

Laine Percell Bradshaw

The University of Georgia
Department of Educational Psychology
Quantitative Methodology Program
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Education

Ph.D. in Research, Evaluation, Measurement and Statistics

The University of Georgia, 2011

M.Ed. in Mathematics Education

The University of Georgia, 2007

B.S. in Mathematics Education

The University of Georgia, 2007

Graduated Summa Cum Laude

Graduated with Honors

Academic Positions

The University of Georgia

August 2016 – present

Associate Professor (tenure track), Department of Educational Psychology

The University of Georgia

July 2012 – July 2016

Assistant Professor (tenure track), Department of Educational Psychology

James Madison University

July 2011 – June 2012

Assistant Professor (tenure track), Department of Graduate Psychology

Assistant Assessment Specialist, Center for Assessment and Research Services

Peer-reviewed Journal Articles

*Indicates collaboration with a graduate student. **Indicates equal contribution from authors.

Sen, S. & Bradshaw, L. (In Press). Comparison of relative fit indices for diagnostic model selection. *Applied Psychological Measurement*.

Bradshaw, L. & Madison, M. (2016). Invariance Principles for General Diagnostic Models. *International Journal of Testing*, 16(2), 99-118.

Liu, R., Huggins-Manley, A.C., Bradshaw, L. (2016). The impact of Q-matrix designs on diagnostic classification accuracy in the presence of attribute

hierarchies. *Educational and Psychological Measurement*. DOI: 10.1177/0013164416645636

- Templin, J., Bradshaw, L., & Paek, P. (2016). A comprehensive framework for integrating innovative psychometric methodology into educational research. *Journal of Research in Mathematics Education*.
- *Madison, M., & **Bradshaw, L.** (2015). The effects of Q-matrix design on classification accuracy in the log-linear cognitive diagnosis model *Educational and Psychological Measurement*, 75 (3), 491-511.
- Bradshaw, L.**, Izsák, A., Templin, J., & Jacobson, E. (2014). Diagnosing teachers' understandings of rational number: Building a multidimensional test within the diagnostic classification model framework. *Educational Measurement: Issues and Practice*, 33(1), 2-14.
- Bradshaw, L.**, & Templin, J. (2014). Combining scaling and classification: A psychometric model for scaling ability and diagnosing misconceptions. *Psychometrika*, 79 (3), 403-425.
- *Jurich, D., & **Bradshaw, L.** (2014). Diagnosing psychosocial research attributes: An illustration of diagnostic classification modeling. *International Journal of Testing*, 14, 49-72.
- Templin, J., & **Bradshaw, L.** (2014). Hierarchical diagnostic classification models: A family of models for estimating and testing attribute hierarchies. *Psychometrika*, 79(2) 317-339.
- **Templin, J., & **Bradshaw, L.** (2014). The use and misuse of psychometric models. *Psychometrika*, 79(2) 347-354.
- Templin, J., & **Bradshaw, L.** (2013). Measuring the reliability of diagnostic classification model examinee estimates. *Journal of Classification*, 30(2), 251-275.

Book Chapters

- Bradshaw, L. (2016). Diagnostic Classification Models. In A. Rupp, & J. Leighton (Eds.), *Handbook of Cognition and Assessment*. Wiley-Blackwell, 297-326.
- Bradshaw, L. (Forthcoming, 2016). Diagnostic classification models. In D. Bandalos (Ed.), *Educational measurement theory*. New York, NY: Guilford Press.

Other Creative Research Products

*Indicates collaboration with a graduate student.

Bradshaw, L., & Hollingsworth, W. (2013). DigiTAP: A software system for digitally-capturing think-aloud protocols (Version 1.0) [Computer software]. Athens, GA: Hollingsworth Technologies, Incorporated and Metricology, LLC.

*Madison, M., **Bradshaw, L.**, & Hollingsworth, W. (2014). Q*Power: A web-based program for designing diagnostic assessments (Version 1.0) [Computer software]. Athens, GA. Available from <http://www.lainebradshaw.com/qpower>.

Bradshaw, L. (2008) Website: <http://www.mathtasks.com>.

Currently Funded External Projects

Co-Principal Investigator: *Developing Enhanced Assessment Tools for Capturing Students' Procedural Skills and Conceptual Understandings in Math* (2015-2019). United States Department of Education, Institute of Educational Sciences: Cognition in Special Education, Measurement Goal 5 ~\$1,600,000. PI: Brian Bottge.

Co-Principal Investigator: *Investigating Proportional Reasoning from Two Perspectives* (2014-2017). National Science Foundation: Education and Human Resources Core: Research on Educational and Learning (REAL) Program ~\$1,333,000. PI: Andrew Izsák.

Co-Principal Investigator: *Assessing the Structure of Knowledge in Teaching Mathematics* (2016-2020). National Science Foundation: Discovery Research K-12 ~\$1,700,000. PI: Erik Jacobson.

External Grant Proposals Under Review

Principal Investigator: *Diagnostic Inventories of Cognition in Education* (2017-2021). Institute of Educational Sciences, Cognition and Student Learning: Goal 5 Measurement. \$1,400,000.

Previously Funded Grant Proposals

Principal Investigator: *Engineering Diagnostic Concept Inventories* (Summer, 2015): University of Georgia College of Education Early Career Faculty Grant, \$6,000.

Principal Investigator: *UGA Mathematics Curriculum Team* (2015-2016). Office of STEM Education, University of Georgia ~\$1000.

Principal Investigator: *Developing Validity Arguments for Model-based Diagnostic Feedback* (Summer, 2014): University of Georgia College of Education \$10,000.

Principal Investigator: *UGA Mathematics Curriculum Team* (2014-2015). Office of STEM Education, University of Georgia ~\$1000.

Key Personnel: *Collaborative Research: Assessing Teachers' Pedagogical Design Capacity and Mathematics Curriculum*. Supplement to National Science Foundation: Discovery Research K-12 (DRL-0918141), \$59,000. PI: Janine Remillard and Ok-Kyeong Kim.

Key Personnel: *AutoMentor: Virtual Mentoring and Assessment in Computer Games for STEM Learning* (2009-2014). National Science Foundation: Division of Research on Learning in Formal and Informal Settings (DRL-0918409) \$2,080,693. PI: David Williamson Shaffer.

Key Personnel: *Diagnosing Teachers' Multiplicative Reasoning* (2008-2010). National Science Foundation: Discovery Research K-12 (DRK-12; DRL-0822064), \$944,163. PI: Andrew Izsák.

Key Personnel: Spencer Foundation, *Proportional Reasoning of Middle Grades Pre-Service Teachers* (2013-2014), \$39,992. PI: Andrew Izsák.

Unfunded External Grant Proposals

Principal Investigator: *Diagnostic Inventories of Cognition in Education* (2016-2020). Institute of Educational Sciences, Cognition and Student Learning: Goal 5 Measurement. \$1,400,000.

Principal Investigator: *Development and Psychometric Evaluation of the Autism Stigma and Knowledge Questionnaire* (ASK-Q; 2016-2018). National Institutes Of Health. \$150,000.

Co-Principal Investigator: Developing 21st Century Assessments to Measure 21st Century Skills in Integrated STEM Setting (**2016-2020**). Institute of Educational Sciences. \$450,000. PI: Chandra Orrill.

Co-Principal Investigator: **Exploratory Foundations for 21st Century Assessments (2016-2020)**. National Science Foundation. \$2,400,000. PI: Chandra Orrill.

Co-Principal Investigator: *Assessing the Generality and Transfer of Teachers' Knowledge* (2016-2020). National Science Foundation: Discovery Research K-12 ~\$1,400,000. PI: Erik Jacobson.

Co-Principal Investigator: *Evolving Learning Maps: Statistical Methods to Improve Dynamic Map-Based Psychometrics* (July 2015- June 2018): US DOE/IES: MMP ~\$900,000.

Co-Principal Investigator: Assessing the Generality and Transfer of Teachers' Knowledge (2015-2018). National Science Foundation: Discovery Research K-12 ~\$450,000. PI: Erik Jacobson.

Principal Investigator: Engineering Diagnostic Concept Inventories (June 2015- May 2020): National Science Foundation: CAREER Program ~\$820,850.

Co-Principal Investigator: *Developing Mathematics Understanding of Students with Disabilities Using Anchored Instructional Measures (AIMs)* (2014-2018). National Science Foundation: Discovery Research K-12, \$2,880,000. PI: Brian Bottge.

Principal Investigator: *Engineering Diagnostic Concept Inventories* (2014-2019): National Science Foundation: CAREER Program ~\$761,000.

Co-Principal Investigator: *Capturing Students' Procedural Skills and Conceptual Understanding in Math with Enhanced Assessment Tools* (2014-2016). United States Department of Education, Institute of Educational Sciences: Cognition in Special Education, Measurement Goal 5 ~\$1,600,000. PI: Brian Bottge.

Co-Principal Investigator: *Investigating Proportional Reasoning from Two Perspectives* (2014-2018). National Science Foundation: Education and Human Resources Core Program ~\$1,000,000. PI: Andrew Izsák.

Co-Principal Investigator: *Developing Enhanced Assessment Tools for Capturing Students' Procedural Skills and Conceptual Understanding in Math* (2013-2016). United States Department of Education, Institute of Educational Sciences: Cognition in Special Education, Measurement Goal 5 ~\$1,600,000. PI: Brian Bottge. Score: 1.99.

Key Personnel: *Proportional Reasoning of Middle Grades Pre-Service Teachers (PRoMPT)* (2013-2015). National Science Foundation: Research and Evaluation on Education in Science and Engineering Program ~\$1,045,888. PI: Andrew Izsák, Sybilla Beckman.

Key Personnel: Race to the Top District Grant. United States Department of Education (2013-2016). ~\$12,454,087. District: Morgan County Charter School System.

Technical Reports

Bradshaw, L. (2015a). *An Evaluation of Diagnostic Classification Model-based Computer Adaptive Testing Algorithm for PARCC Diagnostic Assessments in Mathematics Comprehension and Decoding*. Technical Report. Pearson Education.

Bradshaw, L. (2015b). *FlexMIRT Estimation Accuracy under Expected Field Test Designs for Diagnostic Classification Model-based PARCC Diagnostic Assessments*. Technical Report. Pearson Education.

Bradshaw, L. (2014a). *PARCC Diagnostic Assessments: Design Research for Diagnostic Classification Model-based PARCC Diagnostic Assessments in Mathematics Comprehension and Decoding*. Technical Report. Pearson Education.

Bradshaw, L. (2014b). *Diagnosing attributes using the Curriculum Embedded Mathematics Assessment*. Technical Report. University of Pennsylvania.

Presentations

*Indicates collaboration with a student during their graduate studies.

°Indicates invited presentation.

2016

Izsak, A., Beckman-Kazez, S., & **Bradshaw, L.** (November, 2016). *Diagnosing reasoning to measure growth in pre-service middle-grades teachers' facility with fraction arithmetic*. Paper presented at the annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education in Tuscon, AZ.

*Madison, M. & **Bradshaw, L.** (October, 2016). *An application of a longitudinal diagnostic classification model*. Paper presented at the annual meeting of the Northeastern Educational Research Association in Trumbull, Connecticut, U.S.

*Bao, Y., & **Bradshaw, L.** (July, 2016). *Attribute-level Item Selection Method for DCM-CAT*. Paper presented at the 2016 International Meeting of the Psychometric Society in Asheville, North Carolina, U.S.

*Madison, M. & **Bradshaw, L.** (July, 2016). *Assessing change over time in a general diagnostic classification model*. Paper presented at the 2016 International Meeting of the Psychometric Society in Asheville, North Carolina, U.S.

°**Bradshaw, L.** (April, 2016). *Designing a large-scale, classification-based assessment system for diagnosing standards mastery*. Paper presented at annual meeting of the National Council on Measurement in Education in Washington, DC.

Bradshaw, L. & Levy, R. (April, 2016). *Interpreting examinee results from classification-based models*. Paper presented at the annual National Council on Measurement in Education conference in Washington, DC.

*Bao, Y., & **Bradshaw, L.** (2016). *The Impact of Model Misspecification in a DCM-CAT*. Paper presented at the annual meeting of the National Council on Measurement in Education in Washington, DC.

*Madison, M., & **Bradshaw, L.** (2016). *The*. Paper presented at the annual meeting of the National Council on Measurement in Education in Washington, DC.

Dhaliwal, T., Hembry, T., & **Bradshaw, L.** (2016). *Achieving the Promise of CDMs: Communicating CDM-based Assessment Results*. Paper presented at the annual National Council on Measurement in Education conference in Washington, DC.

2015

*Kang, E. K., Spangler, D. A., & Bradshaw, L. (October, 2015). Relationship between prospective primary teachers' mathematics knowledge for teaching and beliefs. In *Proceedings of the 2015 international conference on mathematics education: Vol. 2. The International Perspective on Curriculum and Evaluation of Mathematics* Vol. 2 (pp. 164-170). Seoul, Republic of Korea.

*Bao, Y. & **Bradshaw, L.** (July, 2015). Power analysis of item-level interactions in a general diagnostic classification model framework. Paper presented at the International Meeting of the Psychometric Society in Beijing, China.

Bradshaw, L. (June, 2015). *PARCC diagnostic assessments for mathematics comprehension: A diagnostic classification model approach*. Paper presented at the Council of Chief State School Officers (CCSSO) 2015 National Conference on Student Assessment (NCSA) in San Diego, California.

Hembry, T., Dhaliwal, T., Koepfler, J., & **Bradshaw, L.** (2015). *Improving the effectiveness of reporting for assessments using cognitive diagnostic models based on empirical data*. Paper presented at the Council of Chief State School Officers (CCSSO) 2015 National Conference on Student Assessment (NCSA) in San Diego, California.

Bradshaw, L. (April, 2015). Reliability for a node-based dynamic assessment. In A. Clark (Chair) *Psychometrics in a Learning Maps Environment*. Symposium presented at the annual National Council on Measurement in Education conference in Chicago, IL.

Bradshaw, L. (April, 2015). *Diagnostic test designs: Multiple one-attribute models versus one multiple-attribute model*. Paper presented at the annual National Council on Measurement in Education conference in Chicago, IL.

*Madison, M., & **Bradshaw, L.**, & Hollingsworth, W. (April, 2015). *Using Q*Power to refine diagnostic assessment designs*. Paper presented at the annual American Educational Research Association conference in Chicago, IL.

*Sen, S., & **Bradshaw, L.** (April, 2015). *Performance of relative fit indices: A comparison across model types*. Paper presented at the annual National Council on Measurement in Education conference in Chicago, IL.

Izsák, A., Beckmann, S., & **Bradshaw, L.** (February, 2015). *Investigating proportional relationships from two perspectives*. Poster presented at the University of Georgia College of Education Faculty and Graduate Student Research Conference in Athens, GA.

Lindstrom, J. & **Bradshaw, L.** (February, 2015). *Predicting reading success using a multilevel model*. Poster presented at the University of Georgia College of Education Faculty and Graduate Student Research Conference in Athens, GA.

Madison, M., & **Bradshaw, L.** (February, 2015). *Developing Diagnostic Formative Assessments in Graduate Statistics Courses*. Poster presented at the University of Georgia College of Education Faculty and Graduate Student Research Conference in Athens, GA.

Bao, Y., & **Bradshaw, L.** (February, 2015). *Item level specifications in a general diagnostic classification model framework*. Poster presented at the University of Georgia College of Education Faculty Research Conference in Athens, GA.

2014

Bradshaw, L., & Templin, J. (October, 2014). *The little model that couldn't: How the DINA model misclassifies students and hides important effects*. Paper presented at the annual meeting of the Northeastern Educational Research Association in Trumbull, CT.

Bradshaw, L. (July, 2014). *The added value of using model-based classification for diagnostic test feedback*. Paper presented at the meeting of the International Test Commission in San Sebastian, Spain.

°**Bradshaw, L.** (April, 2014). *A Psychometric framework for diagnosing misconceptions*. Seminar speaker for the Quantitative Methods program at Vanderbilt University in Nashville, TN.

Bradshaw, L. (April, 2014). *Diagnostic measurement models for item response dependencies caused by misconception effects*. Paper presented at the annual meeting of the American Educational Research Association in Philadelphia, PA.

Bradshaw, L., & Koepfler, J. (April, 2014). *A caution in the quest for diagnostic test-based inferences*. Paper presented at the annual National Council on Measurement in Education conference in Philadelphia, PA.

*Madison, M., **Bradshaw, L.,** & Hollingsworth, B. (April, 2014). *The role of Q-matrix design in diagnostic assessment*. Paper presented at the 2014 Annual Meeting of the National Council on Measurement in Education in Philadelphia, PA.

*Jang, Y., **Bradshaw, L.,** Oliver, J. S., Hodges, G. W., Cohen, A., Rogers, W., ..., Robertson, T. (April, 2014). *Diagnosing students' mastery of concepts in biology: An examination of mastery states before and after instruction based on 3-D animations*. Paper presented at the business meeting of the Cognition and Assessment Special Interest Group at the annual meeting of the American Educational Research Association in Philadelphia, PA.

- *Jurich, D., **Bradshaw, L.**, & DeMars, C. (April, 2014). *Limited information methods to assess overall fit of diagnostic classification models*. Paper presented at the annual National Council on Measurement in Education conference in Philadelphia, PA.
- Wang, C., **Bradshaw, L.**, & Koepfler, J. (April, 2014). *An integrated approach towards the development of cognitive diagnostic assessment*. Paper presented at the annual National Council on Measurement in Education conference in Philadelphia, PA.
- *Arican, M., Karadavut, T., Bradshaw, L., Izsak, A. (April, 2014). *Diagnosing teachers' understandings of rational number: Exploring the effects of interpreting drawn figures*. Poster presented at the annual College of Education Faculty/Student Research conference in Athens, GA.
- *Bao, Y., Xing, X., & Bradshaw, L. (April, 2014). Diagnosing career indecision types for adolescents using a diagnostic classification model. Poster presented at the annual College of Education Faculty/Student Research conference in Athens, GA.
- *Jang, Y., Bradshaw, L., Oliver, J. S., Hodges, G. W., Cohen, A., Rogers, W., ..., Robertson, T. (April, 2014). Diagnosing students' mastery of concepts in biology: An examination of mastery states before and after instruction based on 3-D animations. Poster presented at the annual College of Education Faculty/Student Research conference in Athens, GA.
- *Madison, M., & Bradshaw, L. (April, 2014). The effects of Q-matrix design on classification accuracy in the LCDM. Poster presented at the annual College of Education Faculty/Student Research conference in Athens, GA.

2013

- °**Bradshaw, L.** (December, 2013). *Building a multidimensional test within the diagnostic classification model framework*. Seminar speaker for the Measurement and Statistics program at the Florida State University in Tampa, FL.
- *Madison, M., & **Bradshaw, L.** (October, 2013). The Effects of Q-Matrix Design on Classification Accuracy in the LCDM. Paper presented at the annual Northeastern Educational Research Association conference in Rocky Hill, CT.
- °**Bradshaw, L.** (April, 2013). *A psychometric model for scaling individuals and diagnosing misconceptions*. Dissertation presented at American Educational Research Association Special Interest Group for Cognition and Assessment business meeting in San Francisco, CA.
- *Kopp, J., **Bradshaw, L.**, Young, M. J., & Lau, A. (April, 2013). *A method for vertically-scaling diagnostic classification models*. Paper presented at the annual National Council on Measurement in Education conference in San Francisco, CA.

°**Bradshaw, L.** (February, 2013). *Building a multidimensional test within the diagnostic classification model framework*. Seminar speaker for Quantitative Methods program at the Georgia Institute for Technology in Atlanta, GA.

°**Bradshaw, L.** (January, 2013). Diagnostic classification models: A practical measurement paradigm for multidimensional constructs. In J. Rojewski (Chair) *Innovative Research Methods*. Panel session conducted at the University of Georgia College of Education Faculty Research Conference in Athens, GA.

2012

*Jurich, D., & **Bradshaw, L.** (2012, October). *Modeling testlet effects within a diagnostic classification framework*. Paper presented at the annual Northeastern Educational Research Association conference in Rocky Hill, CT.

Bradshaw, L., & Templin, J. (2012, April). *A two parameter asymptote IRT model for binary data*. Paper presented at the annual National Council on Measurement in Education conference in Vancouver, BC Canada.

Bradshaw, L., Templin, J., & Izsák, A. (2012, April). A diagnostic assessment of teachers' understandings of rational number. In A. Izsák (Chair), *Harnessing psychometric models to develop next generation, research-based assessments of rational number knowledge*. Symposium conducted at the annual American Educational Research Association conference in Vancouver, BC Canada.

2011

Bradshaw, L. (2011, June). Psychometric tools for analyses of wrong answers in multiple choice tests. In E. Taleporos, (Chair) *Analyses of wrong answers in multiple choice tests*. Symposium conducted at the Council of Chief State School Officers' National Conference on Student Assessment in Orlando, FL.

Bradshaw, L., & Templin, J. (2011, April). *A nominal response model for scaling ability and diagnosing misconceptions*. Paper presented at the annual National Council on Measurement in Education conference in New Orleans, LA.

Templin, J., & **Bradshaw, L.** (2011, April). *A hypothesis test for attribute hierarchies in diagnostic classification models*. Paper presented at the annual National Council on Measurement in Education conference in New Orleans, LA.

°**Bradshaw, L.** (2011, March). *A psychometric model for scaling ability and diagnosing misconceptions using multiple choice tests*. Research presented for University of Georgia's Statistics Department colloquium series in Athens, GA.

2010

Bradshaw, L., & Templin, J. (2010, July). *Combining scaling and classification: A model for scaling ability and diagnosing misconceptions with nominal response item types*. Paper presented at the annual International Meeting of the Psychometric Society in Athens, GA.

Izsák, A., Lobato, J., Druken, B., Orrill, C., Jacobson, E., & **Bradshaw, L.** (2010, July). *Applying cognitive diagnosis models to measure middle grades teachers' multiplicative reasoning*. Paper presented at the annual International Meeting of the Psychometric Society in Athens, GA.

Nixon, C., Acar, S., **Bradshaw, L.**, Bramlett, A., Chen, Y., Jimenez, A., Lee, S., Raczynski, K., Sen, S., & Kim, S.-H. (2010, July). *Analyses of items with multiple choices*. Paper presented at the annual International Meeting of the Psychometric Society in Athens, GA.

Bradshaw, L., & Cohen, A. (2010, May). Accuracy of multidimensional item response model parameters estimated under small sample sizes. In A. Izsák (Chair), *Using cognitive attributes to develop mathematics assessments, opportunities, and challenges*. Symposium conducted at the annual American Educational Research Association conference in Denver, CO.

Bradshaw, L., Lin, J., Young, M., & Lee, K. (2010, May). *An examination of linguistic modifications on a large scale test*. Paper presented at the annual American Educational Research Association conference in Denver, CO.

Izsák, A., Lobato, J., Orrill, C., Jacobson, E., & **Bradshaw, L.** (2010, May). Identifying attributes and developing items to assess middle grades teachers' multiplicative reasoning. In A. Izsák (Chair), *Using cognitive attributes to develop mathematics assessments, opportunities, and challenges*. Symposium conducted at the annual American Educational Research Association conference in Denver, CO.

Izsák, A., Lobato, J., Orrill, C. H., Jacobson, E., & **Bradshaw, L.** (2010, April). *Designing attribute-based items to assess middle grades teachers' multiplicative reasoning*. Paper presented at the National Council of Teachers of Mathematics Research Pre-session, San Diego, CA.

Bradshaw, L., & Wang, A. (2010, April). *A multilevel growth modeling approach to examining the spread of bacteria*. Poster presented at the University of Georgia College of Education Graduate Student Research Conference in Athens, GA.

Samuelson, K., **Bradshaw, L.**, Bramlett, A., & Jimenez, A. (2010, February). *Translating research into practice*. Paper presented at the Eastern Educational Research Association conference in Savannah, GA.

2009

Bradshaw, L. (2009, October). *Item and test construction*. Training session presented at the annual South Carolina Council of Teachers of Mathematics conference in Columbia, SC.

Tomlinson, J., & **Bradshaw, L.** (2009, October). *Transforming ideas into tasks for class*. Training session presented at the annual South Carolina Council of Teachers of Mathematics conference in Columbia, SC.

Bradshaw, L. (2009, October). *Item and test construction*. Training session presented at the annual Georgia Council of Teachers of Mathematics conference in Eatonton, GA.

Palmour, J., **Bradshaw, L.**, Franklin, C., Presley, D. & Olive, J. (2009, October). *Developing effective assessment items for the GPS*. Presentation given at the annual Georgia Council of Teachers of Mathematics conference in Eatonton, GA.

Cohen, A., Templin, J., & **Bradshaw, L.** (2009, April) *Beyond unidimensionality: Measuring all of achievement*. Paper presented at the annual National Council on Measurement in Education conference in San Diego, CA.

Bradshaw, L., & Choi, Y.-J. (2009, April). *Examining regional differences on the Rosenberg Self-Esteem Scale using confirmatory factor analysis*. Poster presented at the University of Georgia College of Education Centennial Graduate Student Research Conference in Athens, GA.

Bradshaw, L. (2009, February). *Best practices of item and test construction*. Training session presented at the annual Georgia Perimeter College Mathematics Conference in Clarkston, GA.

2008

Bradshaw, L., & Samuelsen, K. (2008, October). *Test success!* Training session presented at the annual Georgia Council of Teachers of Mathematics conference in Eatonton, GA.

Tomlinson, J., & **Bradshaw, L.** (2008, October). *Transforming ideas into tasks for class*. Training session presented at the annual Georgia Council of Teachers of Mathematics conference in Eatonton, GA.

Samuelsen, K., & **Bradshaw, L.** (2008, March). *The credibility interval method for the detection of DIF within a Bayesian framework*. Paper presented at the annual National Council on Measurement in Education conference in New York, NY.

2007

^o**Bradshaw, L.** (2007, October). *Implementing the Georgia Performance Standards for mathematics*. Presentation given for University of Georgia Mathematics Education Student Association colloquium in Athens, GA.

Teaching Experiences

^oIndicates invited workshop or training session.

*Indicates collaboration with a student.

Graduate-level Courses

Quantitative Methodology Special Topics Seminar (EPSY 8990), Fall 2015, 2016, 2017
Quantitative Methodology Program, The University of Georgia

Categorical Data Analysis (ERSH 8360), Fall 2014

Quantitative Methodology Program, The University of Georgia

Diagnostic Measurement (ERSH 8140), Fall 2013, Fall 2015

Quantitative Methodology Program, The University of Georgia

Analysis of Variance (ERSH 8310), Spring 2013, Spring 2015, Fall 2015

Quantitative Methodology Program, The University of Georgia

Categorical Data Analysis (PSYC 850), Spring 2012

Assessment and Measurement Program, James Madison University

Diagnostic Classification Modeling (PSYC 850), Fall 2011

Assessment and Measurement Program, James Madison University

(Teaching Assistant) Analysis of Variance (ERSH 8310), Fall 2009

Research, Evaluation, Measurement & Statistics Program, University of Georgia

Undergraduate Courses

Freshman Year Odyssey Seminar (FYOS 1001), Fall 2015, Fall 2016

The University of Georgia

Professional Development Training Sessions/Workshops

Bradshaw, L., & Madison, M. (April, 2017). *Diagnostic Measurement: Theory, Methods and Applications*. Full day training session to be presented at the annual meeting of the National Council on Measurement in Education in San Antonio, TX.

Bradshaw, L. (April, 2015). *An Introduction to Diagnostic Classification Modeling*. Full day training session presented at the annual meeting of the National Council on Measurement in Education in Chicago, IL.

Bradshaw, L., & Templin, J., (April, 2014). *Diagnostic Measurement: Theory, Methods and Applications*. Full day training session presented at the annual meeting of the National Council on Measurement in Education in Philadelphia, PA.

°**Bradshaw, L.** (March, 2014). *An Introduction to Diagnostic Measurement*. Presented for Pearson Education in Iowa City, IA.

°**Bradshaw, L.** (January, 2014). *An Overview of Diagnostic Measurement*. A web-based training session presented for Pearson Education.

Templin, J., & **Bradshaw, L.** (April, 2013). *Diagnostic Measurement: Theory, Methods and Applications*. Full day training session presented at the annual meeting of the National Council on Measurement in Education in San Francisco, CA.

***Bradshaw, L., & Jurich, D.** (October, 2012). *An Introduction to Diagnostic Measurement*. Half day workshop presented at the annual meeting of the Northeastern Educational Research Association in Rocky Hill, CT.

Bradshaw, L., & Templin, J., (April, 2012). *Diagnostic Measurement: Theory, Methods and Applications*. Full day training session presented at the annual meeting of the National Council on Measurement in Education in Vancouver, BC Canada.

°**Bradshaw, L.** (February, 2012). *Diagnostic Classification Modeling. Diagnostic Classification Modeling*. Invited workshop presented for The College Board in NY, NY.

Templin, J., & **Bradshaw, L.** (April, 2011). *Diagnostic Measurement: Theory, Methods and Applications*. Workshop presented at the annual meeting of the American Educational Research Association in New Orleans, LA.

Templin, J., & **Bradshaw, L.** (May, 2010). *Diagnostic Measurement*. May 2010. Teaching assistant for workshop presented for University of Georgia Institute for Interdisciplinary Research in Education in Athens, GA.

High School-level Courses

Student Teacher, Algebra I, Spring 2007
North Oconee High School

Student Teacher, Algebra III, Spring 2007
North Oconee High School

Mentorship

PhD Major Professor

Completed

Matthew Madison, Quantitative Methodology, UGA

In Progress

Yu Bao, Quantitative Methodology, UGA

Meina Bian, Quantitative Methodology, UGA

Zack Feldberg, Quantitative Methodology, UGA

PhD Co-Major Professor

Completed

Eun Kang, Mathematics Education, UGA, 2014

PhD Dissertation Committee Member

Completed

Tugba Karadavut, Quantitative Methodology, UGA Committee Member, 2016

Kristina Collins, Ph.D., Gifted Education, UGA, Committee Member, 2015

Daniel Jurich, Assessment and Measurement, James Madison University, 2014

Christy Brown, Research, Evaluation, Measurement & Statistics, UGA, 2013

In Progress

Shawn Fowler, Applied Cognition and Development, UGA

Katie Bangs, School Psychology, UGA

Kellie Templeman, Applied Cognition and Development, UGA

Alex Lyford, Statistics, UGA

Mylissa Slane, School Psychology, UGA

MA Major Professor

Selay Zor, Quantitative Methodology, UGA

MA Thesis Committee Member

Completed

Yawei Shen, Quantitative Methodology, UGA Committee Member, 2016

Stephen Imperiale-Hagerman, M.Ed., Research, Evaluation, Measurement & Statistics, UGA, Committee Member, 2013

Christopher Runyon, MA, Psychological Sciences, James Madison University, 2012

MEd Major Professor

Completed

Sue Hyeon Paek, Quantitative Methodology, UGA

Jia Liang, Quantitative Methodology, UGA, 2014

Honors and Awards

Jason Millman Promising Measurement Scholar Award, 2015

Awarded by the National Council of Measurement in Education

Ocie T. Dekle Excellence in Teaching Award, 2015

Awarded by The University of Georgia College of Education

Sarah H. Moss Fellowship, 2013-2014

Awarded by The University of Georgia Center for Teaching and Learning for an amount of \$10,000. Assignment to the University of Nottingham, Nottingham, England

Outstanding Dissertation Award, 2013

Awarded by the American Educational Research Association (AERA) Cognition and Assessment Special Interest Group

Joseph R. Hooten Award for Excellence in Mathematics Education, 2007

Awarded by Mathematics Education Department at the University of Georgia

Leadership Positions and Service Activities

Organization Leadership

National Council on Measurement in Education

- (i) Bradley Hanson Award Committee (2014 – present)
- (ii) Faculty Advisor, Graduate Student Issues Committee (2013 – 2015)
- (iii) Newsletter Advisory Board Member (2012 – present)
- (iv) Review Panelist for Annual Conference (2014, 2015)

American Educational Research Association

- (i) Chair, Cognition and Assessment Special Interest Group (2015 – present)
- (ii) Vice-chair, Cognition and Assessment Special Interest Group (2012 – 2015)
- (iii) Conference Program Co-Chair, Division D: Quantitative Methods and Statistical Theory (2013, 2014)

The University of Georgia Graduate Researchers in Educational Psychology & Instructional Technology

- (i) Vice President, Executive Committee (2010 – 2011)
- (ii) Member-at-Large, Executive Committee (2009 – 2010)
- (iii) Program Representative, Executive Committee (2007 – 2009)

The University of Georgia Mathematics Education Student Association Undergraduate Representative (2006 – 2007)

Editorial Leadership

Editorial Board Member

Educational Assessment
Journal of Classification
Journal of Educational Measurement

Peer Reviewer for Journals

Applied Psychological Measurement
British Journal of Mathematical and Statistical Psychology
Educational Measurement: Issues and Practice
International Journal of Testing
Journal of Educational Data Mining
Journal of Research in Mathematics Education
Journal of Statistics Education
Multivariate Behavioral Research
Psychometrika

Peer Reviewer for Conferences and Organizations

American Educational Research Association Conference
Division D and Cognition and Assessment SIG
National Council of Measurement in Education Conference
Northeastern Educational Research Association
The College Board, Internal Reporting

Wiley Publishing

Committee Member

COE Faculty Senate (2016-2018)

The University of Georgia College of Education

Junior Faculty Mentoring Committees (2016-Present; 2017-Present)

The University of Georgia College of Education

Chair of Position Search Committee (2016-2017)

Assistant Professor in The University of Georgia's Quantitative Methodology Program

Chair of Position Search Committee (2015-2016)

Assistant Professor in The University of Georgia's Quantitative Methodology Program

COE Faculty and Graduate Student Research Conference

The University of Georgia College of Education

Planning Committee (2015)

Graduate Student Research Conference

The University of Georgia College of Education

Planning Committee (2013, 2014)

Poster Judge (2014)

Curriculum Committee (2013 – 2015)

The University of Georgia College of Education

Position Search Committee (2012 – 2013)

Associate/ Full Professor in The University of Georgia's Research, Evaluation, Measurement, and Statistics Program

Tech One Task Force Committee (2011 – 2012)

Committee charged with improving assessment of information literacy levels for students at James Madison, a requirement of the State Council of Higher Education for Virginia.

Position Search Committee (2011 – 2012)

Assistant Professor/Assessment Specialist position in James Madison University's Assessment and Measurement Program

Position Search Committee (2010 – 2011)

Two Assistant/Associate Professor positions in University of Georgia's Research, Evaluation, Measurement, and Statistics Program

Conference Organizing Committee (2010)

Committee organized the 75th International Meeting of the Psychometric Society at the University of Georgia in Athens, Georgia.

Other Current Professional Experiences

Technical Advisory Committee Member, Educational Records Bureau (2014 – Present)

As a technical advisory committee (TAC) member, I provide consultation regarding assessment designs, psychometric analyses, and validation of test inferences to support implementation of assessments as requested by the Educational Records Bureau.

Technical Advisory Committee Member, Curriculum Associates (2015 – Present)

As a technical advisory committee (TAC) member, I provide consultation regarding assessment designs, psychometric analyses, and validation of test inferences to support implementation of assessments as requested by Curriculum Associates.

Chief Psychometric Consultant, Pearson Education, PARCC Diagnostic Assessment Project (2013-2015)

As the external psychometric consultant for Pearson Education on the PARCC Diagnostic Assessment project, I provided direct support and consultation to Pearson's content and psychometric teams to support item development, test design, and the implementation of diagnostic classification models using a computer adaptive algorithm.

Other Past Professional Experiences

Assessment Specialist, Center for Assessment and Research Services, James Madison University

Assessment specialists coordinate with faculty and other university stakeholders to provide internal assessment of programs at the university. Responsibilities include facilitating the specification of program learning objectives, designing and creating assessments, analyzing results of assessment data, conducting relevant research regarding the results, and reporting findings in written and oral formats to stakeholders.

General Education Program, Science and Mathematics Cluster (2011 – 2012)

Study Abroad Program (2011 – 2012)

International Students Program (2011 – 2012)

Georgia Center for Assessment / NSF funded *Diagnosing Teacher's Multiplicative Reasoning (DTMR) project (NSF DRK-12; DRL-0822064)*

Research assistant, 2010 – 2011, Athens, GA: work includes designing and implementing simulation studies and empirical data analyses for a newly developed nominal response diagnostic classification model (DCM), as well as reviewing items with respect to cognitive interview data for the creation of a final form of an assessment to diagnose teachers' abilities to reason multiplicatively.

Research assistant, 2009 – 2010, Athens, GA: designed and implemented simulation studies to investigate properties of small sample estimation and reliability for various diagnostic classification models.

Research assistant, 2008 – 2009, Athens, GA: authored mathematics items to measure middle grades teachers' mathematical reasoning and analyzed cognitive interviews to assess effectiveness of items.

Pearson Education, 2009, San Antonio, TX

Pearson Psychometric Fellowship: conducted research on the effectiveness of linguistically modified items on a large scale assessment and participated in usual psychometric tasks completed by large-scale testing company.

Georgia Center for Assessment, 2007 – 2008, Athens, GA

Graduate Assistantship: developed DCM framework for writing mathematics items to measure 4th and 8th grade students' mathematics reasoning and conducted interviews with students to develop items.

Georgia Department of Education, 2008 – 2009, Atlanta, GA

Math III and IV Instructional Framework Committee: individual work included writing the tasks and supportive materials for a complete unit in Math III as well as editing other committee members' tasks for Math III and IV.

Cassandra Drennon and Associates, 2008, Athens, GA

Consultant: work included the construction of a Likert-type scale that assessed middle grades children's perceptions of mental illnesses.

Georgia Department of Education, 2007, Atlanta, GA

Intern for the Director of the State Mathematics Curriculum: work included helping prepare training sessions about implementing Math I for high school teachers and then compiling the data from teachers' feedback about the training to be included in a report to the State Board of Education.

Eighth Grade Instructional Framework Committee: work included task writing for curriculum Frameworks.

Statistical Software Skills

Fortran, Mplus, R, SAS, SPSS

Professional Affiliations

American Educational Research Association, 2007 - present

Georgia Council of Teachers of Mathematics

National Council on Measurement in Education, 2007 - present

National Numeracy Network

Northeastern Educational Research Association, 2012 – present

Psychometric Society