

**Jennifer Julia Kaplan**  
**CURRICULUM VITAE**

**ADDRESS:**

Department of Statistics and Probability  
Division of Science and Mathematics Education  
A-443 Wells Hall  
Michigan State University, East Lansing, MI 48824

**CONTACT INFORMATION:**

Phone: 517.432.2354  
Fax: 517.432.1405  
[kaplan@stt.msu.edu](mailto:kaplan@stt.msu.edu)  
<http://www.stt.msu.edu/~kaplan/>

**RESEARCH INTERESTS**

Undergraduate statistics education, adult statistical literacy, quantitative reasoning.

**TEACHING INTERESTS**

Undergraduate: Introductory statistics, Statistics and mathematics content courses for pre-service teachers, Mathematical statistics and probability, Applied statistics  
Graduate: Statistics and mathematics education research and pedagogy courses; Applied statistics

**EDUCATION**

The University of Texas at Austin

*Ph.D. Mathematics*, with focus in statistics education, May 2006

Dissertation Advisor: Philip Uri Treisman

Dissertation Title: Cognitive Dispositions that Affect Undergraduate Students' Mastery of Statistical Hypothesis Testing.

*M.A. Mathematics*, with focus in statistics, May 2001

Master's Advisor: Peter W. M. John

Report Title: Regression and Cluster Analysis of Demographic Data: A Study of Clustering Techniques Used in Creating Campus Comparison Groups

Brandeis University

*B.A. Mathematics*, Cum Laude, May 1989

**UNIVERSITY APPOINTMENTS**

August 2006 – Present: Assistant Professor, Michigan State University, Department of Statistics and Probability and Division of Science and Mathematics Education

Jan 2006 – May 2006: Graduate Research Assistant, The Charles A. Dana Center of the University of Texas at Austin,

August 2003 – December 2005: Assistant Instructor, The University of Texas at Austin, Department of Mathematics

August 2002 – August 2003: Graduate Research Assistant, The Charles A. Dana Center of the University of Texas at Austin

August 2000 – August 2002: Assistant Instructor, The University of Texas at Austin, Department of Mathematics

August 1999 – August 2000: Teaching Assistant, The University of Texas at Austin, Department of Mathematics

## PUBLICATIONS

### JOURNAL ARTICLES

Kaplan, J.J., Fisher, D. & Rogness, N. (2010). Lexical Ambiguity in Statistics: How students use and define the words: association, average, confidence, random and spread. *Journal of Statistics Education*, 18(2), <http://www.amstat.org/publications/jse/v18n2/kaplan.pdf>

Kaplan, J.J. & Otten, S. (accepted, 2010) Optimization: Old dogs and new tasks. *Mathematics Teacher*.

Kaplan, J.J. & Du, J. (2009). Question Format and Representations: Do Heuristics and Biases Apply to Statistics Students? *Statistics Education Research Journal*, 8 (2), 56 – 73. Available online: <http://www.stat.auckland.ac.nz/serj>

Kaplan, J.J., Fisher, D. & Rogness, N. (2009). Lexical Ambiguity in Statistics: What do students know about the words: association, average, confidence, random and spread? *Journal of Statistics Education*, 17 (3). Available online: <http://www.amstat.org/publications/jse/v17n3/kaplan.html>

Kaplan, J. J. (2009). Effect of Belief Bias on Undergraduate Students' Reasoning about Inference. *Journal of Statistics Education*, 17, (1). Available online: <http://www.amstat.org/publications/jse/v17n1/kaplan.html>

Sikorskii, A., Melfi, V., Gilliland, D. & Kaplan, J.J. (submitted, 2010). Development and Testing of a Quantitative Literacy Scale. *Educational and Psychological Measurement*.

Kaplan, J.J. (In preparation). Addressing the GAISE guidelines in large lecture courses using clicker activities. *Technology Innovations in Statistics Education*.

### CONFERENCE PROCEEDINGS

(Peer-Reviewed) Kaplan, J.J. & Thorpe, J. (2010). Post secondary and adult statistical literacy: Assessing beyond the classroom. *Proceedings of the Eighth International Conference on Teaching Statistics (ICOTS-8)*. IASE, Ljubljana, Slovenia. **Excellence Award for best refereed paper by an early career author at The 8<sup>th</sup> International Conference on Teaching Statistics: Highly Commended**

Kaplan, J.J., Cervello, K., & Corcoran, E. (2009). Lesson Study as a Tool for Professional Development: A Case of Undergraduate Calculus. *Proceedings of the 2009 Conference on Research in Undergraduate Mathematics Education*. Available online: [http://mathed.asu.edu/crume2009/Kaplan\\_LONG.pdf](http://mathed.asu.edu/crume2009/Kaplan_LONG.pdf)

Otten, S., Park, J., Mosier, A. & Kaplan, J.J. (2009). Lesson Study as a Tool for Research: A Case of Undergraduate Calculus. *Proceedings of the 2009 Conference on Research in Undergraduate Mathematics Education*. Available online: [http://mathed.asu.edu/crume2009/Otten\\_LONG.pdf](http://mathed.asu.edu/crume2009/Otten_LONG.pdf)

Johnson, Y.N. & Kaplan, J.J. (2008). The Assessment of Quantitative Literacy at a Large Public Institution. *Proceedings of the 2008 Conference on Research in Undergraduate Mathematics Education*. Available online: <http://cresmet.asu.edu/crume2008/Proceedings/Proceedings.html>

Kaplan, J.J. & Urban-Lurain, M. (2008). Personal Response Systems in Statistics: Using clickers to foster active learning and address student misconceptions. *Proceedings of the Inaugural Conference on Classroom Response Systems: Innovations and Best Practices*. Available online: <http://iclicker.com/dnn/UserCommunity/ConferencePapers/tabid/171/Default.aspx>

Hilton, S., Kaplan, J. Hooks, T., Harrell, L. Fisher, D. & Sorto, M. A. (2008) Collaborative projects in statistics education. In *JSM Proceedings*, Statistics Education Section. Alexandria, VA: American Statistical Association.

Kaplan, J.J. (2008) i>clicker Pedagogy Case Study. *Invited paper for the iclicker.com website*. Available online: [http://iclicker.com/dnn/Portals/0/Kaplan\\_Case\\_Study.pdf](http://iclicker.com/dnn/Portals/0/Kaplan_Case_Study.pdf)

## **PRESENTATIONS**

### ***INVITED***

Helping Students Understand the Meaning of Random: Addressing Lexical Ambiguity. Webinar, *Consortium for the Advancement of Undergraduate Statistics Education (CAUSE)*. (with Diane Fisher and Neal Rogness). August 2010.

Post secondary and adult statistical literacy: Assessing beyond the classroom. *The 8<sup>th</sup> International Conference on Teaching Statistics (ICOTS-8)*. Ljubljana, Slovenia, July 2010

Letting Go of Assumptions About How Students Understand Statistical Language. Breakout Session, *United States Conference on Teaching Statistics (USCOTS) 2009*. (with Diane Fisher and Neal Rogness). Columbus, OH, June 2009.

Promoting active learning in introduction to statistics using personal response systems (clickers). Invited presenter. Webinar, *Consortium for the Advancement of Undergraduate Statistics Education (CAUSE)*. March 2009.

Lesson Study in Undergraduate Calculus: What Can We Learn About Teachers and Teaching from Lesson Study? *2009 Conference on Research in Undergraduate Mathematics Education*. (with Ed Corcoran and Kim Cervello). Raleigh, NC, February 2009

Lesson Study in Undergraduate Calculus: What Can We Learn about Mathematical and Classroom Discourse from Lesson Study? *2009 Conference on Research in Undergraduate Mathematics Education*. (with Sam Otten, Junguen Park and Aaron Mosier). Raleigh, NC, February 2009

Personal Response Systems in Statistics: Using clickers to foster active learning and address student understanding of statistical inference. *The Inaugural Conference on Classroom Response Systems: Innovations and Best Practices*. (with Mark Urban-Lurain). University of Louisville, Louisville, KY, November 2008

The Assessment of Quantitative Literacy at a Large Public Institution. *2008 Conference on Research in Undergraduate Mathematics Education*. (with Nicole Johnson). San Diego, CA, February 2008

Mathematics Curriculum Presentation to the Pittsburgh Board of Public Education, (with Philip Uri Treisman) Pittsburgh, PA, October 2002.

#### **CONTRIBUTED**

Challenges in Large Sections: GAISE-ing Toward Solutions, *Joint Statistical Meetings* (with Kim Gilbert, Patti Collings, Rob Gould, W. Robert Stephenson), Vancouver, BC, August 2010.

Addressing the Lexical Ambiguity Associated with the Word Random in Introductory Statistics Classes, Contributed Talk, *Joint Statistical Meetings* (with Diane Fisher and Neal Rogness), Vancouver, BC, August 2010.

Lexical Ambiguities in Statistics. Contributed Paper, *2010 Joint Mathematical Meetings* (with Diane Fisher and Neal Rogness), San Francisco, CA, January 2010.

What Do Students Hear When We Say 'Random?': Empirical Results from a Study of Lexical Ambiguity. Contributed Paper, *2009 Joint Statistical Meetings* (with Diane Fisher and Neal Rogness). Washington, DC, August 2009.

Assessing Student Status and Progress in Science Reasoning and Quantitative Literacy at a Very Large Undergraduate Institution. Contributed Talk. American Astronomical Society Meeting, (with Megan Donahue, Diane Ebert-May, Gabe Ording, Vince Melfi, Dennis Gilliland, Alla Sikorski and Nicole Johnson). January 2009

Collaborative Projects in Statistics Education Research. *2008 Joint Statistical Meetings*. (with Robert delMas, Sterling Hilton, Tisha Hooks, Leigh Harrell, Diane Fisher). Denver CO, August 2008

Advancing the assessment of quantitative and scientific reasoning: First-year results. *2008 International Assessment and Retention Conference*. (with Donna Sundre, Amy Thelk, Glenn Wehner, Emmet Ridley), Scottsdale, AZ, June 2008

#### **COLLOQUIA AND SEMINARS**

Lesson Study in calculus: What we learned about teaching and learning. Seminar on Teaching Mathematics, Department of Mathematics, University of Michigan. December 2009.

What do students hear in statistics classes?: Results for a study of lexical ambiguity. Faculty Research Colloquium, College of Liberal Arts and Sciences, Grand Valley State University. (with Neal Rogness and Diane Fisher). October 2009.

What do students hear in statistics classes?: Results for a study of lexical ambiguity. Seminar Talk, Department of Statistics, Grand Valley State University. (with Neal Rogness and Diane Fisher). October 2009.

What do students hear when we say 'random' and 'association'?: Empirical results from a study of lexical ambiguity. Seminar Speaker: Center for Research in College Science Teaching and Learning (CRCSTL), Michigan State University. (with Neal Rogness and Diane Fisher). September 2009.

Clickers: Not just for assessment anymore. Seminar Speaker: "Explorations in Instructional Technology" Michigan State University, College of Natural Science, and Libraries, Computing, and Technology. February 2009.

Lesson Study in undergraduate calculus: What can we learn about teaching and learning from Lesson Study? Colloquium, Division of Science and Mathematics Education, Michigan State University. (with Ed Corcoran Kim Cervello, Sam Otten, Junguen Park and Aaron Mosier). January 2009.

The psychology of STT 200. Colloquium speaker. Department of Statistics and Probability, Michigan State University. November 2007

Factors in Statistics Learning: Developing a dispositional attribution model to describe differences in the development of statistical proficiency. Colloquium speaker.

California Polytechnic University – Pomona, Department of Mathematics, January 2006

California State University – Fullerton, Department of Mathematics, January 2006

Michigan State University – Division of Science and Mathematics Education, January 2006

Appalachian State University – Department of Mathematical Sciences, February 2006

North Carolina State University – Department of Mathematics, February 2006

University of Montana – Department of Mathematical Sciences, February 2006

#### **EXTERNAL FUNDING**

Collaborative Research: Examining Lexical Ambiguity in Statistics Teaching in College (ELASTiC); submitted to the National Science Foundation TUES Type 1 competition.

PI: Jennifer Kaplan, CO-I's: Diane Fisher and Neal Rogness Submitted May 2010

2006 – 2009: Six unfunded submissions as PI or Co-I to:

National Science Foundation (3)

U.S. Department of Education (1)

Michigan Department of Education (2)

#### **AWARDS AND SCHOLARSHIPS**

Excellence Award for best refereed paper by an early career author at The 8<sup>th</sup> International Conference on Teaching Statistics: Highly Commended

University of Texas at Austin, Department of Mathematics, Undergraduate Teaching Excellence Award

Commonwealth of Massachusetts, Paul Douglas Teaching Scholarship

General Electric Corporation, Teaching Scholarship

### **PROFESSIONAL AFFILIATIONS**

American Statistical Association  
International Association for Statistics Education  
Mathematical Association of America  
Association for Women in Mathematics

### **PH.D. STUDENTS**

Marie Turini, Department of Teacher Education, MSU: Dissertation committee member (2007 – present)  
Irina Papaiero, Division of Science and Mathematics Education, MSU: Dissertation committee member (2008 – present)  
Aaron Mosier, Division of Science and Mathematics Education, MSU: Guidance and practicum committee member (2007 – present)  
Ed Corcoran, Division of Science and Mathematics Education, MSU: Guidance committee member (2008 – present)  
Pietro Paparella, Division of Science and Mathematics Education, MSU: First year advisor (2007 – 2008)

### **MICHIGAN STATE UNIVERSITY SERVICE**

Division of Science and Mathematics Education Course and Curriculum Development Committee 2008 – 2010  
Statistics and Probability Service Course Committee, 2007–10  
Statistics and Probability Katz Library Committee, 2007–08  
Statistics and Probability Quantitative Literacy Search Committee, 2008  
Secretary of the STT Advisory Committee, 2007–08  
Division of Science and Mathematics Education Curriculum and Scheduling Committee, 2007  
Division of Science and Mathematics Education SME 954 Course Development Committee, 2007  
Division of Science and Mathematics Education Integrated Major in Mathematical Sciences Committee, 2007  
Division of Science and Mathematics Education Supervisor for TAs of MTH 202 “Geometry content course for elementary education majors,” Spring 2007  
Statistics and Probability Teaching Specialist Search Committee, 2006–07  
Quantitative Literacy Task Force, Committee Member, 2006–present

### **EXTERNAL PROFESSIONAL SERVICE**

Associate Editor, Journal of Statistics Education, January 2010 – December 2012  
Session Chair, Joint Statistical Meetings, American Statistical Association Section on Statistics Education, August 2010.  
Session Chair, Joint Statistical Meetings, American Statistical Association Section on Statistics Education, August 2009.  
AP Statistics Reader, Educational Testing Service, June 2008  
AP Statistics Reader, Educational Testing Service, June 2009

Served as a referee for journals including:

Statistics Education Research Journal (SERJ).

<http://www.stat.auckland.ac.nz/~iase/publications.php?show=serj>

Journal of Statistics Education (JSE). <http://www.amstat.org/publications/jse>

Technology Innovations in Statistics Education (TISE):

<http://repositories.cdlib.org/uclastat/cts/tise/>

INFORMS Transactions on Education (ITE). <http://ite.pubs.informs.org/index.php>

CBE – Life Sciences Education. <http://www.lifescied.org/>

Served as a judge for national competitions including:

2008 and 2010 American Statistical Association (ASA) National K-12 Poster Competition

2009 American Statistical Association (ASA) Michigan K-12 Poster Competition

2007 and 2009 Undergraduate Statistics Project Competition (USPROC), National Competition

for Undergraduates in Statistics, sponsored by the Consortium for the Advancement of

Undergraduate Statistics Education (CAUSE)

#### **COMMUNITY SERVICE**

Community-Based Mentor, Big Brothers/Big Sisters, Lansing, MI, 2008 – present

Construction Volunteer, Habitat for Humanity, Austin, TX, 2000 – 2006

#### **UNIVERSITY COURSES TAUGHT**

##### **MICHIGAN STATE UNIVERSITY, 2006–2010**

1. Design and Methods in Mathematics Education Research: graduate course for second year mathematics education Ph.D. students
2. Teaching College Mathematics: graduate course for mathematics education Ph.D. students
3. Statistical Methods: undergraduate service course
4. Data, Statistics and Probability for Pre-service K-8 teachers: undergraduate content course for elementary education majors
5. Special Problems for K – 8 Teachers: Data Analysis and Probability: masters level content course for in-service teachers

##### **UNIVERSITY OF TEXAS AT AUSTIN, 1999–2005**

1. Introductory Statistical Methods: undergraduate service course
2. Foundations of Arithmetic: undergraduate content course for elementary education majors
3. Foundations of Geometry, Probability and Statistics: undergraduate content for elementary education majors
4. Discussion Section for Second Semester Calculus for Engineers: undergraduate service course

## **INVOLVEMENT IN CONFERENCES, WORKSHOPS AND COLLABORATIONS**

Examining Curriculum Interactions in Teacher Education (ExCITE) Conference – Co-organizer of four-day working conference and retreat designed to continue the work begun by the NSF funded Center for the Study of Mathematics Curriculum (CSMC) by producing a suite of coordinated studies and grant proposals, which have as a basis curriculum in K – 20 mathematics education. East Lansing, MI. November 2008

Workshop on Developing Graduate Programs in Statistics Education and Supporting Statistics Education Research faculty – Invited Participant. Funded by a membership grant from the American Statistical Association (ASA). Alexandria, VA. October 2008

Realizing the Vision: Quantitative Literacy – Active member of the research group to assess quantitative literacy at Michigan State University. Funded by Michigan State University Quality Fund. Fall 2006 – Present

CAUSEmos Research Cluster – Active member of NSF funded national mentoring program designed to encourage new researchers in statistics education. Currently working with faculty members at Grand Valley State University and Louisiana Tech to study the effects of lexical ambiguity on student learning in non-calculus based introduction to statistics courses. Summer 2007 – Present

American Statistical Association LearnSTAT program – Co-leader of half-day workshop entitled: Teaching College-Level Statistics Using the GAISE Guidelines. Pre-session workshop for the Joint Mathematical Meetings, San Antonio, TX. January 2006

The Teaching Company – Collaborated with Dr. Michael Starbird on video lecture series (24 half hour lectures) entitled: Meaning from Data: Statistics Made Clear. January – October 2005

The ARTIST Round Table Conference on Assessment in Statistics Education – Lawrence University, Appleton, WI: Invited participant. August 2004

Conference on Statistical Reasoning, Thinking and Learning (SRTL-3) – University of Nebraska, Lincoln, NE: Invited Discussant. July 2003

Andean Association of International Baccalaureate Schools: Organized and led two-day bilingual workshop for math teachers on the implementation of the International Baccalaureate mathematical studies syllabus in Venezuelan schools. Caracas, VE. September 1998



**HIGH SCHOOL TEACHING EXPERIENCE**

COLEGIO INTERNACIONAL DE CARACAS, Caracas, Venezuela

K – 12 Mathematics Department Head

June 1998 – June 1999

Mathematics Teacher - Grades 9 - 12

September 1994 – June 1998

**Courses Taught:**

- All levels of International Baccalaureate mathematics
- Piloted Integrated Math program - second year
- Pre-calculus - IB level & College Preparatory
- Algebra 2 – Honors level
- Geometry – Honors level
- Algebra 1 - College Preparatory

**Other responsibilities:**

- Chaired committee to rewrite and implement 7 – 12 mathematics curriculum
- Odyssey of the Mind Program Coordinator

ISTANBUL INTERNATIONAL COMMUNITY SCHOOL, Istanbul, Turkey

Mathematics Teacher - Grades 7 – 10

September 1992 – June 1994

**Courses Taught:**

- Modified ISAC Integrated Program Years One, Two and Three
- U.S. Pre-Algebra, Algebra One, Geometry

**Other Responsibilities:**

- Revised curriculum based on study of curricula available to international schools.
- Coached girl's basketball and MathCounts teams.

WESTON HIGH SCHOOL, Department of Mathematics, Weston, MA

Mathematics Teacher - Grades 8 – 12

September 1990 – June 1992

**Courses Taught:**

- Pre-calculus - Honors & College Preparatory
- Algebra 2 - College Prep & Modified
- Integrated Math Year Two - Modified
- Algebra One - College Preparatory & Modified

NEWTON NORTH HIGH SCHOOL, Department of Mathematics, Newton, MA:

Mathematics Teacher - Grades 10 – 12

Sep 1989 - June 1990

Math Team Advisor

**Courses Taught:**

- Trigonometry - College Preparatory
- Integrated Math Year Two - Honors and College Preparatory
- BASIC Computer language – Honors