

CURRICULUM VITA

Brian A. Bottge

**William T. Bryan Endowed Chair in
Special Education Technology**

Department of Early Childhood, Special Education,
and Rehabilitation Counseling
University of Kentucky
222 Taylor Education Building
Lexington, Kentucky
(859) 257-7908

EDUCATION

- | | |
|----------------------------|---|
| Postdoctoral
Study 1997 | Vanderbilt University
Nashville, TN
<i>Emphasis: Math Education, Technology, Cognition</i> |
| Ed.D. 1991 | Vanderbilt University
Nashville, TN
<i>Major: Special Education</i> |
| M.S. 1974 | St. Cloud State University
St. Cloud, MN
<i>Major: Developmental and Remedial Reading
Certification – Special Education</i> |
| B.A. 1969 | Augsburg College
Minneapolis, MN
<i>Major: French</i> |

Education Overseas

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|-----------------|--|
| Summer,
1971 | American Peace Corps
Hamadan, IRAN
<i>ESL Teacher Training</i> |
| Summer,
1968 | Institute for American Universities
Aix-en-Provence, FRANCE
<i>French language and culture</i> |

PROFESSIONAL EXPERIENCES

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| 2007-
Present | <i>William T. Bryan Endowed Chair, Special Education Technology,
University of Kentucky, Lexington, KY: Department of Special Education
and Rehabilitation Counseling.</i> |
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- 2006-
2007 *Professor, University of Wisconsin-Madison, Madison, WI:*
Department of Rehabilitation Psychology and Special Education.
- 2004-
2006 *Chairperson, Special Education Area, University of Wisconsin-Madison, Madison, WI:* Department of Rehabilitation Psychology and Special Education.
- 2003-
2006 *Associate Professor, University of Wisconsin-Madison, Madison, WI:*
Department of Rehabilitation Psychology and Special Education.
- 1997-
2003 *Assistant Professor, University of Wisconsin-Madison, Madison, WI:*
Department of Rehabilitation Psychology and Special Education.
- 1997 *Research Associate, Peabody College at Vanderbilt University, Nashville, TN:* Learning Technology Center.
- 1996 *Teacher, Special Education, South Junior High School, St. Cloud, MN:*
Taught 8th grade students with learning disabilities.
- 1986-
1996 *Coordinator of Assessment Services, District 742 Community Schools, St. Cloud, MN:* Coordinated District-wide research and assessment initiatives, Developed and maintained database on 12,000 students; Coordinated the St. Cloud MN Graduation Standards Assessment Pilot for three years; Chaired business-education partnership initiatives.
- 1993-
1994 *Adjunct Faculty, St. Cloud State University, St. Cloud, MN:*
“Performance-Based Assessment for Elementary Teachers”
- 1982-
1986 *Teacher, Special Education, Clearview Elementary School, Clearwater, MN:* Taught K-6 students with learning disabilities/behavior disorders;
- 1981-
1982 *Student Field Experience Coordinator, Peabody College of Vanderbilt,*
Coordinated Masters level teaching intern program; Arranged teaching placements; Trained supervisors; Helped to develop program evaluation.
- 1973-
1981 *Teacher, Special Education, South Junior High School, St. Cloud, MN:*
Taught students in grades 7-8 with learning disabilities, moderate disabilities, or behavior disorders.
- 1971-
1973 *Teacher, English as a Second Language, American Peace Corps, Ardebil, IRAN:* Trained in ESL teaching methodology, middle-east culture, and Farsi language; Taught English to junior-senior high school students and a summer institute for Iranian school administrators.
- 1969-
1971 *Teacher, French, Fairmont Middle/High School, Fairmont, MN:*
Taught students French language and culture.

RECOGNITIONS

- 2011 *NCME Award for an Outstanding Application of Educational Measurement Technology to Solve a Specific Problem in Educational Measurement*, with Sun-Joo Cho, Allan S. Cohen, & Seock-Ho Kim, National Council on Measurement in Education.
- 2008 *Doing What Works: Psychology of Learning*, Abstract and Concrete Connections, U.S. Department of Education:
<http://ies.ed.gov/ncee/wwc/PracticeGuide.aspx?sid=1>
- 2007 *Emeritus Professor, University of Wisconsin-Madison, Madison, WI:* Department of Rehabilitation Psychology and Special Education.
- 2006-2007 *Expert Panel on Cognition and Learning*, Institute of Education Sciences, U.S. Department of Education.
- 2005-2007 *Scientific Peer Review Panel Member*, Mathematics and Science Education, General Education and Special Education Teacher Quality Research, Institute of Education Sciences, U.S. Department of Education.
- 2004 *Post-Doctoral Fellowship in Assistive Technology*, University of Kentucky, Lexington, KY.
- 2003-2004 *Expert Panel Technology to Support the Development of Math Skills*. National Center for Technology Innovation (NCTI) on behalf of the U. S. Office Special Education Programs (OSEP), Washington, D. C.
- 2002 *Visiting Research Scholar*. Invitation from Faculty of Education and the Development and Diversity Research Cluster, University of Sydney, AUSTRALIA.
- 1997 *Postdoctoral Research Award, Peabody College of Vanderbilt University*. Selected to conduct further research concerning the appropriate and effective classroom application of technologies to the learning of children with disabilities.
- 1992 *Research Merit Award, Minnesota Association of Teacher Educators*. "A Comparison of Two Approaches for Teaching Complex, Authentic Mathematics Problems to Adolescents with Learning Disabilities"

RESEARCH AND PUBLICATIONS

Journals

- Li, F., Cohen, A. S., Bottge, B. A., & Templin, J. (2016). A latent transition analysis model for assessing change in cognitive skills. *Educational and Psychological Measurement*, 76, 181-204.

- Bottge, B. A., Toland, M. D., Gassaway, L., Butler, M., Choo, S., Griffen, A. K., & Ma, X. (2015). Impact of enhanced anchored instruction in inclusive math classrooms. *Exceptional Children*, 81, 158-175.
- Cho, S.-J., & Bottge, B. A. (2015). Multilevel multidimensional item response model with a multilevel latent covariate. *British Journal of Mathematical and Statistical Psychology*, 68, 410-433.
- Cho, S.-J., Preacher, K. J., & Bottge, B. A. (2015). Detecting intervention effects in a cluster randomized design using multilevel structural equation modeling for binary responses. *Applied Psychological Measurement*, 39, 627-642.
- Bottge, B. A., Ma, X., Gassaway, L., Toland, M., Butler, M., & Cho, S. J. (2014). Effects of blended instructional models on math performance. *Exceptional Children*, 80, 423-437.
- Bottge, B. A., Ma, X., Gassaway, L., Butler, M., & Toland, M. D. (2014). Detecting and correcting fractions computation error patterns. *Exceptional Children*, 80, 237-255.
- Bottge, B. A., & Cho, S.-J. (2013). Effects of enhanced anchored instruction on skills aligned to Common Core Math Standards. *Learning Disabilities: A Multidisciplinary Journal*, 19(2), 73-83.
- Cho, S.-J., Cohen, A. S. & Bottge, B. (2013). Detecting intervention effects with a multilevel latent transition analysis with a mixture IRT model. *Psychometrika*, 78, 576-600.
- Cho, S.-J., Bottge, B. A., Cohen, A. S., & Kim, S.-H. (2011). Detecting cognitive change in the math skills of low-achieving adolescents. *Journal of Special Education*, 45, 67-76.
- Bottge, B. A., Grant, T. S., Rueda, E., & Stephens, A. C. (2010). Advancing the math skills of middle school students in technology education classrooms. *NASSP Bulletin*, 94, 81-106.
- Bottge, B. A., Rueda, E., Grant, T. S., Stephens, A. C., & LaRoque, P. T. (2010). Anchoring problem-solving and computation instruction in context-rich learning environments. *Exceptional Children*, 76, 417-437.
- Cho, S.-J., Cohen, A. S., Kim, S.-H., & Bottge, B. (2010). Latent transition analysis with a mixture item response theory measurement model. *Applied Psychological Measurement*, 34, 483-504.

- Bottge, B. A., Rueda, E., Kwon, J. M., Grant, T., & LaRoque, P. (2009). Assessing and tracking students' problem solving performances in anchored learning environments. *Education Technology Research & Development*, *57*, 529-552.
- Stephens, A. C., Bottge, B. A., & Rueda, E. (2009). Ramping up on fractions. *Mathematics Teaching in the Middle School*, *14*(6), 520-526.
- Danneker, J. E., & Bottge, B. A. (2009). Benefits of and barriers to elementary student-led individualized education programs. *Remedial and Special Education*, *30*, 225-233.
- Bottge, B.A., Rueda, E., LaRoque, P.T., Serlin, R.C., & Kwon, J.M. (2007). Integrating reform-oriented math instruction in special education settings. *Learning Disabilities Research & Practice*, *22*, 96-109.
- Bottge, B.A., Rueda, E., Serlin, R.C., Hung, Y., & Kwon, J. M. (2007). Shrinking achievement differences with anchored math problems: Challenges and possibilities. *Journal of Special Education*, *41*, 31-49.
- Bottge, B., Rueda, E., & Skivington, M. (2006). Situating math instruction in rich problem-solving contexts: Effects on adolescents with challenging behaviors. *Behavioral Disorders*, *31*, 394-407.
- Gagnon, J. C., & Bottge, B. A. (2006). Mathematics instruction in secondary interim, short- and long-term alternative school placements. *Preventing School Failure*, *51*(1), 39-47.
- Bottge, B.A., Heinrichs, M., Mehta, Z.D., Rueda, E., Hung, Y., & Danneker, J. (2004). Teaching mathematical problem solving to middle school students in math, technology education, and special education classrooms. *Research in Middle Level Education*, *27*(1)(<http://www.nmsa.org/Publications/RMLEOnline/Articles/Vol27No1Article1/tabid/529/Default.aspx>)
- Bottge, B. A., Heinrichs, M., Chan, S., Mehta, Z. D., & Watson, E. (2003). Effects of video-based and applied problems on the procedural math skills of average- and low-achieving adolescents. *Journal of Special Education Technology*, *18*(2), 5-22.
- Bottge, B. A., Gugerty, J. J., Serlin, R. C., & Moon, K. (2003). Block and traditional schedules: Effects on students with and without disabilities in high school. *NASSP Bulletin*, *87*(636), 2-14.
- Bottge, B. A. (2002). Language and technology: Partners in helping students with disabilities develop numeracy. *Australasian Journal of Special Education*, *26* (1 & 2), 3-15.
- Bottge, B. A., & Watson, E. (2002). Using video-based math problems to connect the skills and understandings of incarcerated adults with disabilities. *Journal of Special Education Technology*, *17*(2), 25-38.

- Bottge, B. A., Heinrichs, M., Mehta, Z., & Hung, Y. (2002). Weighing the benefits of anchored math instruction for students with disabilities in general education classes. *The Journal of Special Education, 35*, 186-200.
- Bottge, B. A., Heinrichs, M., Chan, S., & Serlin, R. C. (2001). Anchoring adolescents' understanding of math concepts in rich problem solving environments. *Remedial and Special Education, 22*, 299-31
- Bottge, B. A. (2001). Building ramps and hovercrafts – and improving math skills. *TEACHING Exceptional Children, 34(1)*, 16-23.
- Cohen, A. S., Bottge, B. A., & Wells, C. S. (2001). Using item response theory to assess effects of mathematics instruction in special populations. *Exceptional Children, 68*, 23-44.
- Bottge, B. A. (2001). Reconceptualizing math problem solving for low-achieving students. *Remedial and Special Education, 22*, 102-112.
- Bottge, B. A. (2001). Using intriguing problems to improve math skills. *Educational Leadership, 58(6)*, 68-72.
- Bottge, B. A., Yehle, A. (1999). Making standards-based instruction meaningful for all. *Journal for Vocational Special Needs Education, 22(1)*, 23-32.
- Bottge, B. A. (1999). Effects of contextualized math instruction on problem solving of average and below-average achieving students. *The Journal of Special Education, 33*, 81-92.
- Bottge, B. A., & Hasselbring, T. S. (1999). Teaching mathematics to adolescents with disabilities in a multimedia environment. *Intervention in School and Clinic, 35*, 113-116.
- Halova, A., & Bottge, B. A. (1999). Toward inclusive schools in the Czech Republic: Integrating children with disabilities. *Journal of International Special Needs Education, 2*, 31-39.
- Bottge, B. A., & Osterman, L. (1998). Bringing the workplace into the classroom. *Educational Leadership, 55(8)*, 76-77.
- Hasselbring, T. S., Goin, L., Taylor, R., Bottge, B., & Dailey, P. (1997). The computer doesn't embarrass me. *Educational Leadership, 55(3)*, 30-33.
- Bottge, B.A., & Hasselbring, T.S. (1993). A comparison of two approaches for teaching complex, authentic mathematics problems to adolescents with learning difficulties. *Exceptional Children, 59(6)*, 556-566.

- Rousseau, M.K., Bottge, B.A., & Dy, E.B. (1993). Syntactic complexity in the writing of students with and without mental retardation. *American Journal of Mental Retardation*, 98(1), 113-120.
- Bottge, B.A., & Hasselbring, T.S. (1993). Taking word problems off the page. *Educational Leadership*, 50(6), 36-38.
- Bottge, B.A., & Radeke, D.L. (1991). Integrating innovative instructional models into a district reading program: Implementation and results. *Educational Research Service (ERS) Spectrum*, 9(1), 34-39.
- Rousseau, M.D., & Bottge, B.A. (1983). Teaching written language skills: A need for special education teacher preparation. *Teacher Education and Special Education*, 6(3), 101-105.

Book Chapters/Sections

- Bottge, B. (2010). Math instruction for children with special needs. In P. Peterson, & E. Baker, & B. McGaw (Eds.), *International Encyclopedia of Education, Volume 2*, (pp. 767-773. Oxford: Elsevier.
- Bottge, B. (2009). Anchored Instruction. In E.M. Anderman & L.H. Anderman (Eds.), *Psychology of Classroom Learning: An Encyclopedia* (pp. 34-36). Detroit: Macmillan/Cengage Learning.
- Hasselbring, T. S., Bottge, B., & Bausch, M. E. (2008). Planning and implementing technology programs in inclusive settings. In J. D. Lindsay (Ed.), *Technology and exceptional individuals* (4th ed.). Austin, TX: Pro-ed.
- Hanley-Maxwell, C., & Bottge, B. A. (2006). Re-Conceptualizing and re-centering research in special education. In C. Conrad & R. C. Serlin (Eds.), *The SAGE Handbook for Research in Education: Engaging Ideas and Enriching Inquiry* (pp. 175-195). London: Sage Publications.
- Hasselbring, T. S., & Bottge, B. A. (2000). Planning and implementing technology programs in inclusive settings. In J. D. Lindsley (Ed.), *Technology and Exceptional Individuals* (3rd. ed.) (pp. 91-113). Austin, TX: Pro-Ed.
- Hasselbring, T. S., Goin, L., Taylor, R., Bottge, B., & Daley, P. (2000). The computer doesn't embarrass me, *The Jossey-Bass Reader on Technology and Learning* (pp. 209-214). San Francisco: Author.

Monographs

- Gagnon, J.C., Wehby, J.H, Strong, A., Falk, K.B., & Bottge, B.A. (2005). Effective mathematics and reading instruction for secondary-age youth with emotional and behavioral disorders. *Monograph published by the Council for Children with*

Behavioral Disorders.

Randall, R.R., Bottge, B., & Wang, H.H. (1995). A study of school choice: St. Cloud, Minnesota, Adult Diploma Program. *American Association of School Administration Professor.*

Invited Book Reviews

Bottge, B. A. (1999). [Review of the book Teaching for understanding: Linking research with practice, M. S. Wiske, Ed.] *Educational Leadership*, 56(8), 87.

Bottge, B. (1997). [Review of the book Education and technology: Reflections on computing in classrooms, Fisher, C., Dwyer, D.C., & Yocam, K.] *Educational Leadership*, 55(3), 90-91.

Bottge, B. (1995). [Review of the book Classroom lessons: Integrating cognitive theory and classroom practices, K. McGilly, Ed.] *Educational Leadership*, 52(6), 88.

TECHNOLOGY DEVELOPMENT

- 2005-2008 *Fractions At Work*. Interactive software to teach fractions concepts (equivalence), computation of fractions (addition/subtraction).
- 2004-2005- *Fraction of the Cost Computer-Assisted Assessment*. Interactive software to measure concepts taught in *Fraction of the Cost* problem.
- 2000-2004 *Fraction of the Cost*. Interactive math problem solving CD, basis for five funded research studies: Wisconsin Center for Education Research, University of Wisconsin-Madison.
- 1992-1993 *The 8th Caller*. Interactive videodisc written and acted by elementary-age students filmed on location in St. Cloud, MN; Designed to enhance mathematics problem solving skills.
- 1991-1992 *Classroom Performance Assessments*. Videotape review of teachers using performance-based assessments in their classrooms.
- 1990-1991 *Bart's Pet Project*. Interactive videodisc designed to facilitate the instruction and assessment of math problem solving skills; Developed at the Learning Technology Center, Peabody College of Vanderbilt University.

GRANT SUPPORT***Principal Investigator/Project Director***

- 2015-2019 *Developing Enhanced Assessment Tools for Capturing Students' Procedural Skills and Conceptual Understanding in Math*. U.S. Department of Education, \$1,599,999 Institute of Education Sciences, Cognition and Student Learning in Special

Education Research Program.

- 2009-2014
\$2,330,164 *Evaluating the Efficacy of Enhanced Anchored Instruction for Middle School Students with Learning Disabilities in Math.* U.S. Department of Education, Institute of Education Sciences, Cognition and Student Learning in Special Education Research Program.
- 2004-2008
\$1,050,000 *Advancing the Math Skills of Low-Achieving Adolescents in Technology-Rich Learning Environments.* U.S. Department of Education, Institute of Education Sciences, Cognition and Student Learning Research Program.
- 2002-2005
\$900,000 *Anchoring Problems in Technology-Rich Environments to Enhance the Math Skills of Adolescents with Disabilities.* U.S. Department of Education (OSERS), Steppingstones of Technology Innovation for Students with Disabilities.
- 1999-2003
\$540,000 *Uncovering and Enhancing Mathematics Know-How of Students with Disabilities.* U.S. Department of Education (OSERS), Directed Research Projects.
- 1999-2002
\$531,121 *Secondary Special Education Students' Performance in Block vs. Traditional Schedules.* U.S. Department of Education (OSERS), Field Initiated Research.
- 1999-2000
\$10,462 *Enhancing Problem Solving Skills of Incarcerated Adults with Disabilities.* Graduate School, University of Wisconsin-Madison.
- 1998-2001
\$284,304 *Integrating Mathematics Skills of Adolescents with Learning Disabilities.* James S. McDonnell Foundation, Cognitive Studies for Educational Practice.
- 1996-1997
\$57,170 *Minnesota Graduation Standards Implementation Project, Fourth Year.* Author/Project Director. Awarded to St. Cloud Community Schools by the Minnesota Department of Children, Families, and Learning, State of Minnesota.
- 1995-1996
\$10,000 *Minnesota Graduation Standards Implementation Project, Third Year.* Author/Project Director. Awarded to St. Cloud Community Schools by the Minnesota Department of Children, Families and Learning, State of Minnesota.
- 1994-1995
\$155,840 *Minnesota Graduation Standards Implementation Project, Second Year.* Author/Project Director. Awarded to St. Cloud Community Schools by the Minnesota Department of Children, Families and Learning, State of Minnesota.

1993-1994 \$162,051 *Minnesota Graduation Standards Implementation Project, First Year.* Author/Project Director. Awarded St. Cloud Community Schools by the Minnesota Department of Children, Families and Learning, Minnesota.

1991-1993 \$40,000 *The Next Step: Linking Assessment to Instruction in an Outcome-Based Education Environment.* Author/Project Director. Awarded to St. Cloud Community Schools by the Minnesota Department of Children, Families, and Learning, State of Minnesota.

Project Faculty

1998-2001 \$600,000 *Education and Work Leadership Program.* U.S. Department of Special Education Programs, U.S. Department of Education.

1997-2000 \$3,500,000 *Research Institute on Secondary Education Reform for Children and Youth with Disabilities (RISER).* Research Strand: School structural variables that enhance/constrain evolution of effective schools. U.S. Department of Education (OSERS).

1997-1999 \$399,764 *Developing Intelligent Software for Teaching Critical Math Concepts, Skills, and Knowledge to Young Disabled Children.* Project Evaluation Consultant. Awarded to Ted S. Hasselbring, Project Director, Vanderbilt University by U.S. Department of Education (OSEP).

1994-1995 \$89,250 *Youth Apprenticeship Implementation Grant: Metalworking.* Executive Committee. Awarded to St. Cloud, MN Coalition of business education leaders by the MN Dept of Children, Families and Learning.

PRESENTATIONS

*Peer reviewed **Invited

National/International

April 2015 * Choi, H., Cohen, A., & Bottge, B. *A Random Item Mixture Nominal Response Model* paper presentation at the annual National Council for Measurement in Education conference in Chicago, IL.

September 2014 ** Bottge, B.A. *A Close-Up Look at Collaborative Teaching Models in Inclusive Math Classrooms* invited presentation at the 2014 International Conference, Seoul National University of Education, Seoul, KOREA.

September 2014 ** Bottge, B.A. *Efficacy of Enhanced Anchored Instruction: Mathematics Curriculum for Struggling Middle School Students* invited presentation at Ewha Womans University, Seoul, KOREA.

September ** Bottge, B.A. *Enhanced Anchored Instruction: Mathematics Curriculum for*

- 2014 *Students With and Without Disabilities* invited presentation at the Seoul National University of Education, Seoul, KOREA.
- April 2014 * Bottge, B.A., Butler, M., & Gassaway, L. *Effect of Collaborative Instructional Strategies on Math Performance of Students with Disabilities* paper presentation at the annual Council for Exceptional Children (CEC) conference in Philadelphia, PA.
- April 2014 ** Bottge, B.A., Gassaway, L.J., & Butler, M. *Efficacy of Enhanced Anchored Instruction: Mathematics Curriculum for Struggling Middle School Students* invited presentation at the annual Council for Exceptional Children (CEC) conference in Philadelphia, PA.
- April 2014 * Bottge, B.A., Toland, M.D., Gassaway, L.G., Butler, M., Choo, S., Griffin, A.K., Ma, X. *Multilevel Analysis of Enhanced Anchored Instruction in Co-Teaching Inclusive Math Classrooms* roundtable paper presentation at the annual American Educational Research Association (AERA) conference in Philadelphia, PA.
- April 2013 * *Detecting Error Patterns and Improving Fractions Computation* with L. Gassaway, M. Butler, & S. Choo at the National Council for Exceptional Children Conference, San Antonio.
- April 2013 * *Blending Instructional Strategies to Improve the Math Skills of Middle School Students* with L. Gassaway, M. Butler, & A. K. Griffin at the National Council for Exceptional Children Conference, San Antonio.
- April 2012 ** *Modeling Qualitative and Quantitative Change in the Math Skills of Low-Achieving Adolescents Using Latent Variable Models* Award-Winning Research from the 2011 NCME Award Recipients with S. Cho, A. Cohen, & S. Kim at the American Educational Research Association Conference, Vancouver.
- April 2012 * *Effects of Technology-Supported and Hands-On Units on the Performance of Low-Achieving Middle School Students* with L. Gassaway, X. Ma, M. Toland, & M. Butler at the American Educational Research Association Conference, Vancouver.
- April 2012 *Instructional Tools in Mathematics*, Chairperson Roundtable, American Educational Research Association Conference, Vancouver.
- April 2011 * *Using Assessment Tools to Develop Students' Understanding of Mathematics Problems*. Paper presented with A. Cohen, S. Cho, & L. Gassaway at the American Educational Research Association Conference, New Orleans.
- April 2011 * *Evaluating the Efficacy of Enhanced Anchored Instruction for Middle School Students with Learning Disabilities in Math*. Poster with X. Ma, M. Toland,

A. Cohen, & S. Cho at the American Educational Research Association Conference, New Orleans.

- June 2010 ***Developing Adolescents' Procedural Fluency and Strategic Competence in Mathematics*, Institute of Education Sciences National Conference, Understanding Students who Struggle to Learn Mathematics, Washington, DC.
- June 2010 *Latent Transition Analysis with a Multilevel Mixture Rasch Model: Detecting Cognitive Change in the Math Skills of Low-Achieving Adolescents*. Poster with S. Cho & A. Cohen at the Institute of Education Sciences National Conference, Washington, DC.
- April 2010 ***Mathematics in Special Education*. Session Chair, (SIG) Special Education Research, at the American Educational Research Association Conference, Denver.
- April 2010 ** Linking Procedural Fluency of Fractions with Conceptual Understanding*. Paper presented at the National Council for Exceptional Children Conference, Nashville.
- October 2009 ***Teaching Mathematics to Adolescents with LD in Rich Problem-Solving Contexts*. Workshop presented at the Division of Learning Disabilities Conference, San Diego.
- May 2009 ** Learning from Abstract and Concrete Representations*. Symposium paper presented with colleagues, Institute of Education Sciences, Association for Psychological Science Annual Convention, San Francisco.
- April 2009 ** Effects of Enhanced Anchored Instruction: A Latent Transition Analysis With a Mixture Item Response Theory Measurement Model*. Paper presented with S. Cho, A. Cohen, & S. Kim at the American Educational Research Association Conference, San Diego.
- April 2009 ** Status of Assistive Technology Instruction in University Personnel Preparation Programs*. Paper presented with M. Bausch at the American Educational Research Association Conference, San Diego.
- April 2009 ** Building Conceptual Understanding and Procedural Knowledge of Fractions in Technology-Rich Problem-Solving Environments*. Paper presented at American Educational Research Association Conference, San Diego.
- April 2009 ** Bulding the Computation and Problem-Solving Skills of Adolescents in Context-Rich Learning Environments*. Paper presented at the National Council for Exceptional Children Conference, Seattle.
- April ** Building Procedural Math Skills In Reform-Oriented Special*

- 2008 *Education Settings*. Paper presented with E. Rueda & A. Stephens at the National Council for Exceptional Children Conference, Boston.
- March 2008 * *Beyond Either/Or: Enhancing the Computation and Problem-Solving Skills of Low-Achieving Adolescents*. Paper session with E. Rueda & A. Stephens at the American Education Research Association Annual Meeting (SIG-Special Education Research), New York, NY.
- March 2008 * *Advancing Students' Problem-Solving Competence and Procedural Skill Using Enhanced Anchored Instruction*. Paper session with E. Rueda & A. Stephens at the American Educational Research Association Annual Meeting (Division 3-Learning and Instruction/Section 3: Mathematics), New York, NY.
- June 2007 ** *Beyond Either/Or: Integrating Problem Solving and Computation in Technology-Rich Learning Environments*. Panel Symposium, The Science of Instructional Technology, Cognition and Student Learning, at the Institute of Education Sciences 2007 Research Conference, Washington, DC.
- June 2007 * *Advancing the Math Skills of Low-Achieving Adolescents in Technology-Rich Learning Environments*. Poster session with E. Rueda & A. Stephens, Institute of Education Sciences 2007 Research Conference, Washington, DC.
- April 2007 * *Assessing Students' Problem-Solving Strategies in Interactive Computer-Based Environments*. Paper with E. Rueda at the National Council for Exceptional Children Conference, Louisville.
- April 2007 * *A Latent Transition Analysis Model for Assessing Change in Cognitive Skills*. Paper with Y. Li and A. Cohen at the National Conference on Measurement in Education, Chicago.
- April 2007 * *Latent Transition Analysis with a Mixture Response Theory Measurement Model*. Paper with S. Cho, A. Cohen, & S. Kim at the National Conference on Measurement in Education, Chicago.
- April 2007 * *Confronting "Classroom Realities": The Importance of a Mixed-Methods Approach*. Paper with P. LaRoque, A. Stephens, & B. Glass at the American Educational Research Association Annual Meeting (SIG-Mixed Methods Research), Chicago.
- April 2007 * *Integrating Reform-Oriented Math Instruction in Special Education Settings*. Paper with E. Rueda, P. LaRoque, & J. Kwon at the American Educational Research Association Annual Meeting (SIG-Special Education Research), Chicago.
- April * *Assessing Students' Problem-Solving Strategies in Interactive*

- 2007 *Computer-Based Environments*. Paper with E. Rueda at the Council for Exceptional Children Conference, Louisville.
- June 2006 **Performance Features of Students' Problem-Solving Strategies in Multimedia- Based Math Assessments*. Poster session with E. Rueda at the Institute of Education Sciences 2006 Research Conference, Washington, DC.
- April 2006 ***Capturing Math Understanding: A comparison of Two Assessment Methods*. Symposium paper with E. Rueda at American Educational Research Association Annual Meeting, San Francisco.
- April 2006 **Seventh-Grade Students' Use of Multimedia-Based Scaffolds in Solving Contextualized Math Problems*. Paper with J. Kwon and E. Rueda at American Educational Research Association Annual Meeting (Division C7: Learning and Instruction, Technology Research), San Francisco.
- April 2006 **Advancing the Math Skills of Adolescents with Severe Emotional/Behavioral Disorders*. Paper with E. Rueda at American Educational Research Association Annual Meeting (Division B: Curriculum Studies), San Francisco.
- April 2006 **Learning Disabilities in Saudi Arabia: Identification and Representation*. Paper with I. Al-Hano at American Educational Research Association Annual Meeting (Division L, Educational Policy and Politics), San Francisco.
- September 2005 **Situating Meaningful Tasks in Technology-Rich Contexts to Enhance the skills of Adolescents with E/BD*. Sixth International Conference on Children and Youth with Behavioral Disorders. Dallas, TX.
- July 2005 ***Using Technology to Enhance Training, Academic Achievement, and Transition*. 2005 Office of Special Education Project Directors' Conference. Washington, DC.
- May 2005 ***Multimedia Tools Used to Advance the Math Skills of Low-Achieving Adolescents In Technology-Rich Environments*. With E. Rueda, Cognition and Student Learning Second Annual Principal Investigators Meeting. Institute of Education Sciences, Washington, DC.
- April 2005 **Situating Math in Meaningful Contexts*. With E. Rueda at Council Exceptional Children Conference, Baltimore, MD.
- November 2004 ***What's Next for Technology Innovation and Implementation?* 7th Annual Technology Innovators' Conference, National Center for Technology Innovation, Dialogue Event, Washington, DC.
- October 2004 **Embedding Mathematics in Meaningful Contexts . . . to Students*. 26th International Conference on Learning Disabilities, Las Vegas, NV

- July 2004 ***Developing the Math Skills of Low-Achieving Students Through Contexts.* Pennsylvania State Summer Math Conference, State College, PA
- April 2004 **Developing the Math Skills of Adolescents With and Without Disabilities in Inclusive Settings.* Paper presented with E. Rueda at the American Educational Research Association Meeting (Division C, Section 3 – Mathematics, Prior Knowledge, Bridging Activities Mathematics Learning), San Diego.
- July 2003 ***Developing the Math Skills of All Students in Engaging Contexts.* Presentation at Capacity Building Institute, National Center on Secondary Education and Transition, Washington, D.C.
- April 2003 **Following the Research Trail to Sustain (and enhance) the Expertise of Teachers Across Disciplines.* Paper presented at the American Educational Research Association Annual Meeting (Division K: Professional Development and In-Service Teacher Education), Chicago.
- April 2003 ***Developing Students' Math Skills in Action-Oriented, Practical Contexts.* Panel presentation with M. Montague and D. Chard. Council for Exceptional Children Annual Conference, Seattle, WA.
- February 2003 ***Secondary Mathematics for Students with Disabilities: Issues in Teaching and Learning.* Research panel with A. Foegen, P. Maccini, and J. Gagnon, Pacific Coast Research Conference, La Jolla, CA.
- November 2002 ***Using Technology to Help Students With Disabilities Solve Meaningful Math Problems and Uncovering the Mathematics Skills of Middle School Children With LD.* 4th International Conference on Learning Disabilities, Alpha to Omega Learning Centre, Chennai, INDIA.
- October 2002 ***Using Math Skills to Solve Problems In and Out of School: Bridging the Divide.* 24th International Conference on learning Disabilities, Council for Learning Disabilities, Denver, CO.
- July 2002 ***Designing Motivating Contexts to Help Students Develop Their Problem-Solving Skills.* Keynote 1st day of Successful Learning Conference, University of Sydney, Sydney, AUSTRALIA.
- July 2002 ***Language and Numeracy: Partners in Skill Development.* Keynote 2nd day of Successful Learning Conference, University of Sydney, Sydney, AUSTRALIA.
- April 2002 ***Situating Math Concepts in Engaging Learning Environments.* Showcase for Research Division of the Council for Exceptional Children Annual

Convention, New York.

- April 2002 **Building Multimedia for Low-Achieving Students On a Theoretical and Research Foundation*. Paper presented with Rueda at American Educational Research Association Annual Meeting, New Orleans.
- April 2002 **Using a Video-Based Problem to Help Incarcerated Adults Connect Their Procedural and Conceptual Knowledge*. American Educational Research Association Annual Meeting (Division C4b: Focus on out-of-school learning environments), New Orleans.
- April 2002 **Does Special Education Student Performance in Block Scheduled Schools Differ From Special Education Student Performance in Schools that Follow Traditional Schedules?* Paper presented with Gould, Gugerty, Moon, and Bottge at American Educational Research Association Annual Meeting (Division H: School Evaluation and Program Development), New Orleans.
- January 2002 **Empirically Speaking: Students Learn with Video-Based Problems*. Paper presented at Technology and Media (TAM) Division of the Council for Exceptional Children Annual Conference, Reston, VA
- April 2002 **A Year Later: Adolescents' Retrospections of Their Mathematics Problem Solving Experiences*. Paper presented at American Educational Research Association (AERA) Annual Meeting (Division C5: Cognitive, Social, and Motivational Processes), Seattle.
- April 2001 **Uncovering the Mathematics Problem-Solving Skills of Adolescents with Learning Disabilities*. Paper presented at Council for Exceptional Children Annual Convention, Kansas City.
- April 2000 **Using Item Response Theory for Assessing Treatment Effects of Mathematics Special Populations*. Paper presented with Cohen and Wells at American Educational Research Association (AERA) Annual Meeting (Special Education Research SIG), New Orleans.
- April 1999 **Performance of Average- and Under-Achieving Students on Contextualized Math Tasks*. Paper presented at American Educational Research Association (AERA) Annual Meeting (Division C2: Mathematics) Montreal.
- April 1993 **Shifting Mathematics Problem Solving Instruction From Text to Context*. Paper presented at the National Council of Exceptional Children (CEC) convention, San Antonio.
- February 1993 **Minnesota Legislation on Choice: Study of Learners in the St. Cloud, MN Adult Diploma Program*. Paper presented at the American Association of School Administrators (AASA) conference, Orlando.

- January 1993 *Moving Mathematics Problem Solving Out of Text Into Context*. Paper presented at the International Technology and Media (TAM) conference, Council for Exceptional Children (CEC), Cromwell, CT.
- April 1992 *Linking Procedural and Conceptual Knowledge to Improve Mathematical Problem-Solving in At-Risk Students*. Paper presented at the National Council of Exceptional Children (CEC) convention, Baltimore.
- January 1992 *Teaching Adolescents with Learning Difficulties How to Solve Mathematics Problems with Teacher-Mediated Video*. Paper presented at the Technology and Media Division (TAM) Conference, Council for Exceptional Children (CEC), Albuquerque.
- March 1989 *The Process and Politics of Improving Curriculum and Instruction involving Staff, Administrators, Community, and School Board*. Paper presented at the Association for Supervision and Curriculum Development (ASCD) conference, Orlando.

PRESENTATIONS

**Invited

Regional

- September 2005 ***Developing the Mathematics Problem-Solving Skills of Low-Achieving Students*. Nicholls State University, Thibodaux, LA.
- September 2005 ***Using Technology to Improve Learning*. University of Wisconsin-Madison, school of Education Board of Visitors, Madison, WI.
- January 2005 ***Using Engaging Problems to Develop the Math Skills of Low-Achieving Adolescents*. 8th Annual WCER Conference for Wisconsin CESAs.
- July 2003 ***Teaching Math to Students With Disabilities*. Year 3 two-day math grant workshop for state-wide grant participants (NO LIMIT! Using Technology to Teach Students With Math Disabilities), Central Washington University, Ellensburg, WA.
- July 2002 ***Perspectives on Math*. Year 2 two-day math grant workshop for state-wide grant participants (NO LIMIT! Using Technology to Teach Students with Math Disabilities), Central Washington University, Ellensburg, WA.
- June 2002 ***Anchoring Problems in Meaningful Contexts to Enhance the Math Skills of Low-Achieving Adolescents*. Presentation at Northwestern University LD Spring Conference: Math Learning, Northwestern University, Evanston, IL.
- May 2002 ***Anchoring Math Problems in Meaningful Contexts*. Invited presentation for Region 5 Comprehensive Center, Wisconsin Center for Education Research,

Madison, WI.

- August 2001 ***Anchoring Learning in Meaningful Contexts*. Invited two-day math grant seminar for state-wide grant participants (NO LIMIT! Using Technology to Teach Students with Math Disabilities), Central Washington University, Ellensburg WA.
- September 2000 ***Teaching Challenging Math Problems that Matter (to Students)*. Presented at the Southern Joint District Inservice, Cooperative Educational Service Agency 8, Menominee Indian School District, Keshena, WI.
- March 1997 *What Do Students Really Learn from Video Anchors?* Paper presented at Council for Exceptional Children MN State Conference, Saint Paul.
- March 1996 *Translating Standards Into Meaningful Instruction*. Paper presented at Region Net, Duluth, MN.
- December 1995 *Your Community: A Valuable Partner in Translating Standards to Practice*. Paper presented at the Minnesota Education Effectiveness Program (MEEP) conference, Minneapolis.
- April 1995 *Lights, Camera, Action: Students Create Problem-Solving Scenarios*. Paper presented at the Technology and Innovations in Education conference, Rapid City, SD.
- April 1995 *School-Business Partnerships*. Roundtable at the Minnesota School Public Relations Association (MinnSPRA), St. Cloud, MN.
- November 1993 *Performance-Based Assessment: Beyond Mastery*. Roundtable at Minnesota Computing Consortium (MECC) conference on educational technology, Minneapolis.
- October 1993 *Business, Community, Education: A Partnership for Establishing Graduation Standards at Technical High School*. Paper presented at the Challenge 2000 conference, St. Cloud, MN.
- April 1993 *Solving Mathematics Problems in Context*. Paper presented at the Minnesota Council of Teachers of Mathematics (MCTM) conference, Brainerd, MN.
- January 1993 *Teaching and Assessing Mathematics Problem Solving Skills with Video Anchors*. Paper presented at the Practitioner's Paradise IV, Minnesota Success Consortium, Rochester, MN.

January 1993 *Are Educators Really Assessment Illiterate?* Paper presented at Practitioner's Paradise IV, Minnesota High Success Consortium, Rochester, MN.

October 1992 *Assessment Phobia: It's Treatable.* Paper presented at the Minnesota North Central Association conference, Bloomington, MN.

PRESENTATIONS

Invited

Local

May 2007 *Conducting Classroom-Based Research for Assessing the Effects of Reform-Based Math Interventions: Obstacles & Opportunities.* With Perry LaRoque (doctoral student) at WCER Graduate Training Brownbag Series.

June 2006 *Advancing the Math Skills of Low-Achieving Adolescents.* Presented for the WCER External Review Committee, University of Wisconsin – Madison.

November 2001 *Enhanced Anchored Instruction.* Presented at Southwest Wisconsin Rehabilitation Association Technology Rehabilitation Expo 2001, Madison.

September 2001 *Standards Are What You Make of Them.* Invited key-note address to 300+ teachers from Black Hawk, O'Keefe, Sherman Middle Schools, and East High School, Madison.

August 2001 *Infusing School Curriculum with Workplace Applications.* Invited half-day workshop for teachers at Lake Mills Lutheran High School, Lake Mills, WI.

November 2001 *Using Video-Based Mediators to Contextualize the Problem Solving Skills of Students with Disabilities.* Presented with Rueda for American Education Week, University of Wisconsin-Madison.

September 2000 *Teaching Problem Solving to Students in Context.* Presented at Southwest Wisconsin Rehabilitation Association Rehabilitation Expo 2000, Madison.

April 2000 *Uncovering Math Skills of Students with Disabilities.* Presented at Fourth Annual Wisconsin Center for Education Research (WCER) for Wisconsin CESAs, Madison.

September 1999 *Integrating Math Skills of Students with Disabilities.* Presented at Southwest Wisconsin Rehabilitation Association Technology Rehabilitation Expo '99, Madison.

November *The Web is More Than a Place: Incorporating Interactive Uses of the*

1998 *Web.* Presented at the Center for Instructional Materials and Computing, Instructional Technology Fair, UW-Madison School of Education.

October 1997 *Using Contextualized Problems to Enhance the Problem-Solving Skills of Students with Disabilities.* Presented at Southwest Wisconsin Rehabilitation Association Technology *Rehabilitation Expo '97*, Madison

TEACHING – UNIVERSITY
University of Kentucky

Spring 2015 *Intervention Research in Special Education (EDS 713).*
5 Graduate students, Special Education/Rehabilitation Psych majors.

Fall 2010 *Intervention Research in Special Education (EDS 713).*
4 Graduate students, Special Education majors.

Spring 2009 *Instructional Technology in Special Education (EDS 514).*
16 Undergraduate students, Special Education majors.

Fall 2008 *Research Seminar in Mild Disabilities (EDS 710).* 9 Doctoral students, Special Education.

Spring 2008-09 *Instructional Technology in Special Education (EDS 514).*
5 Undergraduate, 1 Graduate students. Special Education majors.

Fall 2007 *Instructional Technology in Special Education (EDS 514).*
11 Undergraduate students, Special Education majors.

University of Wisconsin – Madison

Spring 2007 *Instructional Technology in Special Education (194-660).* 6 Graduate, Undergraduate students, Special and General Education.

Fall 2006 *Classroom Management for Students with Learning and Behavioral Disabilities (194-473).* 14 students, Special Education majors.

Spring 2006 *Classroom Management for Students with Learning and Behavioral Disabilities (194-473).* 18 students, Special Education majors.

Fall 2005 *Intervention Research in Special Education (194-660).* 9 graduate students, Special Education, Psychology.

Spring 2005 *Classroom Management for Students with Learning and Behavioral Disabilities (194-473).* 22 students, Special Education majors.

Fall 2004 *Research, Policies and Practices in Special Education (194-801).*
6 doctoral students. First Special Education doctoral seminar.

- Spring 2004 *Behavior Analysis: Applications to People with Disabilities* (194-330). 31 students. Rehabilitation Psychology and Special Education majors.
- Fall 2003 *Behavior Analysis: Applications to People with Disabilities* (194-330). 24 students, Rehabilitation Psychology and Special Education majors.
- Spring 2003 *Teaching Math to Students with Learning and Behavioral Disabilities* (194-660) 7 students, University of Wisconsin-Madison undergraduate and graduate students.
- Fall 2002 *Behavior Analysis: Applications to People with Disabilities* (194-330). 25 students, Rehabilitation Psychology and Special Education majors.
- Fall, Spring 2001-02 *Behavior Analysis: Applications to People with Disabilities* (194-330). Fall - 23 students, Spring - 27 students, Rehabilitation Psychology and Special Education majors.
- Spring 2001 *Research in Special Education* (194-970), 8 students, Rehabilitation Psychology and Special Education graduate students.
- Fall 2000 *Behavior Analysis: Applications to People with Disabilities* (194-330), 36 students, Rehabilitation Psychology and Special Education majors.
- Fall, Spring 1999-00 *Behavior Analysis: Applications to People with Disabilities* (194-330), Fall - 35 students, Spring – 34 students, Rehabilitation Psychology and Special Education majors.
- Spring 1999 *Contextualized Curriculum, Instruction and Assessment Seminar* (194-660), Education & Work Leadership Program, 30 students, High School Teachers and Administrators.
- Fall 1998 *University Teaching Seminar* (196-660), 15 students, Rehabilitation Psychology and Special Education Doctoral students.
- Spring 1998 *Introduction to Behavioral/Emotional Disabilities* (194-420), 92 students, both Rehabilitation Psychology and Special Education majors.
- Fall, Spring 1997-98 *Behavior Analysis: Applications to People with Disabilities* (194-330), 32 & 40 students, both Rehabilitation Psychology and Special Education majors.

SUPERVISION

Completed Dissertations

University of Kentucky

Special Education – 5

Educational Leadership – 1

University of Wisconsin – Madison

Special Education – 25 (7 Chair/Co-Chair)

Rehabilitation Psychology – 7

Educational Leadership – 5

Curriculum & Instruction - 2

Educational Psychology – 1

SERVICE

University of Kentucky

Department of Special Education and Rehabilitation Counseling

April 2012 *Instructional Tools in Mathematics*, Chairperson Roundtable, American Educational Research Association Conference, Vancouver.

2010 New Faculty Search Committee

University of Wisconsin - Madison, WI

1999-2007 Faculty Senate – Alternate

2004-2007 Coordinating Council for Teacher Education

1999-2004 Educational and Psychological Training Center - Executive Committee

1997-2004 Information Technology Policy Advisory Committee

1998-2000 Education and Work Leadership Program - Program Design Team

2000 Wisconsin Reading Summit - Participated in developing a state-wide vision and action plan for promoting early childhood literacy in Wisconsin

2001,02,04 Assistants, "Issues for Program/Project Assistants"

1999-2002 Committee on Graduate Assistant Policies and Procedures

1999-2003 Research and Training Program Advisory Committee

1999-2003 Research and Training Program Admissions Committee

1999, 2000, Fall workshop, Panel - Orientation for New School of Education Project

2000 WCER Academic Staff Merit Committee

UW – Madison, Department of Rehabilitation Psychology and Special Education

2004-2006 Chair, Special Education Area

2003-2004 Co-chair, Faculty Search Committee, Special Education Area

2001-2002 Co-chair, Faculty Search Committee, Special Education Area

1997-present Special Education Area Committee

1997-1998 Special Education Area Restructuring Subcommittee (194-440 course)

1997-1998 Member, Special Education Area Restructuring Subcommittee (Learning Disabilities Undergraduate Program)

St. Cloud State University - St. Cloud, MN

1994-96 Member, College of Education Assessment Committee: Prepared evaluations for accreditation; Contributed to ongoing assessment process of the University.

Department of Children, Families and Learning - St. Paul, MN

1993-96 State Assessment Pilot Site Directors: One of thirteen assessment directors charged with implementing the MN Graduation Standards in the Minnesota.

St. Cloud Area Chamber of Commerce - St. Cloud, MN

1994-96 Chairperson, Relevance Counts Institute, Teachers in Business
 1992-96 Executive Committee, Partners in Education
 1993-96 Executive Committee, Youth Apprenticeship Initiative
 1993-94 Chairperson, Special Projects Committee, Partners in Education
 1992-93 Chairperson, St. Cloud Area Business-Education Partnership

REVIEWING AND EDITING

Current Review Boards

Exceptional Children
Journal of Educational Psychology
Learning Disabilities Research & Practice
Remedial and Special Education
Journal of Special Education Technology
Australasian Journal of Special Education

Other Review Activities

Institute of Education Sciences, U. S. Department of Education, Scientific Peer Review Panel
 Member, Predoctoral and Postdoctoral Education Research Training.

Institute of Education Sciences, U. S. Department of Education, Scientific Peer Review Panel
 Member, Mathematics and Science Education, General Education and Special Education Teacher Quality Research.

American Education Research Association Annual Conference, Special Education SIG.

American Educational Research Association Annual Conference, Division C, Cognitive, Social, and Motivational Processes.

The Wellcome Trust, London, United Kingdom, Grant Reviewer.

American Educational Research Journal, Review of Educational Research, Journal of Special Education, Guest Reviewer.

PROFESSIONAL AFFILIATIONS

American Educational Research Association (AERA)
Council for Exceptional Children (CEC)