

CURRICULUM VITAE
2011

Joan B. Garfield
178 Education Sciences
56 East River Road
Minneapolis, MN 55455
612-625-0337
jbg@tc.umn.edu

Education

- 1981 Ph.D., University of Minnesota, Educational Psychology. Major area: Research Methodology. Related fields: applied statistics, measurement and learning.
- 1978 M.A., University of Minnesota, Mathematics Education. Related fields: mathematics, special education.
- 1972 B.S., University of Wisconsin, Madison, Education. Minor: Mathematics.

Professional Experience

- 2002-Present Professor of Educational Psychology, University of Minnesota
- 1995-2002 Associate Professor of Educational Psychology, College of Education, University of Minnesota
- 1988-1995 Associate Professor of Statistics, The General College, University of Minnesota
- 1984 -1987 Coordinator of Research and Evaluation, General College, University of Minnesota.
- 1981-1988 Assistant Professor, Division of Science, Business, and Mathematics, General College, University of Minnesota
- 1980-1981 Instructor, Mathematics and Statistics, General College, University of Minnesota
- 1979 Mathematics Instructor, Summer Institute, Office of Minority and Special Student Affairs, University of Minnesota

- 1975-1980 Various positions as teaching assistant, research assistant, and teaching associate in the College of Education and in the General College, University of Minnesota.
- 1973-1975 Junior High School Mathematics Teacher, Downers Grove, Illinois

Publications

Journal articles

1. Zieffler, A., Garfield, J., delMas, R., Bjornsdottir, A., Isaak, R., Le, L., & Park, J. (in review). Publishing in SERJ: An analysis of papers from 2002-2009. *Statistics Education Research Journal*.
2. Garfield, J., & Zieffler, A. (in press). Response to: "Towards more accessible conceptions of statistical inference" by C. Wild, M. Pfannkuch, M. Regan and N. J. Horton. *Journal of the Royal Statistical Society. Series A (General)*.
3. Garfield, J., Zieffler, A., Kaplan, D., Cobb, G., Chance, B., & Holcomb, J. P. (in press). Rethinking assessment of student learning in statistics courses. *The American Statistician*.
4. Garfield, J. & delMas, R. (2010). A website that provides resources for assessing students' statistical literacy, reasoning, and thinking. *Teaching Statistics*, 32 (1), pp 2-7.
5. Garfield, J. & Everson, M. (July, 2009). Preparing teachers of statistics: A Graduate Course for future teachers. *Journal of Statistics Education*, 17. <http://www.amstat.org/publications/jse/v17n2/garfield.html>.
6. Zieffler, A., & Garfield, J. (2009) Modeling the growth of students covariational reasoning during an introductory statistics course. *Statistics Education Research Journal* 8(1), 7-31.
7. Garfield, J. & Ben-Zvi, D. (2009) Helping students develop statistical reasoning: Implementing a Statistical Reasoning Learning Environment. *Teaching Statistics*, 31 (3), pp 72-77
8. Zieffler, A., Garfield, J. delMas, R. and Reading, C. (2008). A framework to support research on informal inferential reasoning. *Statistics Education Research Journal. Statistics Education Research Journal*, 7(2), 40-58, [http://www.stat.auckland.ac.nz/~iase/serj/SERJ7\(2\)_Zieffler.pdf](http://www.stat.auckland.ac.nz/~iase/serj/SERJ7(2)_Zieffler.pdf)

9. Everson, M. G., & Garfield, J. (2008). An innovative approach to teaching online statistics courses. *Technology Innovations in Statistics Education*, 2 (1).
<http://repositories.cdlib.org/uclastat/cts/tise/vol2/iss1/art3/>

10. Ben-zvi, D., & Garfield, J. (2008). Introducing the emerging discipline of statistics education. *School Science and Mathematics*, 108, 355-361.

11. Ooms, A. and Garfield, J. (2008). A Model to Evaluate Online Educational Resources in Statistics. *Technology Innovations in Statistics Education Journal* 2, (1) <http://repositories.cdlib.org/uclastat/cts/tise/vol2/iss1/art2/>

12. Zieffler, A., Garfield, J., Alt, S. Dupuis, D., Holleque, K, & Chang, B. (2008). What does research suggest about the teaching and learning of introductory statistics at the college level? A review of the literature. *Journal of Statistics Education*. . Volume 16, Number 2
www.amstat.org/publications/jse/v16n2/zieffler.html

13. Roseth, C.J., Garfield, J.B., & Ben-Zvi, D. (2008) Collaboration in Learning and Teaching Statistics. *Journal of Statistics Education*. Volume 16, Number 1
www.amstat.org/publications/jse/v16n1/roseth.html

14. Everson, M., Zieffler, A., & Garfield, J. (2008). Implementing new reform guidelines in teaching introductory college statistics courses. *Teaching Statistics*. Volume 30, Number 3, p. 66-70.

15. Garfield, J., & Ben-Zvi, D. (2007). How students learn statistics revisited: A current review of research on teaching and learning statistics. *International Statistical Review*, 75(3), 372–396.

16. delMas, R., Garfield, J., Ooms, A., & Chance, B. (2007). Assessing students' conceptual understanding after a first course in statistics. *Statistics Education Research Journal*, 6(2), 28-58.
[http://www.stat.auckland.ac.nz/~iase/serj/SERJ6\(2\)_delMas.pdf](http://www.stat.auckland.ac.nz/~iase/serj/SERJ6(2)_delMas.pdf)

17. Chance, B., Ben-Zvi, D., Garfield, J., & Medina, E. (2007, October). The role of technology in improving student learning of statistics. *Technology Innovations in Statistics Education Journal*, 1(1).
[\(http://repositories.cdlib.org/uclastat/cts/tise/vol1/iss1/art2/\)](http://repositories.cdlib.org/uclastat/cts/tise/vol1/iss1/art2/)

18. Garfield, J. and Ben-Zvi, D. (2005). A framework for teaching and assessing reasoning about variability. *Statistics Education Research Journal* 4(1), 92-99.

19. Ben-Zvi, D. and Garfield, J. (2004). Research about reasoning about variability: A Forward. *Statistics Education Research Journal* 3(2), 4-6.
20. Garfield, J. (2004) Becoming an Effective Teacher of Statistics. *STATS Magazine*, Spring 2004 Issue 40, 8-11.
21. Garfield, J. (2003). Assessing statistical reasoning. *Statistics Education Research Journal*. [Online] 2(1).
22. Chance, B. and Garfield, J. (2002). New approaches to gathering data on student learning for research in statistics education. *Statistics Education Research Journal*.1 (2)
23. Liu, H. J. and Garfield, J. (2002) Sex differences in statistical reasoning. *Bulletin of Educational Psychology*, 32 (1), 123-138.
24. Garfield, J. (2002) The Challenge of Developing Statistical Reasoning. *Journal of Statistics Education* [Online], 10(3)
25. Garfield, J., Hogg, B., Schau, C., and Whittinghill, D. (2002) First Courses in Statistical Science: The Status of Educational Reform Efforts, *Journal of Statistics Education* [Online], 10(2)
26. Garfield, J. & Chance, B. (2000). Assessment in Statistics Education: Issues and Challenges. *Mathematics Thinking and Learning*, 2, 99-125.
27. delMas, R., Garfield, J., & Chance, B. (1999). A model of classroom research in action: Developing simulation activities to improve students' statistical reasoning. *Journal of Statistics Education*.
28. Garfield, J. & Gal, I. (1999). Assessment and Statistics Education: Current Challenges and Directions. *International Statistical Review*, 67, 1-12.
29. Garfield, J. (1997). Discussion: Response to David Moore. *International Statistical Review*. 65, 137-141.
30. Garfield, J. (1996) Assessing Student Learning in the Context of a Chance Course. *Communications in Statistics: Theory and Methods*, 25 (11), 2863-2873.
31. Moore, D., Cobb, G., Garfield, J., and Meeker, W. (1995) Statistics Education, Fin de Siècle. *The American Statistician*, 49 (3), 250-260.
32. Garfield, J. (1995). La evaluacion del apredizaje de la estadística. *UNO: Revista de Didactica de las Matematicas*, 5, 5-14. (The evaluation of statistical learning, translated into Spanish by M. Carmen Batanero.)

33. Garfield, J. (1995). Respondent: "How should we be teaching statistics?" *The American Statistician*, 49 (1), 18-20.
34. Garfield, J. (1995). How students learn statistics. *International Statistical Review*. 63, 25-34.
35. Garfield, J. (1994). Beyond Testing and Grading: Using Assessment to Improve Instruction. *Journal of Statistical Education*, 1, No. 2.
36. Garfield, J. & Ahlgren, A. (1994). Student reactions to learning probability and statistics: Evaluating the Quantitative Literacy Project. *School Science and Mathematics*, 94, (2), 89-94.
37. Garfield, J. (1993). Teaching statistics using cooperative learning. *Journal of Statistical Education*, 1, (1).
38. Garfield, J. & Green, D. (1988). Probability and Statistics Study Group: Looking back and looking forward. *Teaching Statistics*. 10, (2), pp. 55-58.
39. Garfield, J. & Ahlgren, A. (1988). Difficulties in learning basic concepts in statistics: implications for research. *Journal for Research in Mathematics Education*. 19, pp. 44-63.

Book Chapters

1. Garfield, J. and Franklin, C. (in press). What should K-12 teachers know about assessment of statistical learning. In C. Batanero, G. Burrill, C. Reading and A. Rossman (EDS). *Teaching Statistics in School Mathematics - Challenges for Teaching and Teacher Education: A joint ICMI/IASE Study*. Springer Publishers.
2. Garfield, J. (2010) Statistical Literacy, Reasoning, and Thinking. In Miodrag Lovric (Ed.) *International Encyclopedia of Statistical Science*. Springer-Verlag Publishers.
3. Garfield, J., delMas, R., and Zieffler, A. (2010). Assessing Important Learning Outcomes in Introductory Tertiary Statistics Courses. In P Bidgood, N Hunt, F Jolliffe (Eds.). *Assessment Methods in Statistical Education: An International Perspective*, Wiley & Sons Ltd .
4. Garfield, J., delMas, R., Ooms, A., Chance, B. (2008). Assessment Resource Tools for Assessing Students' Statistical Literacy, Reasoning, and Thinking. In D. Deeds (Ed.), *Proceedings of the NSF Conference on Assessing Student Achievement*. Washington, DC: National Science Foundation.

5. Garfield, J., delMas, R., and Chance, B. (2007). Using students' informal notions of variability to develop an understanding of formal measures of variability. In *Thinking about Data*, edited by P. Shah and M. Lovett. Lawrence Erlbaum Associates, p 117-148.
6. Franklin, C. and Garfield, J. (2006). The GAISE Project: Developing Statistics Education Guidelines for Pre K-12 and College Courses. In G. Burrill, Ed.) *Thinking and Reasoning with Data and Chance: 2006 NCTM Yearbook*. Reston, VA: National Council of Teachers of Mathematics, pp. 345-376.
7. Ben-Zvi, D., Garfield, J and Zieffler, A. (2006). Research in the statistics classroom: Learning from teaching experiments. In G. Burrill, Ed.) *Thinking and Reasoning with Data and Chance: 2006 NCTM Yearbook*. Reston, VA: National Council of Teachers of Mathematics, pp. 367-381.
8. Garfield, J. (2005). Introduction. In J. Garfield (Ed.). *Innovations in Teaching Statistics* (pp. 1-4). Mathematics Association of America.
9. Ben-Zvi, D. and Garfield, J. (2004). Statistical Literacy, Reasoning and Thinking: Goals, Definitions, and Challenges. In D. Ben-Zvi and J. Garfield (Eds.) *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking*. Kluwer Publishers, pp. 3-16.
10. Chance, B., delMas, R. and Garfield, J. (2004). Reasoning about Sampling Distributions. In D. Ben-Zvi and J. Garfield (Eds.) *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking*. Kluwer Publishers. Pp. 295-324.
11. Garfield, J. and Ben-Zvi, D. (2004). Research in Statistical Literacy, Reasoning, and Thinking: Issues, Challenges, and Implications. In D. Ben-Zvi and J. Garfield (Eds.) *The Challenge of Developing Statistical Literacy, Reasoning, and Thinking*. Kluwer Publishers, pp. 397-410.
12. Garfield, J., Chance, B., and Snell, J.L. (2003). Technology in college statistics courses. In Cheryl Weigand (Ed). *From Email to Earthquakes: On Teaching and learning with Technology in the California State University*, 58-74.
13. Garfield, J., Chance, B., and Snell, J.L. (2001). Technology in college statistics courses. In D. Holton et al. (Eds.). *The Teaching and Learning of Mathematics at University Level: An ICMI study*. Kluwer Publishers. . pp. 357-370.
14. Garfield, J. (2000), Beyond testing and grading: new ways to use assessment to improve student learning. In T. Moore (Ed.) *Teaching Statistics: Resources for Undergraduate Education* (pp. 201-208) Washington, DC: Mathematics Association of America and American Statistical Association.
15. Garfield, J. & Gal, I. (1999). Teaching and Assessing Statistical Reasoning. In L. Stiff (ed.) *Developing Mathematical Reasoning in Grades K-12: National Council Teachers of Mathematics 1999 Yearbook*, 207-219.

16. Gal, I. & Garfield, J. (1997). Curricular goals and assessment challenges in statistics education. In Gal, I. & Garfield, J. (eds.) *The Assessment Challenge in Statistics Education*, pp. 1-13. Amsterdam: IOS Press and International Statistical Institute.
17. Shaughnessy, J. M., Garfield, J.B., Greer, B. (1997) Data Handling. In A. Bishop et al. (Eds.), *International Handbook on Mathematics Education* (pp. 205-237). Dordrecht, The Netherlands: Kluwer Publishers.
18. Garfield, J. (1993) An authentic assessment of students' statistical knowledge. In N. Webb (Ed.), National Council of Teachers of Mathematics 1993 Yearbook: *Assessment in the Mathematics Classroom*, p. 187-196.
19. Ahlgren, A. & Garfield, J. (1991). Analysis of the Probability Curriculum. In *Chance Encounters: Probability in Education* (R. Kapadia & M. Borovcnik, Eds.) The Netherlands: Kluwer Academic Publishers, pp. 107-134.
20. Garfield, J. & Hendel, D. 1989. Pathways to Success: Transforming Obstacles Into Opportunities. In (C. Pazandak, Ed.) *Improving undergraduate education at large universities. New Directions in Higher Education. No. 66* San Francisco: Jossey-Bass, pp. 41-49.

Books

1. Garfield, J. and Ben-Zvi, D. (2008). *Developing Students' Statistical Reasoning: Connecting Research and Teaching Practice*. Springer Publishers.
2. Garfield, J. (Ed.). (2005) *Innovations in teaching statistics*. Washington, DC: Mathematics Association of America.
3. Ben-Zvi, D. and Garfield, J. (Eds.) (2004) *Challenges in developing Statistical Reasoning, thinking and literacy*. Kluwer Pubis hers, The Netherlands.
4. Garfield, J. & Burrill, G. (Eds.) (1997). *Research on the role of technology in teaching and learning statistics*. Voorburg, The Netherlands: International Statistical Institute.
5. Gal, I. & Garfield, J. (Eds.) (1997) *The Assessment Challenge in Statistics Education*. Amsterdam: IOS Press and International Statistical Institute.

Proceedings

1. Zieffler, A., Garfield, J., delMas, R., and Bjornsdottir, A (2010). Development of an instrument to assess statistical thinking. In C. Reading (Eds.), *Proceedings of the Eight*

- International Conference on Teaching Statistics. [CD-ROM].* Voorburg, The Netherlands: International Statistical Institute.
2. delMas, R., Garfield, J., Zieffler, A (2010). Developing tertiary-level students' statistical thinking through the use of model-eliciting activities. In C. Reading (Eds.), *Proceedings of the Eight International Conference on Teaching Statistics. [CD-ROM].* Voorburg, The Netherlands: International Statistical Institute.
 3. Garfield, J. & Ben-Zvi, D. (2008). Preparing school teachers to develop students' statistical reasoning. In C. Batanero (Ed.), *Proceedings of the Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education.* Monterrey, Mexico, June 2008.
 4. Zieffler, A., Garfield, J., & Delmas, R. (2007). Studying the role of simulation in developing students' statistical reasoning. *Proceedings of the 56th Session of the International Statistical Institute (ISI),* Lisbon, Portugal.
 5. Zieffler, A., Garfield, J., Delmas, R., & Gould, R. (2007). Studying the development of college students' informal reasoning about statistical inference. In J. Ainley and D. Pratt (Eds.) *Proceedings of the 5th Statistical Reasoning, Thinking and Literacy (SRTL) Research Forum,* Coventry, England.
 6. Garfield, J., Zieffler, A., delMas, R., Chance, B., Hilton, S., and Lesser, L. (2007). Practical Issues in Conducting Statistics Education Research. 2006 *Proceedings of the American Statistical Association, Section on Statistical Education.* Alexandria, VA: ASA. [pp. 2295-2297].
 7. Garfield, J., delMas, R., Ooms, A., Chance, B. (in press). Assessment Resource Tools for Assessing Students' Statistical Literacy, Reasoning, and Thinking. In D. Deeds (Ed.), *Proceedings of the NSF Conference on Assessing Student Achievement.* Washington, DC: National Science Foundation.
 8. Garfield, J. (2006). Collaboration in statistics education research: Stories, reflections, and lessons learned. In A. Rossman & B. Chance (Eds.), *Proceedings of the Seventh International Conference on Teaching Statistics. [CD-ROM].* Voorburg, The Netherlands: International Statistical Institute.
 9. delMas, R., Ooms, A., Garfield, J., and Chance, B. (2006). Assessing students' statistical reasoning. In A. Rossman & B. Chance (Eds.), *Proceedings of the Seventh International Conference on Teaching Statistics. [CD-ROM].* Voorburg, The Netherlands: International Statistical Institute.
 10. Chance, B. and Garfield, J. (2001). New approaches to gather data on student learning for research in statistics education. *Proceedings of the 53rd Session of the International Statistical Institute,* Seoul, Korea.

11. Chance, B., Garfield, J., and delMas, R. (2000). Developing simulation activities to improve students' statistical reasoning. In M. Thomas (Ed.) *Proceedings of the Technology in Mathematics Education 2000 Conference* (pp. 25-32). Auckland, NZ: University of Auckland.
12. Chance, B., Garfield, J. & delMas, R. (1999). A model of classroom assessment in actions: Using assessment to improve students learning and statistical reasoning. *Proceedings of the 52nd meeting of the International Statistical Institute*, Helsinki, Finland.
13. Garfield, J. (1998) The Statistical Reasoning Assessment: Development and Validation of a Research Tool. In L Pereira-Mendoza (Ed.) *Proceedings of the Fifth International Conference on Teaching Statistics*, pp. 781-786. Voorburg, The Netherlands: International Statistical Institute.
14. Gal, I. & Garfield, J. (1998) Assessment challenges and curricular goals for students learning statistics. In L Pereira-Mendoza (Ed.) *Proceedings of the Fifth International Conference on Teaching Statistics*, pp. 773-780. Voorburg, The Netherlands: International Statistical Institute.
15. delMas, R., Garfield, J. & Chance. B. (1998). Assessing the effects of a computer microworld on statistical reasoning. In L Pereira-Mendoza (Ed.) *Proceedings of the Fifth International Conference on Teaching Statistics*, pp. 1083-1090. Voorburg, The Netherlands: International Statistical Institute.
16. Batanero, C, Serrano, L, and Garfield, J. (1996). Heuristics and biases in secondary school students' reasoning about probability. In the *Proceedings of the International Meeting of the Psychology of Mathematics Education Meeting*, Valencia, Spain.
17. Garfield, J. & delMas, R. (1991). Students' conceptions of probability. In D. Vere-Jones (Ed.) *Proceedings of the Third International Conference on Teaching Statistics, Volume 1*. Voorburg, The Netherlands: International Statistical Institute, 338-339.
18. Garfield, J. (1991). Evaluating Students' Understanding of Statistics: Development of the Statistical Reasoning Assessment. In *Proceedings of the Thirteenth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Volume 2*. Blacksburg, VA, pp. 1-7.
19. delMas, R. & Garfield, J. (1991) Using multiple items to assess misconceptions. In *Research Papers from ICOTS III*, International Study Group for Research on Learning Probability and Statistics.
20. Garfield, J. & delMas, R. (1989). Reasoning about chance events: Assessing and changing student's conceptions of probability. *Proceedings of the 11th Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education, Volume 2*, Rutgers University, pp. 189-195.

21. Garfield, J. & Ahlgren, A. (1986). A study of difficulties in learning probability and statistics. *Proceedings of the Second International Conference on Teaching Statistics* (R. Davidson & J. Swift, Eds.). Victoria, British Columbia; August 1986, pp. 270-274.
22. Garfield, J. & Ahlgren, A. (1986). Difficulties students in learning probability: An overview. *Proceedings of the Eighth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education*, (G. Lappan, Ed.). E. Lansing, Michigan, September 1986, pp. 335-339.

Other publications

1. Garfield, J., delMas, R., & Zieffler, A. (2009). Inventing and testing models. Science Education Resource Center Digital Library project (NSF). Carleton College, Northfield. <http://serc.carleton.edu/sp/library/mea/index.html>
2. Garfield, J., Pantula, S., Pearl, D. and Utts, J.(2008) Statistics Education Graduate Programs. American Statistical Association.
3. Garfield, J. and Ben-Zvi, D. (2008) The Discipline of Statistics Education. Background paper for *Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*. Monterrey, Mexico, June 2008.
4. Garfield, J., delMas, R., and Chance, B. (2004). Online Tools for Improving Statistical Thinking. *AMSTAT News*, March 2004, Issue 321.
5. Garfield, J. (2003). Preparing to Teach Statistics. *AP Statistics Teachers Corner*, College Board.
6. Garfield, J. (2002) Recent PhD's in Statistics Education. *Statistics Education Research Journal* 1(1) 15-16.
7. Garfield, J. (2002). Comments on John Holcomb's Vignette.
8. *Ethics of Inquiry: Issues in the Scholarship of Teaching and Learning*. The Carnegie Foundation for the Advancement of Teaching.
9. Garfield, J. (2001). An interview with Robin Lock. *Newsletter of the ASA Section on Statistics Education*, Winter 2001.
10. Garfield, J. (2001). Statistics Overview. In L. Grinstein and S. Lipsey (Eds.), *Encyclopedia of Mathematics Education*. (pp. 689-691). New York: Routledge Falmer.
11. Garfield, J. (2001). Probability Overview. In L. Grinstein and S. Lipsey (Eds.), *Encyclopedia of Mathematics Education*. (pp. 560-562). New York: Routledge Falmer.

12. Garfield, J., Hogg, R., Schau, C. and Whittinghill, D. (2000). Best practices in introductory statistics courses. Undergraduate Statistics Education Initiative, American Statistical Association website.
13. Batanero, C., Garfield, J., Ottaviani, M.G., and Truran, J. (2000). Research in Statistical Education: Some Priority Questions. *Newsletter of the IASE Statistics Education Research Group*, Volume 13, No. 1.
14. Garfield, J. (1997). Teaching data analysis to primary teachers. *Statistics Teacher Network*. No. 45, 1-2.
15. Garfield, J. (1997). A review of the Chance Database. *The American Statistician*.
16. Garfield, J. (1994) Geometry and the Imagination: Chance. *Imagine That! A Quarterly Publication of the Geometry Center*, 3, (4), 6-7.

Published Book or Software Reviews

Workshop Statistics. (1996) *Statistics Teacher Network*. No. 42, 1-2.

DataScope and Prob Sim: Software Review. (1995) *Statistics Teacher Network*.

Introducing Data Analysis in the Schools: Who Should Teach if and How? (1994). *Statistics Teacher Network*, No. 37, pp. 6-8.

Fifty things to do with Spreadsheets and Databases (1994) *Statistics Teacher Network*, Spring.

Statistics for the 21st Century, (edited by Florence and Sheldon Gordon) (1994) *Teaching Statistics*.

Statistics Workshop, by Wings for Learning/Sunburst, Fall 1993 *Statistics Teacher Network*, pg 7.

Statistics for the 21st Century. (edited by Florence and Sheldon Gordon) *Statistics Teacher Network*, Spring 1993, pp. 7-8.

Date visualization, by Jan de Lange et. al. *Statistics Teacher Network*. Winter 1993, pp. 6-7.

Statistics and Data Analysis: An Introduction, by Andrew F. Siegel. *Statistics Teachers Network* No. 26, December, 1990, p.7.

Elementary Statistics, by Leon Marziller. *Statistics Teacher Network* No. 28, September 1991, pp. 5-6.

Research Reports: A column in the international journal, *Teaching Statistics*.

- "Report on Research Conferences," Spring, 1991, *13* (1), p.24.
- "Reviews of Research," Summer, 1991, *13*, (2), p.55.
- "The University of Massachusetts Research Group," Autumn, 1991, *13*, (3) p. 93.
- "Integrating Research With Teacher Development," Winter, 1992, *14*, (1), p.27.
- "Research in Israel," Spring, 1993, *15*, (1), p. 30.
- "Research in Spain," Summer, 1993, *15*, (2), pp. 52-53.
- "The Working Group on Statistics Education Research." Summer, 1994, *16*, pp. 60-61.
- "A Summary of Research Papers Presented at ICOTS 4". Spring 1995
- "Reflections on the Past 15 Years" Summer 1995, (17) 2, 77-78.
- "Research down Under" Summer 1996, (18) 2, 56-57.

Papers, Reports, Workshops, and Presentations

1. Garfield, J., delMas, R., Zieffler, A., Le, L., Isaak, R., & Ziegler, L. (2011, January). *A different flavor of introductory statistics: Teaching students to really cook*. Invited poster presented at the AAAS and NSF sponsored CCLI-TUES Principal Investigators' conference, *Transforming Undergraduate Education in STEM: Making and Measuring Impacts*, Washington, DC.
2. delMas, R., Garfield, J., Zieffler, A., Le, L., Isaak, R., & Ziegler, L. (2011, February) *A different flavor of introductory statistics: Teaching students to really cook*. Invited presentation at the Department of Statistics, Brigham Young University, Salt Lake City, UT.
3. delMas, R., Garfield, J., Zieffler, A., Le, L., Isaak, R., & Ziegler, L. (2011, February) *A different flavor of introductory statistics: Teaching students to really cook*. Invited presentation at the Fariborz Maseeh Department of Mathematics and Statistics, Portland State University, Portland, OR.
4. Bjornsdottir, A & Garfield, J., (2011, January). Using group quizzes in an online introductory statistics course. Contributed paper presented at the Joint Mathematics Meetings, New Orleans

5. Garfield, J., delMas, R., Zieffler, A., Rossman, A., Chance, B., Holcomb, J., & Cobb, G. (2011). *CATALST implementers workshop*. A workshop for CATALST implementers presented at The Joint Mathematics Meetings, January 7, 2011, New Orleans, LA.
6. delMas, R., Garfield, J., Zieffler, A., Le, L., Isaak, R., & Ziegler, L. (2011, January). *A different flavor of introductory statistics: Teaching students to really cook*. Invited presentation at the Centre for Methodology of Educational Research, Katholieke Universiteit Leuven, Belgium.
7. Garfield, J., delMas, R., Zieffler, A., Le, L., Isaak, R., Park, J., & Ziegler, L. (2011, January). *A different flavor of introductory statistics: Teaching students to really cook*. Poster presented at The Joint Mathematics Meetings, New Orleans, LA.
8. delMas, R., Garfield, J., & Zieffler, A. (2010, May). *A radical approach to teaching introductory statistics: The CATALST project*. Invited presentation at the 38th Meeting of the Statistical Society of Canada, Quebec City, Quebec, Canada.
9. Park, J., Bjornsdottir, A., Zieffler, A., Garfield, J. & delMas, R. (May, 2010). Developing a Statistics Teaching and Beliefs Survey. Roundtable presentation at the Annual conference of the American Educational Research Association, Denver, CO.
10. Garfield, J., delMas, R., Zieffler, A., Bjornsdottir, A. & Park, J. (May, 2010). Building a Statistics Course on Model-Eliciting Activities. Poster presentation at the Annual conference of the American Educational Research Association, Denver, CO.
11. delMas, R., Garfield, J., & Zieffler, A. (August, 2009). The National Statistics Teachers' Practice and Beliefs Project. Talk presented at the 2009 Joint Statistical Meetings, Washington, D.C.
12. Garfield, J., delMas, R, and Zieffler, A. (August, 2009) Using Model-Eliciting Activates (MEAs) in the Statistics Classroom. Roundtable presentation at the Joint Statistical Meetings, Washington, DC.
13. Zieffler, A., Garfield, J., & delMas, R. (August, 2009). Stirring the Pot – Being a Catalyst for Change. Talk presented at the 2009 Joint Statistical Meetings, Washington, D.C.
14. delMas, R., Garfield, J. & Zieffler, A. (July, 2009). The Tyranny of Context. Paper presented at the Sixth International Collaboration on Statistical Reasoning, Thinking, and Learning (SRTL), University of Queensland, Brisbane, Australia.
15. Garfield, J. (2009, April). Trends in modern statistical education at third and fourth level. Invited presentation at the Ireland Statistical Association's Workshop on Statistical Education in Ireland, Dublin.

16. Garfield, J. (2009, March). Challenges in Teaching and Learning Statistics. Invited presentation. Department of Statistics. New York University, NY.
17. Garfield (2009, March). Being a Change Agent in Statistics Education. Invited colloquium, Department of Mathematics and Statistics, Portland State University, Portland OR.
18. delMas, R., Garfield, J., Zieffler, A. (2009, February). Aiming to Improve Students' Statistical Reasoning: An Introduction to the AIMS Materials. CAUSE webinar.
19. Garfield (2008, November). Being a Change Agent in Statistics Education. Invited colloquium, Department of Statistics, North Carolina State University, Raleigh, NC.
20. Garfield, J. (2008, August). NSF Programs Supporting Statistics Education and Strategies or Becoming a Successful Investigator (Panel Discussion, Session #309). Presented at the 2008 Joint Statistical Meetings, Denver, CO.
21. Garfield, J and Everson , M (2008). Preparing Teachers of Statistics: A Course for Graduate Students and Future Teachers. CAUSE Webinar
<http://www.causeweb.org/webinar/>
22. delMas, R., Garfield, J., Zieffler, A. (2008). Adapting and Implementing Innovative Materials in Statistics Courses (AIMS). Poster presented at the Joint Mathematics Meetings, San Diego, CA.
23. delMas, R., Garfield, J., and Zieffler, A. (2008) Innovative, Research-Based Activities for a First Course in Statistics, Joint Mathematics Meetings, San Diego, CA.
24. Zieffler, A., Garfield, J., & Delmas, R. (2007). Studying the role of simulation in developing students' statistical reasoning. Presentation at the 56th Session of the International Statistical Institute (ISI), Lisbon, Portugal.
25. Zieffler, A., Garfield, J., Delmas, R., & Gould, R. (2007). Studying the development of college students' informal reasoning about statistical inference. Presentation at the 5th Statistical Reasoning, Thinking and Literacy (SRTL) Research Forum, Coventry, England.
26. Garfield, J., & Ben-Zvi, D. (2007). The Discipline of Statistics Education. In C. Batanero (Ed.), *Background Papers of the Joint ICMI /IASE Study on Statistics Education in School Mathematics: Challenges for Teaching and Teacher Education*. Spain: University of Granada.
http://www.ugr.es/~icmi/iase_study/BackgroundpaperGarfield.pdf

27. Garfield, J. (2007) Collaboration in Statistics Education Research: Stories, Reflections, and Lessons Learned. United States Conference on Teaching Statistics, Columbus, Ohio.
28. Zieffler, A. and Garfield, J. (2007) Modeling the growth of students' covariational reasoning during an introductory statistics course. Paper presented at the American Educational Research Association, Chicago.
29. delMas, R. and Garfield, J. (2006) Using Japanese Lesson Study in a College Statistics Class. Roundtable session at the Joint Statistics Meetings, Seattle.
30. Garfield, J. Ooms, A., Garfield, J., & delMas, R. (2005, August). The Evaluation of the Web-based ARTIST, Assessment Resource Tools for Improving Statistical Thinking. Poster Presented at the 11th Biennial European Association for Research on Learning and Instruction Conference, Nicosia, Cyprus
31. Garfield, J., & delMas, R. (2005, August). The Impact of Japanese Lesson Study on Teachers of Statistics. Invited Paper Presented in Session 83, "Using Japanese Lesson Study to Develop Research Based Lessons in Statistics," sponsored by the Section on Statistical Education, Joint Statistical Meetings, Minneapolis, MN.
32. delMas, R., Garfield, J., & Ooms, A. (2005). Using Assessment Items to Study Students' Difficulty with Reading and Interpreting Graphical RePresentations of Distributions. Presented at the Fourth Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-4), July 6, 2005. Auckland, New Zealand.
33. Garfield, J. (2005). The Research Arm of CAUSE (Consortium for the Advancement of Undergraduate Statistical Education). Joint Statistical Meetings, Minneapolis, MN.
34. Garfield, J. (2005). Guidelines for teaching the introductory college statistics course. Report from the GAISE project. Submitted to the American Statistical Association Board of Directors.
35. Garfield, J., & delMas, R. (2005, August). The Impact of Japanese Lesson Study on Teachers of Statistics. Invited Paper Presented in Session 83, "Using Japanese Lesson Study to Develop Research Based Lessons in Statistics," sponsored by the Section on Statistical Education, Joint Statistical Meetings, Minneapolis, MN.
36. delMas, R., Garfield, J., & Ooms, A. (2005). Using Assessment Items to Study Students' Difficulty with Reading and Interpreting Graphical Representations of Distributions. Presented at the Fourth Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-4), July 6, 2005. Auckland, New Zealand.
37. delMas, R., Chance, B., Garfield, J., & Ooms, A. (2005). Using Assessment to Improve Instruction. Interactive Presentation at the first United States Conference on

Teaching Statistics (USCOTS), May, 2005. The Ohio State University, Columbus, OH.

38. Garfield, J., delMas, R., and Chance, B. (2004). Using students' informal notions about variability to develop a formal understanding of measures of variability. Invited paper at Carnegie Symposium on Cognition: Thinking with Data. Carnegie Mellon University, Pittsburgh.
39. Garfield, J. (2004). Exploring the Impact of Lesson Study on Expert and Novice Statistics Teachers. Invited paper for 10th International Congress on Mathematics Education (ICME 10). Copenhagen, Denmark.
40. delMas, R., Garfield, J. and Chance, B. (2004). Using Assessment to Study the Development of Students' Reasoning about Sampling Distributions. Presented at AERA Annual meeting, San Diego.
41. Garfield, J. (2003). What assessment can tell us about student Learning: two perspectives. TEAMS Conference: Statistical Preparation of Mathematics Teachers, sponsored by the National Science Foundation and the American Statistical Association, University of Georgia, October.
42. Garfield, J. (2003). New Programs in Statistics Education. TEAMS Conference: Statistical Preparation of Mathematics Teachers, sponsored by the National Science Foundation and the American Statistical Association, University of Georgia, October.
43. delMas, R., Garfield, J., and Chance, B. (2003) The Web-Based ARTIST Project. Invited paper, Joint Statistical Meetings, San Francisco.
44. Garfield, J. (2003). Statistics Education: An Emerging Discipline. Presentation at UCLA (April), Cal Poly (April), and Bowling Green State (May).
45. Garfield, J. (2003). The Web-Based ARTIST Project. Paper Presented in a symposium. AERA, Chicago.
46. Garfield, J. (2003). Evidence of Change in Introductory Statistics Courses. Invited symposium at the Joint Mathematics Meetings, Baltimore.
47. Garfield, J. (2002) Teaching Introductory Statistics Courses with a Focus on Developing Statistical Reasoning and Thinking." Opening plenary Talk. Beyond the Formula Conference. Rochester, NY, August.
48. Garfield, J. (2002) Assessing student learning outcomes. Beyond the Formula Conference. Rochester, NY, August.
49. Garfield, J. (2002) Putting it all together: Where do we go from here? Closing Plenary Talk. Beyond the Formula Conference. Rochester, NY, August.

50. Garfield, J. (2002) Developing a New Graduate Program in Statistics Education, Invited Paper Symposium, Joint Statistics Meetings, NY, NY, August.
51. Garfield, J. (2002) Activities to Develop Statistical Reasoning, Roundtable session, Joint Statistics Meetings, NY, NY, August.
52. Garfield, J. (2002) What How students learn statistics: Implications from the Research. Invited Presentation, Advanced Placement Statistics Reading, Lincoln, NE.
53. Garfield, J. (2002). Becoming a teacher of statistics. Presentation to Department of Mathematics, St. Olaf College, Northfield.
54. Garfield, J. (2002). Becoming a teacher of statistics: What does it take? Minnesota Council Teachers of Mathematics Annual Meeting, Duluth.
55. Garfield, J. (2002). How students learn statistics: revisited. Presentation at ASA Conference on Statistics and Teacher Education, University of Georgia.
56. Garfield, J. (2002). Innovative uses of assessment in undergraduate statistics courses. Discussion of seven papers. Joint Mathematics Meetings, San Diego.
57. delMas, R., Garfield, J. and Chance, B. (2001) Assessment as a means of instruction. Paper Presented at the Joint Mathematics Meetings, San Diego.
58. Chance, B. and Garfield, J. (2001) New approaches to gathering data on student learning for research in statistics education. Invited paper at the International Statistical Institute Meeting, Korea.
59. delMas, R., Garfield, J. and Chance, B. (2001) .Developing Reasoning about sampling Distributions. Paper Presented at Second International Research Forum on Statistical Reasoning, Thinking and Literacy. University of New England, Australia.
60. delMas, R. and Garfield, J. (2001). Using a computer microworld to develop students thinking and reasoning. Presentation at the University of Minnesota “Opening the Door: Sharing the Craft of Teaching” conference, Minneapolis.
61. Garfield, J. (2001). Evaluating the impact of reform on the teaching of introductory statistics. Paper Presented at AERA, Seattle.
62. Garfield, J., delMas, R., and Chance, B. (2001). Tools for teaching and assessing statistical inference. Poster session, Joint Mathematics Meetings, New Orleans.
63. Garfield, J. (2000). Innovative practices in statistics education. Paper Presented at the Joint Mathematics Meetings, New Orleans.

64. Chance, B., delMas, R., and Garfield, J. (2000). Using simulation to develop statistical reasoning: improving students' interactions with software. Presented at TIME 2000, Auckland, NZ.
65. Garfield, J., Hogg, R., Schau, C. and Whittinghill, D. (2000). Best Practices in Introductory Statistics, USEI Initiative, ASA.
66. Garfield, J. (2000). A Snapshot of the Introductory Statistics Course. Paper Presented at the Beyond the Formula Conference, Rochester NY.
67. Garfield, J. (2000). Assessing the Outcomes of Introductory Statistics Courses. Paper Presented at the Beyond the Formula Conference, Rochester NY.
68. Garfield, J. (2000). The role of statistical reasoning in learning statistics. Paper Presented at AERA, New Orleans.
69. Garfield, J. (1999). SciMath Survey of mathematics teachers in Minnesota. Dept. of Children, Families, and Learning. St. Paul, MN.
70. delMas, R., Garfield, J., and Chance, B. (1999). Tools for improving statistical reasoning. Paper Presented at the Joint Statistical Meetings, Baltimore, MD.
71. Garfield, J., delMas, R., and Chance, B. (1999). Developing statistical reasoning about sampling distributions. Presented at the First International Research Forum on Statistical Literacy, Reasoning, and Thinking. Be'eri, Israel.
72. Garfield, J. (1999). Developing statistical literacy. Discussant for invited paper session at the Joint Statistical Meetings, Baltimore.
73. Garfield, J., delMas, R., and Chance, B. (1999). The role of assessment in research on teaching and learning statistics. Paper Presented at Annual Meeting of AERA, Montreal.
74. delMas, R., Garfield, J., and Chance, B. (1999). Exploring the role of computer simulations in developing understanding of sampling distributions. Paper Presented at Annual Meeting of AERA, Montreal.
75. Garfield, J. (1999). How students learn statistics. Invited address. Detroit Conference on Teaching Statistics, Detroit, Michigan.
76. Garfield, J., delMas, R., & Chance, B. (1999). Using Technology to Improve Statistical Reasoning. Paper Presented at the Joint Mathematics Meetings, San Antonio.
77. Garfield, J. (1998) The Statistical Reasoning Assessment: Development and Validation of a Research Tool. Invited paper Presented at the Fifth International Conference on Teaching Statistics, Singapore.

78. Gal, I. & Garfield, J. (1998) Assessment challenges and curricular goals for students learning statistics. Invited paper Presented at the Fifth International Conference on Teaching Statistics, Singapore.
79. delMas, R., Garfield, J. & Chance. B. (1998). Assessing the effects of a computer microworld on statistical reasoning. Invited paper Presented at the Fifth International Conference on Teaching Statistics, Singapore.
80. Garfield, J. (1998). Challenges in Assessing Statistical Reasoning. Paper Presented at AERA, San Diego.
81. Challenges in Teaching and Assessing Statistical Reasoning, (1997, 1998). Seminar, statistics departments at Carnegie Mellon University (Dec. 1997) and Kansas State University (April, 1998).
82. delMas, R., Garfield, J. & Chance, B. (1997) Assessing the effects of a computer microworld on statistical reasoning. Poster session, Joint Statistical Meetings, Anaheim, CA.
83. Garfield, J. (1997). Gender Differences in Math and Science Achievement: Implications for Statistics. Panel Discussion, Joint Statistical Meetings, Anaheim, CA.
84. Garfield, J. (1997). In-class experiments and activities that really work! Roundtable Session, Joint Statistical Meetings, Anaheim, CA.
85. Garfield, J. (1997) Assessment and statistics education: a continuing journey. Keynote speech, Assessment in Statistics Courses: A One-Day Conference for Teachers of Statistics, Boston.
86. Garfield, J. (1997) Attitudes and learning statistics. Discussant for AERA Session, SIG on Educational Statisticians, Chicago.
87. Garfield, J. (1997) Motivating students to learn statistics. Invited Presentation, Midwest Conference on Teaching Statistics, Oshkosh, Wisconsin.
88. Garfield, J. (1996) A visit to the statistics education chat room. Keynote Presentation for the Mathematics Department Chairs Annual Meeting, National Research Council, Washington, DC.
89. Garfield, J. (1996). Evaluating Statistics Education Reform, Panelist. Joint Statistical Meetings, Chicago.
90. Garfield, J. (1996). The Chance Project: A Continuing Adventure in Teaching Statistics. Presentation as part of the seminar series for the University of Minnesota Department of Statistics.

91. Garfield, J. (1996). Using Project Chance and other Internet Resources to Teach Educational Statistics Courses. Invited paper for SIG on Educational Statisticians, AERA, NY.
92. Garfield, J. (1996). Comments on Advances in Use of Technology in Teaching Statistics. Discussant for symposium at AERA, NY.
93. Garfield, J. (1996). Techniques for Teaching the Introductory Statistics Course. Invited Presentation at ASA Boston Meeting, Trends in Teaching Statistics.
94. Garfield, J. (1995). Comments on teaching statistics to minority students. Discussant for symposium at Joint Statistical Meetings, Orlando, Fla.
95. Garfield, J. (1995). Alternative Assessment Strategies for the Introductory Statistics Course. Roundtable session at Joint Statistical Meetings, Orlando.
96. Garfield, J. (1995). Key ideas of Randomness and Uncertainty. Keynote speech at SciMath writing conference. Chaska, MN.
97. Garfield, J. (1995). Assessing Student Learning in the Context of a Chance Course. Invited paper at Institute of Mathematical Statistics Special Meeting, May 16, 1995. University of Iowa, Iowa City.
98. Garfield, J. and delMas, R.(1994) Informal and formal conceptions of statistical power. Fourth International Conference on Teaching Statistics, Morocco, July 1994.
99. Garfield, J. (1994) The CHANCE course. Presentation to the mathematics department, Macalester College, MN.
100. delMas R. and Garfield, J. (1994) Using the "Power Simulator" to help students learn the concept of statistical power. AERA, New Orleans, April 1994
101. Garfield, J. (1994) Assessing learning in college statistics courses. AERA, New Orleans, April 1994.
102. Garfield, J. (1994) A conversation on teaching and learning statistics. Biostatistics Department, University of Nebraska, Lincoln.
103. Snell, L. and Garfield J. (1994) The Chance Project. Invited paper at the Joint Mathematics Meetings, Cincinnati, January, 1994.
104. Garfield, J. (1993) What should we assess? Invited paper in the session: Assessing Statistical Learning, at the Joint Statistical Meetings, San Francisco, August, 1993.

105. Moore, D., Cobb, G., Garfield, J., and Meeker, W. (1993). Invited session, Statistics Education fin de Siècle, organized by David Moore, at Joint Statistical Meetings, San Francisco, August, 1993.
106. Garfield, J. (1993). Modern Interdisciplinary Statistical Education. Invited discussant for symposium organized by the National Research Council, National Academy of Science, San Francisco.
107. Garfield, J., delMas, R., and Facchino, C. (1993). Live from the classroom: Cooperative learning in action. Invited session at the Annual Meeting of Improving the Teaching of Statistics in Schools of Business, Minneapolis, June, 1993.
108. Garfield, J. and Snell, L. (1993). Using cooperative group learning activities to teach statistics, at the National Council Teachers of Mathematics Annual Meeting, Seattle.
109. Garfield, J. (1993). How students learn statistics. Invited keynote Presentation at Workshop on Statistical Education, University of North Carolina, Wilmington.
110. Garfield, J. (1992). Using small group cooperative learning to teach statistics. Round table session at the American Statistical Association Joint Meeting, Boston.
111. Garfield, J. (1992). How Students Learn. Plenary Presentation at the American Statistical Association, Winter Meeting, Louisville.
112. Garfield, J. (1991). Reforming the Introductory Statistics course: Ideas and Models. Paper Presented at the annual meeting of the American Educational Research Association, Chicago.
113. Garfield, J. (1991). Reforming Developmental Mathematics. Invited Keynote Address at Developmental Mathematics Workshop, St. Cloud, Minnesota.
114. Garfield, J. and delMas, R. (1990). Confronting Student Misconceptions with Coin Toss. Presentation at the 68th annual meeting of the National Council of Teachers of Mathematics, Salt Lake City, Utah.
115. Garfield, J. (1989). Alternative Conceptions of Probability: Implications for Research, Teaching, and Curriculum. Symposium chaired at PME-NA 11th annual meeting, Rutgers University.
116. Garfield, J. (1989). Research on Student Retention. Invited Presentation at the International Counseling Institute, Hubert Humphrey Center, University of Minnesota.
117. Garfield, J. (1989). Issues of Convergent and Discriminant Validity: Assessment in Higher Education. Discussant for symposium Presented at the American Educational Research Association, San Francisco.

118. Garfield, J. (1988). Obstacles to the effective teaching of probability and statistics. Invited paper for symposium, "Teaching Probability: Policy, research and practice." Research Procession, Annual Meeting of the National Council Teachers of Mathematics, Chicago, Illinois.
119. Garfield, J., Ahlgren, A., and Konold, C. (1987) Developmental Stages of Probabilistic Reasoning. Discussion group co-chaired at the International Meeting of the Psychology of Mathematics Education, Montreal.
120. Garfield, J. (1987). Research on student retention: Implications for institutional action. Paper Presented at the Annual Meeting on Minnesota Association of Equal Opportunity Programs, Excelsior, Minnesota.
121. Garfield, J. (1987). Program evaluation as part of a college research office: A working model. Paper Presented at the Association for Institutional Research in the Upper Midwest, Eau Claire, Wisconsin.
122. Garfield, J. & Ahlgren, A. (1987). Evaluation of the Quantitative Literacy Project: Teacher and Student Surveys. Prepared for the American Statistical Association as part of the final project report of NSF Grant Number DPE 8317656.
123. Dunham, T., Garfield, J & delMas, R. (1987). Impact of the first quarter experience on retention on non-traditional college students. Paper Presented at the American Education Research Association, April, 1987.
124. Garfield, J. & Corcoran, M. (1986). Assessment in American Higher Education: An Historical Perspective. Background paper for the conference on Assessment in Higher Education, University of Minnesota.
125. Garfield, J. and Ahlgren (1986). Critical Perspectives on Difficulties Students Have Learning Probability. Symposium co-chaired at annual meeting of the Psychology of Mathematics Education North American Chapter.
126. Garfield, J. & Dunham, T. (1985). Using Retention Research Models in Evaluating College Retention Programs. Paper Presented at the Joint Meeting of the Canadian Evaluation Society, Evaluation Network, and Evaluation Research Society, Toronto, Ontario.
127. Robertson, D. and Garfield, J. (1980). Improving Mathematics Instruction for the Nontraditional Student. At the National Council Teachers of Mathematics (NCTM) Annual Meeting in Seattle, Washington.
128. Garfield, J. (1977). Defining a Positive Attitude toward Mathematics Presentation at the National Council Teachers of Mathematics (NCTM) Annual Meeting in Cincinnati, Ohio.

Grants in review

Collaborative Research: CAUSE-and-EFFECTS. National Science Foundation, Type 3 proposal, submitted January 14, 2011, \$1,310,689, Garfield, J., Pearl, D., delMas, R., Everson, M., & Zieffler, A. (PIs).

Grants Awarded or Recommended (pending receiving funds)

1. *Collaborative Research: Evaluation and Assessment of Teaching and Learning About Statistics (e-ATLAS)*. National Science Foundation, recommended for funding January 2011, \$92,000, Garfield, J., Pearl, D., delMas, R., & Zieffler, A. (PIs). Recommended, awaiting funding.
2. *Adapting the Statistics Teaching Inventory for online or hybrid classes*. Indirect Cost Recovery Award, Summer 2010, Everson, M., delMas, R., Zieffler, A., & Garfield, J.
3. *Developing materials to propose a national center for evaluation of statistics curriculum projects*. Indirect Cost Recovery Award, Summer 2010, Zieffler, A., Garfield, J. & delMas, R.
4. *Validation study of the Statistics Teaching Inventory*. Department of Educational Psychology ICR Mini Grants 2009, 2010 (\$2400, \$3000)
5. *Collaborative Research: Change Agents in Teaching and Learning Statistics*, Grant from the National Science Foundation. (\$318,290, our part of \$500,00 collaborative grant) 2008-2010
6. *National Statistics Teaching Practice Survey*. Grant from the National Science Foundation , (\$71,887) 2008-2009.
7. *Supporting Graduate Programs in Statistics Education*. Member initiated grant from the American Statistical Association. (\$15,000) 2008
8. *Developing future teachers of statistics by supporting travel to the US Conference on Teaching Statistics (USCOTS)*. Grant from the U of M Academy of Distinguished Teachers (\$4800). 2007
9. *Adapting Innovative Materials in Statistics.*, with Bob delMas. National Science Foundation, 2006-2007 (\$102,000)
10. *Supplement to The Web-Based Assessment Resource for Improving Statistics Thinking (ARTIST) Project*. with Bob delMas National Science Foundation, 2006-2007 (\$9,900)

11. *Supplement to The Web-Based Assessment Resource for Improving Statistics Thinking (ARTIST) Project.* with Bob delMas and Beth Chance National Science Foundation, 2004-2006 (\$50,000)
12. *Developing Online Assessments to Enhance Student Learning of Statistics.* College of Education and Human Development, GELT Grant. \$13,438. (2004-2005).
13. *Guidelines for Assessment and Instruction in Statistics Education. (GAISE).* With Chris Franklin, University of Georgia. American Statistical Association Strategic Initiatives Grant, \$15,000.
14. *The Web-Based Assessment Resource for Improving Statistics Thinking (ARTIST) Project.* (with Bob delMas and Beth Chance) National Science Foundation, 2002-2004. \$501,000.
15. *Tools for Teaching and Assessing Statistical Reasoning.* (with Robert delMas). National Science Foundation, 1998-2000 (\$100,000)
16. *Evaluating the Impact of the Statistics Education Reform.* National Science Foundation. 1998-2000 (\$100,000)
17. *Web-based learning opportunities for statistics students.* (With Susan Kistler). University of Minnesota, Small Grants for Technology Initiatives. 1998. (\$10,000)
18. *Exploring the role of computer simulations in developing statistical reasoning.* University of Minnesota Graduate School Grant in Aid, 1996-1997. (\$8,000)
19. *Workshops for Statistics Teachers: Learning to teach a Chance course* (with J. Laurie Snell, Bill Peterson, and Peter Doyle. Dartmouth College, Funded by NSF, 1996-1998. (\$50,000)
20. *Handbook on Assessment and Statistics Education* (co-edited with Iddo Gal), supported by the National Center for Research in Mathematical Sciences Education, University of Wisconsin, Madison, 1994-1996. (\$6,000)
21. *A roundtable conference on assessment in statistics education,* (with Iddo Gal) National Science Foundation, 1994-1995. (\$15,000)
22. *Pilot study for the international validation of the Statistical Reasoning Assessment.* Graduate School Grant in Aid, 1994-95. (\$6,000)
23. *Stat-File: A computerized database and bibliography for research on teaching and learning statistics.* Funded by the National Center for Research on Mathematical Sciences, University of Wisconsin, Madison. July, 1993- December 1994 (\$6,000)

24. *Reconsidering Statistics Education: Subverting the Canon*. With George Cobb. National science Foundation, 1992. (\$18,884)
25. *Evaluating the effectiveness of journal writing in learning statistics*, July 1992 - July 1993. Center for Interdisciplinary Studies of Writing: (\$3,000)
26. *A computerized instructional unit on probability*. Minnemac Grant, from Apple Computers, University of Minnesota, with Robert delMas. (One Apple Computer)
27. *A Course for the Department of Educational Psychology*, entitled "Alternate Methodologies of Educational Research." Educational Development: Small Grants Program, 1986-87. (\$2000)

Assessment Instruments Developed

“Statistics Teaching Inventory (STI),”, with Bob delMas, Andy Zieffler, Beth Chance, and Dennis Pearl.

“Comprehensive Assessment of Outcomes of a first Statistics Course (CAOS)”. With Bob delMas, Beth Chance, and Ann Ooms.

“Tools for assessing statistical inference” with Bob delMas and Beth Chance.

"Statistical Reasoning Assessment: A Test of Informal Probabilistic and Statistical Reasoning" with Clifford Konold, U of Massachusetts, Amherst.

"Statistics in Context: A Test of Critical Thinking in Using Statistics” with Clifford Konold, U of Massachusetts, Amherst.

Appointed or Elected Positions in Professional Organizations

2006-2008 Vice-Chair, United States Commission on Mathematics Instruction.

2003 Chair, ASA Section on Statistics Education

2003 President, AERA Special Interest Group: Educational Statisticians

2002- Present Elected member, International Statistical Institute

2002 Program chair, AERA Special Interest Group: Educational Statisticians

2002- Present Associate Director for Research, Consortium for the Advancement of Undergraduate Statistics Education

1997-2001	Vice President, International Association for Statistical Education
1996-1999	Member, Executive Committee, American Statistical Association Section on Statistical Education
1995 -1997	Secretary, Joint Committee on Statistics, ASA-MAA

Editorial Boards

2007-Present	Associate Editor, <i>Technology Innovations in Statistics Education</i>
2002- Present	Associate Editor, <i>IASE Statistics Education Research Journal</i>
1999-2001	Associate Editor, <i>International Statistical Review</i>
1993-1996	Editorial Board, <i>Journal of Statistics Education</i>

Appointments to Professional Committee

2006-2008	Joint ICMI (International Commission on Mathematics Instruction) and IASE (International Association for Statistical Education) Study Group: Statistics Education in School mathematics: Challenges for Teaching and Teacher Education.
2002-2008	United States Commission on Mathematics instruction, National Research council
1998-2000	Research Advisory Committee, National Council of Teachers of Mathematics
1996 -1999	Committee on Applied and Theoretical Statistics, National Research Council
1993 -1995	Working Group on Statistics, National Center for Research in the Mathematical Sciences, University of Wisconsin, Madison.
1991-1999	ASA-MAA Joint Committee on Statistics
1991	Member, Focus Group on Undergraduate Statistics Courses, Mathematics Association of America.
1991	Research Catalyst Group on Assessment in Mathematics Education, sponsored by the National Council of Teachers of Mathematics and the National Science Foundation.

1989 -1991 Chair, Working Group on Technology for Statistics and Data Modeling, funded by the National Center for Research in Mathematical Sciences Education.

Advisory Boards and Participation in Other Grants

2007-2008 Concepts of Statistical inference: A randomization-based curriculum, NSF Project California Polytechnic State University.

2006-2008 Classroom Response Systems in Statistics Courses, NSF Project, Oklahoma University.

2006-2008 Science Education Resource Center Digital Library project (NSF) Carleton College, Northfield.

2006-2007 Institute for Quantitative Education Research Infrastructure, Project, The Ohio State University
□

2005-2008 Model Chance, NSF project, University of Massachusetts, Amherst.

2005-2006 Statistics in Mathematics Education Research Group, a joint ASA-NSF project.

2003-2005 A Statistics Course for the Vision Impaired, FIPSE project, City University, New York

2003-2005 The Statistics Concepts Inventory Project, NSF Project, University of Oklahoma

2002-2005 The Development of Secondary Students' Conceptions of Variability, NSF project Mike Shaughnessy, PI, Portland State University.

2002-2003 TEAMS Project; American Statistical Association

1995 -1996 University of Minnesota Talented Youth Mathematics Program, University of Minnesota

1995 University of Minnesota Geometry Center

1993 -1995 Statistics Curriculum Project, NSF project, Joseph Petrucelli, P.I., Worcester Polytechnic Institute, Massachusetts.

1991 -1995 An Activity-Based Introductory Statistics Course for All Undergraduates.
NSF project, Richard Scheaffer, Director, University of Florida.

Program Committees for Professional Conferences

2008-2009 Co-chair, Sixth International Research Forum on Statistical Reasoning,
Thinking and Literacy, Queensland University. Brisbane, Australia (July
2009).

2006-2007 Co-chair, Fifth International Research Forum on Statistical Reasoning,
Thinking and Literacy, University of Warwick, UK (August 2007)

2004-2005 Co-chair, Fourth International Research Forum on Statistical Reasoning,
Thinking and Literacy, University of Auckland, NZ (July 2005).

2002-2003 Co-chair, Third International Research Forum on Statistical Reasoning,
Thinking and Literacy, USA

2000-2001 Co-chair, Second International Research Forum on Statistical Reasoning,
Thinking and Literacy, Australia

1998-1999 Co-chair, First International Research Forum on Statistical Reasoning,
Thinking and Literacy, Israel

1998-2002 Member, Scientific Program Committee: Sixth International Conference
on Teaching Statistics, South Africa, 2002.

1998-2000 Member, Scientific Program Committee, IASE Roundtable Conference,
Tokyo

1995 -1998 Member, Program Committee, Fifth International Conference on Teaching
Statistics, Singapore.

1994 -1996 Chair, Program Committee for International Association on Statistical
Education's Roundtable conference, held at the University of Granada,
Spain, July 1996.

Evaluation of Statistics Projects

2002-2004 DoStat Project, Webster West PI, University of South Carolina

2002-2004	INSPIRE project for AP Statistics Teacher, Roxy Peck and Rob Gould, PIs, Cal Poly and UCLA.
2000-2005	Statistics Concept, Materials and Technology, Allan Rossman and Beth Chance, PIs, Cal Poly
1999-2004	Tinkerplots Project, Cliff Konold, PI, University of Massachusetts, Amherst
1996 -1998	Statistics Thinking and Active Teaching Strategies, Allan Rossman and Tom Short, PIs, Dickinson College
1994 -1996	Constructing Knowledge of Statistical Concepts Through Modern Technology, University of Florida, Dennis Wackerly, PI.
1993 -1994	Workshop Mathematics Project, Dickinson College, Allan Rossman, PI.
1992 -1995	Statistical Thinking and Teaching Statistics, George Cobb and Mary Parker, P.I.s, Mathematics Association of America.
1991 -1998	Chance Project, Dartmouth University, J. Laurie Snell, Director,
1989 -1992	Chance Plus Project: A Computer Based Curriculum for Learning Probability and Statistics, Clifford Konold, P.I., funded by the National Science Foundation, University of Massachusetts, Amherst.
1986 -1987	Quantitative Literacy Project (a statistics curriculum development project funded by National Science Foundation).
1985	Secondary Mathematics Intervention Program for Minneapolis Public Schools.

Publication Service

2004-2005	Guest editor, two special issue of <i>Statistics Education Research Journal</i> , on Reasoning about Variation.
1994 -present	Co-editor of <i>Newsletter for the Section on Statistics Education</i> , American Statistical Association
1992 -1997, 2007-present	Co-department editor, "Teaching Bits: Resources for Teachers of Statistics" for the <i>Journal of Statistical Education</i> .
1990 -1996	Department editor: Research Report, Teaching <i>Statistics</i> .

1987 -1995 Newsletter Editor, International Study Group for Research on Learning Probability and Statistics.

Professional Consulting

1995 -1997 SCIMATH Math Standards Project, Minnesota Department of Education

1993 Educational Testing Service, GRE Quantitative Reasoning Exam

1993 Kids Network Project, TERC.

Professional Affiliations

American Educational Research Association
Special Interest Group for Educational Statisticians

American Statistical Association
Section on Statistical Education

International Statistical Institute,
International Association for Statistical Education

Mathematical Association of America
Special Interest Group on Statistics Education

National Council of Teachers of Mathematics

Courses taught in the Department of Educational Psychology

EPsy 3264	Basic and Applied Statistics
EPsy 5261	Introductory Statistical Methods
EPSY 5262	Intermediate Statistical Methods
EPsy 8260	Probability and Inference
EPsy 5229	Classroom Assessment
EPsy 5240	Principles and Methods of Evaluation
EPsy 5243	Surveys and Observational Methods for Evaluation
EPsy 5271	Becoming a Teacher of Statistics
EPsy 5272	Statistics Teaching Internship
EPsy 8271	Statistics Education Research Seminar

Honors and Awards

Lifetime Achievement Award: Consortium for the Advancement of Undergraduate Statistics Education (CAUSE) (2007).

APA Award for Innovative Graduate Programs, 2007

Distinguished Teaching Award: Graduate and Professional Education, University of Minnesota, 2006.

Member, Academy of Distinguished Teachers, University of Minnesota, 2005..

Founder's Award, American Statistical Association, 2005.

Senior Teaching Fellow, Center for Teaching and Learning, University of Minnesota, 2003-2004

Distinguished Teaching Award, College of Education and Human Development, 2002.

Fellow, American Statistical Association, 2001

Technology Enhanced Learning Innovation Award, University of Minnesota, for "Technology Tools for Teaching and Assessing Statistical Concepts, 1998.

Horace T. Morse Award for Excellence in Undergraduate Teaching, 1995.

A.L. Vaughan Award for service to the General College, December, 1986.