How can technology improve the measurement of what they learn in class?

How can we compare the educational systems of different countries?

What is the best methodology to use for evaluating the quality of their teachers?

Help Us Pose the Questions and Find Answers

Doctoral Study in Measurement and Quantitative Methods

College of Education Michigan State University
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<tr>
<th>Measurement &amp; Quantitative Methods</th>
<th>M.A./M.S</th>
<th>Ed.S.</th>
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<td>Counseling Psychology</td>
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Congratulations.

You are about to embark on one of the greatest journeys in academe. Your years as a doctoral student will be among the most challenging and exhilarating of your life. The journey will prepare you to make a difference in the world as a researcher, scholar, and teacher. We hope you will set out on that intellectual sojourn at the College of Education.

A Ph.D. is a beacon. Its light illuminates a realm where value is vested in the power of ideas, understanding, and the relentless search for truth. But not all doctoral programs are created equal. You want to study at an institution whose reputation stands apart, whose faculty members are leaders in their fields, whose commitment to its students is inherent and enduring. That place is MSU.

Seven of our graduate programs are ranked in the top nine by U.S. News and World Report. Two of those programs have been No. 1 for eight consecutive years. As for our professors, they have held positions such as the presidency of the American Educational Research Association and the Association for the Study of Higher Education, as well as prominent roles in organizations such as the National Council on Measurement in Education, and the American Psychological Association. Our reputation is extraordinary.

Beyond all of the prestige and accomplishments is our essential belief that doctoral students are an integral part of this institution. Rest assured that you will receive one-on-one attention, that you will engage in research, teaching, and outreach projects, and that your ideas and contributions will be valued.

We welcome you to Michigan State University, to an unforgettable journey, and to the limitless possibilities of your future.
Our program is designed for people who want to apply mathematical and statistical concepts to solve problems in education. We focus on developing and analyzing tests and other measurement tools, statistical analysis of educational data in all forms, and the evaluation of educational programs.

Together we’re asking the questions.

As a doctoral student in our program, you’ll be able to tailor a course of study. In fact, you can choose to major in measurement or statistics. Coursework may also include cognates such as computer programming, psychology, education, instructional technology, and mathematical statistics.

Together we’re finding the answers.

The field of study has never been more dynamic and the opportunities for bright and committed graduate students are wide open. Our goal is to prepare you for a position as a professor in a college or department of education, educational researcher working in government, nonprofit educational organization or business that supports educational outcomes, or as a research manager in both the private and public sector.

Together we can have an impact.
Measurement and Quantitative Methods students may specialize in:

**Educational Measurement, Psychometric Theory, and Program Evaluation**
This specialization may include work in the design and development of educational tests, computer applications to testing, item response theory, performance assessment, and the evaluation of the quality of educational programs.

**Educational Statistics, Research Design, and Applications**
This specialization may include meta-analysis, the analysis of social networks, multivariate analysis, structural equation modeling, and sampling theory.

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**The Faculty**

**Betsy Jane Becker**
Ph.D., University of Chicago

My primary research interest is in methodology for quantitative research synthesis, or meta-analysis, and I am currently developing and studying methods for summarizing series of correlation matrices. Over the years, I have also written about gender differences in mathematics and science education, and various aspects of the Scholastic Aptitude Test.
Robert E. Floden  
**Ph.D., Stanford University**

I serve as the director of the College of Education’s Institute for Research on Teaching and Learning. I have published on a wide range of topics, drawing on my expertise in philosophy, statistics, psychology, program evaluation, research on teaching, and research on teacher education. I am currently researching the connections between policy and practice.

Kenneth A. Frank  
**Ph.D., University of Chicago**

I am interested in studying schools as organizations, how teachers influence one another to effect classroom practices and school decision-making, social networks, and the social context of learning. My substantive areas are linked to several methodological interests that include social network analysis, hierarchical linear modeling, cluster analysis, multidimensional scaling, and time series models. Most recently, I have published on new quantitative methods for representing relations among teachers and how those relations affect teachers’ orientations to teaching, the characteristics of schools, and ways in which actors generate social capital from their social relations.
Kimberly Maier
Ph.D., University of Chicago

My current research focuses on the application of hierarchical measurement models to multilevel item response theory. Other areas of interest include Bayesian data analysis methods for educational research, the study of gender differences in science and mathematics education, and the application of multilevel models to policy research.

Mark Reckase
Ph.D., Syracuse University

I specialize in the development of educational and psychological tests, educational policy related to testing, and the psychometric theory that supports the assessment of cognitive skills and content knowledge. I’m doing research on applications of unidimensional and multidimensional item response theory models, computerized adaptive testing, assessment using performance tasks, standard setting on educational tests, and methods for evaluating the quality of teacher education programs. Before coming to MSU, I was the assistant vice president for assessment innovations at ACT, Inc. working on the development of computerized procedures for assessment and test design.
Edward Wolfe
Ph.D., University of California at Berkeley

My expertise lies in the areas of latent trait modeling and logistic regression. I am particularly interested in applications of Rasch models to latent trait modeling and logistic regression.

William H. Schmidt
Ph.D., University of Chicago

For the past 10 years, I have served as the national project coordinator and executive director of the U.S. Third International Mathematics and Science Study. I am currently the co-director of the Education Policy Center at Michigan State University.

My expertise is in multivariate analysis.
The challenges facing education in the years ahead are substantial. You know that mathematical and statistical concepts can play an important and meaningful role in reform. For you, the future is now, and we hope the program you'll choose is ours at Michigan State University. The decision to apply is, of course, yours. What we have to offer you is a faculty that is second to none, a program that is flexible to meet your interests, and a college and university committed to research, teaching and service. If you would like to visit our campus and meet with us, we can assist you in making your arrangements. Faculty members welcome phone calls and e-mails to discuss the details of the program. So get in touch with us.

Applications for admission to our program should be submitted by February 15 for enrollment the following fall. To have the best chance for financial aid, you should submit an application by January 15.

We look forward to your future at Michigan State University.
The College of Education at Michigan State University has a mission of LEADERSHIP, SCHOLARSHIP, AND SERVICE IN EDUCATION.

WE PREPARE PROFESSIONALS FOR LEADERSHIP ROLES IN EDUCATION.
Teaching is central to our scholarly identity and to the way we serve the educational needs of communities. We strive to develop and implement excellent, dynamic programs for the preparation of educators.

WE SEEK TO UNDERSTAND, REFORM AND IMPROVE EDUCATION.
We study the processes of human learning and development. We move beyond analysis to promote education policy reform and assist in implementation. We seek to improve the conditions of learning and teaching for everyone in a technological society. We conduct comprehensive, rigorous research that addresses the needs and problems of practice. We strengthen connections between theory and practice through partnerships with schools and communities.

WE EXAMINE ISSUES OF EDUCATION ACROSS THE LIFESPAN.
We seek to understand how children and adults learn and develop, and how educators can best use that knowledge for benefit of all learners. We recognize that all educators are themselves learners and we are committed to providing opportunities for their continuous professional development. We strive to sustain our College as a scholarly community for students, faculty and staff.
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Graduate Secretary  
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Phone: (517) 355-6683  
E-mail: dimoff@msu.edu

Visit the program Web site at  
http://ed-web.educ.msu.edu/cepse/mqm