activities*

- Coordinator of EDCI 203/532 faculty and teaching associates, Ohio University (1999-2000)
- Coordinator of EDCI 203/532 teaching associates program, Ohio University (1999-2000)

*Student-Related Activities*

## Present

- Dissertation Chair for 1 PhD student in Instructional Technology
- Dissertation Co-chair for 1 dissertation committee in Instructional Technology – UGA
- Serve as member on 2 Ph.D. committees in Mathematics Education – UGA
- Serve as member of 1 Ph.D. committee in Instructional Technology
- Have managed 45 students on projects. Have co-presented and/or co-authored with 24 of them.
- Postdoctoral Associates
  - Ginger Rhodes (2007-2008)
  - Gunhan Caglayan (2008-2009)

## Past:

- Co-chair – 1 completed dissertation in Mathematics Education – UGA
- Committee Member – 5 completed dissertation committees (1 Mathematics Education, 4 Instructional Technology) – UGA
- Committee Member – 2 completed dissertation committees – Ohio University
- Chair – 24 completed Masters Research project papers – Ohio University

## **MEMBERSHIPS**

### *National Organizations*

American Educational Research Association (1996-present)

- Member of Advanced Technologies for Learning Special Interest Group
- Past member of Problem-Based Learning Special Interest Group
- Past member of Instructional Technology Special Interest Group
- Member of Division C, 1996-present

International Society of the Learning Sciences (2002-present)

National Council of Teachers of Mathematics (2006-present)

Association for Educational Communication & Technology (1994-2002, 2005-2008)

- Member of Division of Instructional Development, 1995-1999
- Member of the Research & Theory Division, 2005

Association for the Advancement of Computing in Education (1998-2000)

International Society for Technology in Education (1999-2000)

### *State Organizations*

Georgia Council of Supervisors of Mathematics 2005-present

Georgia Council of Teachers of Mathematics 2005-present

Georgia Association of Mathematics Teacher Educators 2007-present

## **AWARDS, HONORS, & RECOGNITIONS**

Member of the Design-Based Research Collective funded by the Spencer Foundation through an Advanced Studies Institute grant (2001-02). Other participants included Christopher Hoadley (PI), William Sandoval (Co-PI), Eric Baumgartner, Philip Bell, Sean Brophy, Sherry Hsi, Diana Joseph, Sadhana Puntambekar, and Iris Tabak. <http://www.DesignBasedResearch.org/>

Young Researcher Award (2000), Association for Educational Communications and Technology.

University Fellowship (1994-1996), Indiana University

DID Convention Intern (AECT, 1997), Association for Educational Communications and Technology Annual Meeting, Albuquerque, NM