

KATIE LYNNE ANDERSON-PENCE

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University of Colorado Colorado Springs
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EDUCATION

- Ph.D. May 2014
Education, Utah State University.
Specialization: Curriculum and Instruction.
Emphasis: Mathematics Education and Leadership.
Dissertation Title: Anderson-Pence, K. L. (2014). *Examining the Impact of Different Virtual Manipulative Types on the Nature of Students' Small-Group Discussions: An Exploratory Mixed Methods Case Study of Techno-Mathematical Discourse.*
- M.Ed. May 2007
Master of Education, Southern Utah University.
Emphasis: Elementary Mathematics Education.
- B.S. April 2000
Elementary Education, Brigham Young University.
Utah Instructional II Certificate, 1-8 (2004).

Fluent in Portuguese.

EMPLOYMENT HISTORY

UNIVERSITY OF COLORADO COLORADO SPRINGS

Assistant Professor (2014–present).

Department of Curriculum and Instruction.

College of Education, University of Colorado Colorado Springs, CO.

Responsibilities included teaching graduate and undergraduate courses in the elementary education program, collaborating with other instructors, developing course syllabi, revising courses based on course evaluation feedback, creating assessments using online course management system (Blackboard), and supervising students during practicum placements.

UTAH STATE UNIVERSITY

University Instructor (2009–10, 2011–2014).

School of Teacher Education and Leadership.

College of Education and Human Services, Utah State University, Logan, UT.

Responsibilities included teaching graduate and undergraduate courses in the elementary education program, collaborating with other instructors, developing course syllabi, revising courses based on course evaluation feedback, creating assessments using online course management system (Canvas), and supervising students during practicum placements.

Graduate Research Assistant (2009–10, 2011–2014).

School of Teacher Education and Leadership.

College of Education and Human Services, Utah State University, Logan , UT.

Responsibilities included providing research assistance for Dr. Patricia Moyer-Packenham (Mathematics Education) and Dr. Dicky Ng (Mathematics Education) in various research projects.

University Supervisor of Student Teachers, Elementary Education Program (2009–10, 2011–12).

School of Teacher Education and Leadership.

College of Education and Human Services, Utah State University, Logan, UT.

Responsibilities included supervising pre-service elementary teachers during their student teaching placements, acting as liaison with cooperating teacher, and planning and conducting weekly seminars.

PUBLIC SCHOOL TEACHING EXPERIENCE – 11 YEARS

Elementary School Teacher, Grade 6, All subjects (2010–11)

Alpine School District, Highland, Utah.

District Math Specialist, Grades 5-6 (2007–09)

Alpine School District, American Fork, Utah.

Designed, organized, and taught professional development for grades 5-6 teachers. Coached and provided model mathematics lessons in select classrooms.

Elementary School Teacher, Grades 3, 4 & 6. All subjects (2000–07).

Alpine School District, Orem, Utah.

AWARDS & PROFESSIONAL RECOGNITION

Graduate Research Assistant of the Year (2013)	Department of Teacher Education and Leadership, Utah State University, Logan, Utah
Presidential Award for Excellence in Mathematics and Science Teaching FINALIST (2007)	Utah State Office of Education
Best of Alpine: In Recognition of Outstanding Service (2007)	Alpine School District, American Fork, Utah
Teacher of the Year (2006)	Sharon Elementary, Alpine School District, Orem, Utah

RESEARCH

RESEARCH INTERESTS

Virtual manipulatives in the mathematics classroom
Mathematics classroom discourse
Mathematics teacher development

PUBLICATIONS

Journal Articles (Refereed)

Moyer-Packenham, P. S., Shumway, J. F., Bullock, E., Tucker, S. I., Anderson-Pence, K. L., Westenskow, A., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2015). Young children's learning performance and efficiency when using virtual manipulative mathematics iPad apps. *Journal of Computers in Mathematics and Science Teaching*, 34(1), 41-69.

Anderson-Pence, K. L., Moyer-Packenham, P. S., Westenskow, A., Shumway, J., & Jordan, K. (2014). Relationships between visual static models and students' written solutions to fraction tasks. *International Journal for Mathematics Teaching and Learning*, 15, 1-18.
<http://www.cimt.plymouth.ac.uk/journal/default.htm>

Moyer-Packenham, P.S., Baker, J., Westenskow, A., Anderson-Pence, K.L., Shumway, J.F., & Jordan, K.E. (2014). Predictors of achievement when virtual manipulatives are used for mathematics instruction. *REDIMAT*, Vol 3(2), 121-150. doi: 10.4471/redimat.2014.46

Westenskow, A., Moyer-Packenham, P. S., Anderson-Pence, K., Shumway, J. F., & Jordan, K. (2014). Cute drawings? The disconnect between students' pictorial representations and their mathematics responses to fraction questions. *International Journal for Research in Mathematics Education*, 1(1), 81-105.

Anderson-Pence, K. L., (2013) Ethnomathematics: The role of culture in the teaching and learning of mathematics. *Utah Mathematics Teacher*, 6, 52-61.

Moyer-Packenham, P., Baker, J., Westenskow, A., Anderson, K., Shumway, J., Rodzon, K., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2013). A study comparing virtual manipulatives with other instructional treatments in third- and fourth-grade classrooms. *Journal of Education*, 193(2), 25-39.

Anderson, K. L. (2012). Pattern-block frenzy. *Teaching Children Mathematics*, 19(2), 116-121.

Moyer-Packenham, P. S., Ulmer, L. A. & Anderson, K. L. (2012) Examining pictorial models and virtual manipulatives for third-grade fraction instruction. *Journal of Interactive Online Learning*. 11(3), 103-120.

Conference Proceedings (Refereed)

Moyer-Packenham, P. S., Westenskow, A., Shumway, J. F., Bullock, E., Tucker, S. I., Anderson-Pence, K. L., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014). The effects of different virtual manipulatives for second graders' mathematics learning in the touch-screen environment. *Proceedings of the 12th International Conference of the Mathematics Education into the 21st Century Project*, (Vol. 1, p. 1-6). Herceg Novi, Montenegro.

Westenskow, A., Moyer-Packenham, P. S., Anderson-Pence, K. L., Shumway, J. F., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014). Cute Drawings? What Students' Fractional Representations Reveal About Their Whole Number Bias. *Proceedings of the 12th International Conference of the Mathematics Education into the 21st Century Project*, (Vol. 1, p. 1-6). Herceg Novi, Montenegro.

- Anderson-Pence, K. L., & Moyer-Packenham P. S. (2014). Techno-mathematical discourse. *Proceedings of the 12th annual Hawaii International Conference on Education (HICE)*, (pp. 1466-1483), Honolulu, Hawaii, ISSN# 1541-5880.
- Boyer-Thurgood, J., Moyer-Packenham, P., Tucker, S. , Anderson, K. L., Shumway, J., Westenskow, A., & Bullock, E. (2014). Kindergarteners' Strategy Development During Combining Tasks on the iPad. *Proceedings of the 12th Annual Hawaii International Conference on Education (HICE)*, (pp. 1113-1114), Honolulu, Hawaii, ISSN# 1541-5880.
- Moyer-Packenham. P. S., Anderson, K. L., Shumway, J. F., Tucker, S., Westenskow, A., Boyer-Thurgood, J., & Bullock, E., Mahamane, S., Baker, J., Gulkilik, H., Maahs-Fladung, C., Symanzik, J., & Jordan, K., The Virtual Manipulatives Research Group at Utah State University. (2014). Developing research tools for young children's interactions with mathematics apps on the iPad. *Proceedings of the 12th Annual Hawaii International Conference on Education (HICE)*, (pp. 1685-1694), Honolulu, Hawaii, ISSN# 1541-5880.
- Tucker, S. I., Moyer-Packenham, P. S., Boyer-Thurgood, J. M., Anderson, K. L., Shumway, J. F., Westenskow, A., & Bullock, E., The Virtual Manipulatives Research Group at Utah State University. (2014). Literature supporting investigations of the nexus of mathematics, strategy, and technology in children's interactions with iPad-based virtual manipulatives. *Proceedings of the 12th annual Hawaii International Conference on Education (HICE)*, (pp. 2338-2346), Honolulu, Hawaii, ISSN# 1541-5880.
- Ng, D., & Anderson, K. L. (2011). Cognitive empathy and mathematics teaching, In B. Ubuz (Ed.) *Proceedings of the 35th annual conference of the International Group for the Psychology of Mathematics Education (PME)* (Vol. 3 pp. 273-280). Ankara, Turkey: PME.

Other Publications

- Anderson-Pence, K. L., & Moyer-Packenham, P. S. (in press, 2015, April). *Using Virtual Manipulatives to Enhance Collaborative Discourse in Mathematics Instruction*. Paper presented at the Annual Meeting of the American Educational Research Association (AERA). Chicago, Illinois.
- Anderson-Pence, K. L., & Moyer-Packenham, P. S. (in press, 2015, April). *Using Virtual Manipulatives to Generalize and Justify Through Discourse*. Paper presented at the annual National Council of Teachers of Mathematics Research Conference (NCTM), Boston, Massachusetts.
- Moyer-Packenham, P. S., Shumway, J. F., Bullock, E., Tucker, S. I., Anderson-Pence, K., Westenskow, A., Boyer-Thurgood, J., Maahs-Fladung, C., Symanzik, J., Mahamane, S., MacDonald, B., & Jordan, K., The Virtual Manipulative Research Group at Utah State University. (2014, April). *Young children's learning performance and efficiency when using virtual manipulative mathematics iPad apps*. Paper presented at the annual National Council of Teachers of Mathematics Research Conference (NCTM), New Orleans, Louisiana.

Unpublished Manuscripts

- Anderson-Pence, K. L., & Moyer-Packenham, P. S. (under review, 2014). *The influence of different virtual manipulative types on student-led techno-mathematical discourse*. Unpublished manuscript.
- Shumway, J., Westenskow, A., Moyer-Packenham, P. S., Anderson-Pence, K. L., Baker, J., Tucker, S., Boyer-Thurgood, J., & Jordan, K. (under review, 2014). *Using Open-Response Fraction Problems to Understand the Relationship Between Instructional Modalities and Students' Solution Strategies*. Unpublished manuscript.

RESEARCH ACTIVITIES

Captivated! Young Children's Learning Interactions with iPad Mathematics Apps. (2013–present). Obtained IRB approval for the project; pilot tested iPad-based interview protocols; conducted iPad-based interviews with participants; observed interviews; documented methods history in preparation for the writing of forthcoming papers; collected and coded data using qualitative video coding software. Project has resulted in multiple paper presentations at the Hawaii International Conference on Education (2014). Utah State University (with Dr. Patricia Moyer-Packenham and Dr. Cathy Maahs-Fladung).

Pictorial Models and Virtual Manipulatives for Fraction Instruction (2011–2012). Conducted library and document searches for a literature review on virtual and pictorial representations of fraction concepts used by students of different ability levels. Project resulted in paper accepted to Journal of Interactive Online Learning. Utah State University (with Dr. Patricia Moyer-Packenham).

Distance Education Delivery Methods Project (2010–2011). Analyzed student response data. Project resulted in a presentation at the AMTE Annual Conference (2010) and a paper submitted for publication. Utah State University (with Dr. Amy Brown).

Grades 3-4 Fractions and Virtual Manipulatives Mathematics Project (2009–2014). Taught third- and fourth-grade mathematics fraction units; collected, coded, and analyzed data. Conducted library and document searches for a literature review on the use of technology in mathematics instruction. Project has resulted in multiple papers (in progress) and presentations at the NCTM Research Pre-session (2013), AERA Conference (2013), and the SSMA Conference (2011). Utah State University (with Dr. Patricia Moyer-Packenham and Dr. Kerry Jordan).

Utah Elementary Mathematics Endorsement Project (2006–present). Taught in-service lessons, coded, and analyzed participants' final projects, conducted, transcribed, coded, and analyzed interviews of teachers on their experiences with conducting action research in their classrooms. Project has resulted in multiple papers (in progress). Brigham Young University (with Dr. Eula Monroe, Dr. Damon Bahr, and Dr. Nancy Wentworth).

Quadrilaterals Study (2010–2011). Taught fifth-grade mathematics lessons on quadrilaterals, recorded and analyzed video data on classroom interactions and informal assessments, and collected pre- and post-test data on students' understanding of quadrilateral relationships. Project resulted in a presentation at the CMC-South Conference (2011). Utah State University (with Dr. Dicky Ng).

Cognitive Empathy Study (2009–2010). Conducted and transcribed interviews of pre-service teachers' on their experiences in mathematics and perceptions of their ability to reach struggling learners. Project resulted in a paper accepted to the PME Conference (2011). Utah State University (with Dr. Dicky Ng).

RESEARCH SUPERVISION

Committee Member & Mentor – Undergraduate Honors Program Committee

Jessica Billingsly (2012–13); Utah State University

GRANTS FUNDED

Research and Projects Grant. (\$1,000). (2014) Utah State University, Graduate Student Senate. Funding awarded for the conducting of dissertation research study.

Graduate Student Travel Award. (\$1,000). (2014) Utah State University, Office of Research and Graduate Studies, College of Education. Travel funding awarded for presentation at the Hawaii International Conference on Education Annual Meeting in Honolulu, Hawaii.

Graduate Research Assistant. (\$20,000). *Captivated! Young Children's Learning Interactions with iPad Mathematics Apps.* (2013–14). Utah State University, Vice President for Research RC Funding. Lead PI – Patricia Moyer-Packenham, Co-PI – Cathy Maahs-Fladung, and the Virtual Manipulatives Research Group. Project goal: build theory and knowledge about the nature of young children's ways of thinking and interacting with virtual manipulatives using touch-screen mathematics apps on the iPad. My role: obtain IRB approval, pilot test problem-based interview protocols, conduct iPad-based interviews with participants, observe interviews, document methods history in preparation for the writing of forthcoming papers, collect and code video data, collaborate on publications and presentations focusing on young children's interactions with iPad apps.

Graduate Student Travel Award. (\$500). (2013) Utah State University, Office of Research and Graduate Studies, College of Education Travel funding awarded for presentation at the NCTM Annual Meeting in Denver, Colorado.

Graduate Student Travel Grant. (\$500). (2013) Utah State University, Center for Women and Gender. Travel funding awarded for presentation at the AMTE Annual Conference in Orlando, Florida.

Graduate Research Assistant (\$35,000). *Virtual Manipulatives Research Group: Effects of Multiple Visual Modalities of Representation on Rational Number Competence.* (2011–12). Utah State University, Vice President for Research SPARC Funding. Lead PI – Patricia Moyer-Packenham; Collaborating Faculty – Kerry Jordan, Dicky Ng, and Kady Schneiter. My role: design lesson plans for experimental classroom, teach experimental lessons at research sites, conduct data collection and analysis, participate in research team meetings, collaborate on publications and presentations focusing on using virtual manipulatives to teach rational number concepts.

Graduate Student Professional Conference Award. (\$600). (2011) Utah State University, Graduate Student Senate and College of Education. Travel funding awarded for presentation at the SSMA Annual Meeting in Colorado Springs, Colorado.

TEACHING

UNIVERSITY TEACHING

University of Colorado Colorado Springs Colorado Springs, Colorado (2014-present)
College of Education

CURR 5304 – Mathematics and Cognition (Fall 2014).

Graduate Course. How students approach, process, and apply mathematical tasks based on current cognitive theories and brain research lead this course. Emphasizes problem solving and reasoning, via Cognitively Guided Instruction, including incorporation of concrete manipulatives, interactive technologies, and higher-order thinking.

TED 4600 – Elementary–School Experience (Fall 2014).

Pre-student teaching field experience. Involves observing a variety of schools and classrooms and serving as a teaching associate at assigned Professional Development School. Students demonstrate professionalism in a teaching role as they begin their transition from university student to professional teacher. Includes weekly support seminars and monthly observations.

Utah State University, Logan, Utah (2009-14)
College of Education and Human Services

TEAL 6522/ TEPD 5522 – Mathematics for Teaching K–8: Rational Numbers and Proportional Reasoning (Spring 2014).

Graduate Course. Elementary Mathematics Endorsement course. Provides practicing teachers a deeper understanding of rational numbers, operations with rational numbers, and proportionality, and instructional strategies to facilitate the instruction of this content for elementary students. Course delivered via interactive broadcast (distance education).

ELED 4060 – Teaching Mathematics & Practicum Level III (Spring 2010, Spring 2012, Fall 2012, Spring 2013, Fall 2013).

Undergraduate Course. Relevant mathematics instruction in the elementary and middle-level curriculum; methods of instruction, evaluation, remediation, and enrichment. Includes supervision of students in a field experience practicum.

ELED 5150 – Student Teaching Seminar & Supervision (Fall 2009, Fall 2011).

Undergraduate Course. Supervision of student in teachers in primary grade (1-3) and upper-elementary (4-6) classrooms. Student teachers are expected to demonstrate competency in designing and implementing a developmentally appropriate learning environment. Students demonstrate professionalism in teaching as they begin their transition from university student to professional teacher. Includes weekly support seminars and monthly observations.

CURRICULUM DEVELOPMENT

University of Colorado Colorado Springs

IEE 3400 – Teaching Mathematics to All Students (2014).

Undergraduate Course. Relevant mathematics instruction in the elementary curriculum with a focus on methods of instruction, evaluation, remediation, and enrichment for all students, including students with special needs and English Language Learners.

Utah State University, Logan, Utah (2013–present)

Elementary Mathematics Teacher Academy – Developed course materials for master’s level courses for Utah State University’s Elementary Mathematics Teacher Academy (EMTA). Course designed to develop teachers’ mathematical knowledge for teaching aligned with the Common Core State Standards for Mathematics. Materials developed included readings, video lectures, application assignments, and assessments for online course delivery. Developed the following 20 sixth-grade curriculum modules:

6.SP.1	Asking Statistical Questions (2015, forthcoming)
6.SP.2	Analyzing Sets of Data (2015, forthcoming)
6.SP.3 (part 2)	Measures of Variation (2014)
6.SP.3 (part 1)	Measures of Center (2014)
6.SP.4	Displaying Statistical Data (2014, forthcoming)
6.RP.1	Language of Ratios (2013)
6.RP.2	Rates & Ratios (2013)
6.RP.3a	Ratio Tables & Coordinate Planes (2013)
6.RP.3b	Unit Pricing & Constant Speed (2013)
6.RP.3c	Ratios & Percentages (2013)
6.RP.3d	Converting Measurement Units (2013)
6.RP	Big Idea: Proportional Reasoning (2013)
6.NS.5	Meaning of Positive & Negative Numbers (2013)
6.NS.6a,c	Rational Numbers on the Number Line (2013)

6.NS.6b,c	Ordered Pairs on the Coordinate Plane (2013)
6.NS.7a,b	Ordering Rational Numbers (2013)
6.NS.7c,d	Absolute Value (2013)
6.NS.8	Real-World Problems on the Coordinate Plane (2013)
6.NS	Big Idea: Rational Numbers (2013)
6.G.1 (part 1)	Finding Area by Rectangle Composition (2013)
6.G.1 (part 2)	Finding Area by Triangle Composition (2013)
6.G.2	Volume of Rectangular Prisms (2013)
6.G.3	Polygons on the Coordinate Plane (2013)
6.G.4	Surface Area (2013)
6.G	Big Idea: Van Hiele Levels of Geometric Thought (2013)

SERVICE

PRESENTATIONS

Invited Addresses

California Mathematics Council

Anderson, K. L. & Ng, D. (2011, November). *Square or Rhombus?: Developing Relational Thinking Through Geometric Reasoning Part 2*. Workshop Presentation. California Mathematics Council South (CMC-SOUTH) 52nd Annual Mathematics Conference. Palm Springs, California.

Ng, D. & Anderson, K. L. (2011, November). *Square or Rhombus?: Developing Relational Thinking Through Geometric Reasoning Part 1*. Workshop Presentation. California Mathematics Council South (CMC-SOUTH) 52nd Annual Mathematics Conference. Palm Springs, California.

International Presentations – Scholarship

Hawaii International Conference on Education (HICE)

Anderson-Pence, K., & Moyer-Packenham, P. S. (2014, January). *Techno-mathematical discourse*. Research Presentation, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.

Boyer-Thurgood, J., Moyer-Packenham, P. S., Shumway, J., Westenskow, A., Tucker, S., Anderson, K., & Bullock, E. (2014, January). *Kindergarteners' Strategy Development During Combining Tasks on the iPad*. Research Presentation, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.

Moyer-Packenham, P. S., Shumway, J., Westenskow, A., Tucker, S., Anderson, K., Boyer-Thurgood, J., & Bullock, E. (2014, January). *Young Children's Mathematics Interactions with Virtual Manipulatives on iPads*. Research Presentation, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.

Tucker, S. I., Moyer-Packenham, P. S., Boyer-Thurgood, J. M., Anderson, K. L., Shumway, J., Westenskow, A., & Bullock, E. (2014, January). *The Nexus of Mathematics, Strategy, and Technology in Second-Graders' Interactions with an iPad-Based Virtual Manipulative*. Paper Session, 12th Annual Hawaii International Conference on Education (HICE), Honolulu, Hawaii.

National Presentations – Scholarship

American Educational Research Association (AERA)

Moyer-Packenham, P. S., Jordan, K., Anderson, K., Baker, J., Shumway, J., & Westenskow, A. (2013, April). *Hidden Predictors of Achievement: The Equalizing Effect of Virtual Manipulatives for Mathematics Instruction*. Paper Session. Annual Meeting of the American Educational Research Association (AERA). San Francisco, California.

Association of Mathematics Teacher Educators (AMTE)

Shumway, J., Bostwick, A., Anderson, K. L., & Tucker, S. (2013, January). *Building Partnerships: A Collaborative Lesson-Study Experience in a Preservice Mathematics Methods Course*. Presentation, 17th Annual AMTE Conference, Orlando, Florida.

National Council of Teachers of Mathematics (NCTM)

Anderson, K. L. (2013, April). *Pattern Block Frenzy: Proportional Reasoning with Technology*. Presentation, 91st Annual Meeting of the National Council of Teachers of Mathematics (NCTM), Denver, Colorado.

Anderson, K. L., Westenskow, A., & Moyer-Packenham, P. S. (2012, April). *Teachers' Resources for Using Virtual Manipulatives to Teach Fraction Concepts*. Presentation, 90th Annual Meeting of the National Council of Teachers of Mathematics (NCTM), Philadelphia, Pennsylvania.

Ng, D. & Anderson, K. L. (2011, April). *Square or Rhombus? Helping Students Develop Relational Thinking through Geometry*. Presentation, 89th Annual Meeting of the National Council of Teachers of Mathematics (NCTM), Indianapolis, Indiana.

National Council of Teachers of Mathematics Research Pre-session (NCTM)

Moyer-Packenham, P. S., Baker, J., Anderson, K. L., Shumway, J. F., Westenskow, A., & Jordan, K. (2013, April). *Hidden Achievement Predictors: Equalizing Effects of Virtual Manipulatives*. Paper Session. National Council of Teachers of Mathematics (NCTM) Research Pre-session, Denver, Colorado.

School Science and Math Association (SSMA)

Moyer-Packenham, P. S., Jordan, K., Ng, D., Anderson, K., Baker, J., Rodzon, K., Shumway, J., & Westenskow, A. (2011, November). *School Mathematics Research on Virtual Manipulatives: A Collaborative Team Approach*. Research Presentation. School Science and Math Association (SSMA) Annual Meeting. Colorado Springs, Colorado.

Brown, A. B. & Anderson, K. L. (2010, November). *Broadcast, Online, Hybrid? Teaching Elementary Math Methods in Distance Education Environments*. Research Presentation, School Science and Math Association (SSMA) Annual Meeting, Ft. Meyers, Florida.

State & Regional Presentations

Consortium for Mathematics Educational Enhancement (CMEE)

Anderson, K. L. & Welch, A. (2007, November). *Motivating Students in Mathematics Through Technology: an Introduction to eNLVM*. Workshop Presentation, Consortium for Mathematics Educational Enhancement (CMEE) Annual State Conference, Salt Lake City, Utah.

T³: Integrating Math and Technology

Anderson, K. L. & Nielsen, M. (2003, February). *Tumbling Tetronimoes & Broken Calculators*. Workshop Presentation, T³: Integrating Math and Technology Annual State Conference, Salt Lake City, Utah.

Utah Council of Teachers of Mathematics (UCTM)

Anderson-Pence, K. L. (2013, November). *Techno-Mathematical Discourse: A Framework for Analyzing Math Talk While Working with Virtual Manipulatives*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Salt Lake City, Utah.

Anderson, K. L. (2012, October). *Pattern Block Frenzy: Proportional Reasoning with Technology*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), American Fork, Utah.

Anderson, K. L. (2011, November). *Square or Rhombus?: Developing Relational Thinking Through Geometric Reasoning*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Salt Lake City, Utah.

Anderson, K. L. (2011, May). *Minilessons for Multiplying and Dividing Fractions*. Utah Council of Teachers of Mathematics (UCTM) Outreach Conference, Cedar City, Utah.

Anderson, K. L. & Leder, A. (2008, October). *Minilessons for Extending Multiplication*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Sandy, Utah.

Anderson, K. L. (2006, October). *Unraveling Integers*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Salt Lake City, Utah.

Anderson, K. L. (2005, October). *K-6 Mathematics Benchmarking System*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Clearfield, Utah.

Anderson, K. L. (2004, October). *The Ups and Downs of 3rd grade Algebra*. Annual Conference of the Utah Council of Teachers of Mathematics (UCTM), Sandy, Utah.

Professional Presentations Pending

National Council of Teachers of Mathematics Research Conference (NCTM)

Anderson, K. L., & Moyer-Packenham, P. S. (accepted, 2015, April). *Using Virtual Manipulatives to Generalize and Justify Through Discourse*. Interactive Paper Session. National Council of Teachers of Mathematics (NCTM) Research Conference, Boston, Massachusetts.

American Educational Research Association (AERA)

Anderson, K. L., & Moyer-Packenham, P. S. (accepted, 2015, April). *Using Virtual Manipulatives to Enhance Collaborative Discourse in Mathematics Instruction*. Paper Session. Annual Meeting of the American Educational Research Association (AERA). Chicago, Illinois.

Society for Information Technology and Teacher Education International Conference (SITE)

McGuire, P., Gagnon, R., & Anderson-Pence, K. (under review, 2015, March). Introducing pre-service STEM teachers to the classroom assessment scoring system-secondary (CLASS-S) using video-based assignments. Full paper submitted to the Society for Information Technology and Teacher Education Conference. Las Vegas, NV.

NATIONAL LEADERSHIP & SERVICE

Committee Member (2014–2017)

Policy Committee. School Science and Mathematics Association

Reviewer (2014–present)	<i>Research Conference</i> . National Council of Teachers of Mathematics.
Reviewer (2013–present)	<i>School Science and Mathematics</i> . School Science and Mathematics Association.
Reviewer (2012–present)	<i>Teaching Children Mathematics</i> . National Council of Teachers of Mathematics

STATE LEADERSHIP & SERVICE

Board of Directors (2009–11)	Utah Council of Teachers of Mathematics. Webmaster.
Board of Directors (2009–11)	Utah Council of Teachers of Mathematics. Monthly Newsletter Editor.
Board of Directors (2007–09)	Utah Council of Teachers of Mathematics. K-3 Representative. Wrote problems for state math competition.
Committee Member (2007–09)	State Mathematics Education Coordinating Committee (Utah)
Committee Member (2006–08)	State of Utah Instructional Materials Committee
District Math Coordinator (2001–04)	Grade 3: Alpine School District, American Fork, Utah

STATE SERVICE – OUTREACH FOR PUBLIC SCHOOLS

Utah

Edith Bowen Lab School, Logan, Utah. *Professional Development School Partnership* (September 2013). Taught a 4th grade model minilesson on relational thinking with multiplication.

Alpine School District, Orem, Utah. *Utah Elementary Mathematics Endorsement Project* (March 2012). Taught a 6th grade model lesson during a ratios and proportions unit.

Utah State Office of Education. *Utah’s Common Core State Standards (CCSS) 6th Grade Committee*. (December 2010). Worked with a team of 25 sixth-grade teachers to interpret core standards, suggest instructional strategies, identify useful resources, and construct sample formative assessment tasks.

Emery County School District, Castledale, Utah. *K-6 Mathematics Content and Selected Topics from Algebra and Geometry*. (2008-09). Lead Instructor, two workshops for 25 grades 4-6 teachers.

Alpine School District, American Fork, Utah. *Utah Elementary Mathematics Endorsement*. (2006-08). Co-instructor, two cohorts of 20 grades 2-6 teachers.

Alpine School District, American Fork, Utah. *Making Meaning for Operations*. (2008). Lead Instructor, eight-week workshop for 6 participants.

- Alpine School District, American Fork, Utah. *Introduction to eNLVM*. (October-November 2006). Lead Instructor, four-week workshop for 12 participants.
- Alpine School District, American Fork, Utah. *Motivating Students to Engage in Mathematics Using Technology*. (March 2006). Lead Instructor, one-day workshop for 50 participants.
- Alpine School District, American Fork, Utah. *Literacy and Technology in the Content Areas*. (January 2006). Lead Instructor, one-day workshop for 50 participants.
- Alpine School District, American Fork, Utah. *Making Meaning for Operations*. (2003). Lead Instructor, eight-week workshop for 20 participants.
- Alpine School District, American Fork, Utah. *Building a System of Tens*. (2002). Lead Instructor, eight-week workshop for 20 participants.
- Alpine School District, American Fork, Utah. *Math Support Group for Investigations: Grade 3*. (2001-2004). Lead Facilitator. Year-long meetings for 6 participants.

INTERNATIONAL MATHEMATICS EXPERIENCES

- October 2011 Mathematics Education Delegation, People to People Ambassadors. São Paulo, Brazil. Rio de Janeiro, Brazil. Visited primary/secondary schools and universities; met with Brazilian mathematics education researchers, classroom teachers, and students. Topics discussed: Use of technology in mathematics education, ethnomathematics, culturally relevant pedagogy, and teacher professional development.
- November 2007 Mathematics Education Delegation: Education Forum. People to People Ambassadors. Cairo, Egypt. Visited primary/secondary schools and universities. Topics discussed: Use of technology in education, teacher professional development.

PROFESSIONAL DEVELOPMENT ATTENDED

- April 2012 Grant Proposal Writing Workshop, Utah State University, Logan, Utah.
- July 2008 Developing Mathematical Ideas Institute. Mt. Holyoke College, South Hadley, Massachusetts.
- July 2008 Math Coaching Institute. Mt. Holyoke College, South Hadley, Massachusetts.
- April 2008 Professional Development with Catherine T. Fosnot, American Fork, Utah.
- June 2007 Professional Development with Robert Marzano. American Fork, Utah.
- July 2003 Investigations Summer Institute: Building Computational Fluency from Kindergarten through Grade 5. Cedar Hills, Utah.