Schield Statistical Papers

1. Schield, Milo (1994). Random Sampling versus Representative Samples. ASA JSM
2. Schield, Milo (1995). Correlation, Determination and Causation in Introductory Statistics. ASA JSM
3. Schield, Milo (1996a). The Goal of Introductory Statistics: Reasoning About Data. MSMESB
4. Schield, Milo (1996b). Using Bayesian Inference in Classical Hypothesis Testing. ASA JSM
5. Schield, Milo (1997a). Interpreting Statistical Confidence. ASA JSM
6. Schield, Milo (1998a). Using Bayesian Strength of Belief to Teach Classical Statistics. ICOTS-5
7. Schield, Milo (1998b). Evidential Statistics. MSMESB
8. Schield, Milo (1998c). Statistical Literacy and Evidential Statistics. ASA JSM
9. Schield, Milo (1999a) Statistical Literacy: Thinking Critically About Statistics. *Of Significance*
10. Schield, Milo (1999b). Common Errors in Forming Arithmetic Comparisons, APDU: *Of Significance*
11. Schield, Milo (1999c). ASA Ethics Committee Guidelines: Comments & Recommendations. JSM
12. Schield, Milo (1999d). Simpson's Paradox and Cornfield's Conditions. ASA JSM
13. Schield, Milo (2000a). *Statistical Literacy and Mathematical Thinking*. ICME-9 Tokyo
14. Schield, Milo (2000b). Statistical Literacy: Difficulty Describing & Comparing Rates & Percentages. ASA JSM.
15. Schield, Milo (2001a). Describing Rates and Percentages in Tables. Business of Communication, WI
16. Schield, Milo (2001b). Statistical Literacy: Reading Tables of Rates and Percentages. ASA JSM
17. Schield, Milo (2002). Three Kinds of Statistical Literacy. ICOTS-6 Cape Town, South Africa.
18. Schield, Milo and Thomas Burnham (2002). Algebraic Relations between Relative Risk, Phi and Measures of Necessity and Sufficiency in 2x2 Tables. ASA JSM
19. Schield, Milo (2003). Statistical Literacy: Seeing How Statistical Significance is Contextual. Technical Report, Czech Republic.
20. Schield, Milo and Thomas Burnham (2003). Confounder-induced Spuriosity and Reversal: Algebraic Conditions for Binary Data Using a Non-Interactive Model. ASA JSM.
21. Schield, Milo and Thomas Burnham (2004). Confounder Resistance and Confounder Intervals for a Binary Confounder. ASA JSM.
22. Schield, Milo (2004a). Statistical Literacy and Liberal Education at Augsburg College. AAC&U *Peer Review*
23. Schield, Milo (2004b). Statistical Literacy Curriculum Design. IASE Curricular Development in Statistics. Statistics Education Roundtable, Sweden.
24. Schield, Milo (2004c). Three Graphs to Promote Statistical Literacy. ICME-10 Copenhagen.
25. Terwilliger, Jim and Milo Schield (2004). Frequency of Simpson's Paradox in NAEP Data. AERA.
26. Burnham, Tom and Milo Schield (2005). An Online Grammar-parsing Program That Decodes Ordinary English Descriptions and Comparisons of Percentages and Rates. ASA JSM.
27. Schield, Milo (2005a). Information Literacy, Statistical Literacy and Data Literacy. *IQ (IASSIST Quarterly)*, Dated 2004; published in 2005.

28. Schield, Milo (2005b). Statistical Literacy: An Evangelical Calling for Statistical Educators. ISI AU.
29. Schield, Milo (2005c). Statistical Prevarication: Telling Half Truths Using Statistics. IASE Sydney
30. Schield, Milo (2005d). Statistical Literacy and Chance. ASA JSM
31. Schield, Milo (2005e). Quantity Words Without Numbers: Why Students use "Many". QR Conference at Carleton College.
32. Schield, Milo and Thomas Burnham (2006). Binary Confounders as Mathematical Objects: Confounder Influence and Confounder Intervals. MAA (Draft).
33. Burnham, Thomas and Milo Schield (2006). Introduction to an Online Ratio Statement Validator., IASSIST Workshop, University of Michigan.
34. Schield, Milo (2006a). Using a web-based Learning Object, IASSIST Workshop, Univ. of Michigan.
35. Schield, Milo (2006b). Statistical Literacy Survey Results, IASSIST.
36. Schield, Milo (2006c). Statistical Literacy Survey Analysis: Reading Tables and Graphs of Rates and Percentages. ICOTS-7 Brazil.
37. Schield, Milo (2006d). Percentage Graphs in USA Today Snapshots Online, ASA JSM.
38. Schield, Milo (2006e). Understanding Confounding from Lurking Variables using Graphs. ASA *STATS Magazine*.
39. Schield, Milo (2007a). Teaching the Social Construction of Statistics. Midwest Sociological Society.
40. Schield, Milo (2007b). Statistical Literacy: Factual Assessment to Support Hypothetical Thinking, 2007 IASE, Guimarães, Portugal.
41. Schield, Milo and Cynthia Schield (2007). Numbers in the News: A Survey. ASA JSM.
42. Schield, Milo and Thomas Burnham (2007). Grammar of Statements Involving "Chance". ASA JSM
43. Schield, M (2008a). Analyzing Numbers in the News: Critical-Thinking Structured Approach. NNN.
44. Schield, Milo (2008b). Quantitative Literacy and School Mathematics: Percentages and Fractions, *Calculation vs. Context: Quantitative Literacy And Its Implications for Teacher Education*. MAA.
45. Schield, Milo (2008c). Statistical Literacy Skills Survey. Project Kaleidoscope & QUIRK. Carleton.
46. Raymond, Robert and Milo Schield (2008). Numbers in the News: A Survey. ASA JSM.
47. Schield, M. & Tom. Burnham (2008). Von Mises' Frequentist Approach to Probability, ASA JSM.
48. Schield, M. & Cynthia Schield (2008). Student Attitudes toward Statistics at Augsburg College. JSM
49. Schield, Milo (2009a). Numeracy: Assessing Basic Skills and Knowledge. MAA JMM.
50. Schield, Milo (2009b). Confound Those Speculative Statistics. ASA JSM.
51. Schield, Milo and Robert Raymond (2009). Distinguishing Association from Causation in Media Headlines. ASA JSM.
52. Schield, M. (2010a). Quantitative Graduation Requirements at US Four-Year Colleges. MAA JMM.
53. Schield, Milo (2010b). Assessing Statistical Literacy: TAKE CARE in *Assessment Methods in Statistical Education: An International Perspective*. Edited by Bidgood, Hunt and Joliffe. Excerpts
54. Schield, Milo (2010c) Association-Causation Problems in News Stories. ICOTS-8) Ljubljana.

55. Schield, Milo (2010d). The Social Construction of Ranks. ASA JSM.
56. Schield, Milo (2011a) Teaching Statistical Literacy using Odyssey2Sense™: a Unique Web-Based Forum. MAA JMM.
57. Schield, Milo (2011b). Statistical Literacy: A New Mission for Data Producers. *Statistical Journal of the International Association of Official Statistics.* Edited by N. Davies and J. Ridgway.
58. Schield, Milo (2011c) Describing Arithmetic Relations Using Informal Grammar. ASA JSM.
59. Schield, Milo (2011d). All Statistics are Socially Constructed. IASE. Malahide, Ireland.
60. Schield, Milo (2011e). Epidemiological Models and Spotty Statistics. ISI, Dublin.
61. Schield, Milo (2011f). Teaching Teachers Statistical Literacy Online. NNN Appalachian State College Conference.
62. Schield, Milo (2012a). Coincidence in Runs and Clusters. MAA JMM.
63. Schield, Milo (2012b). How Causal Heterogeneity Influences Statistical Significance in Clinical Trials. ASA JSM.
64. Schield, Milo (2013a). Reinventing Business Statistics: Statistical Literacy for Managers. MBAA
65. Schield, Milo (2013b). Statistics Education: Steadfast or Stubborn? ASA JSM Proceedings Stat Ed.
66. Schield, Milo (2014a). Two Big Ideas for Teaching Big Data: Coincidence and Confounding. ECOTS invited webinar.
67. Schield, Milo (2014b). Odyssey: A Journey to Lifelong Statistical Literacy. ICOTS-9 Flagstaff, AZ.
68. Schield, Milo (2015a). What is Wrong with THE Introductory Statistics Course? USCOTS.
69. Schield, Milo (2015b). Statistical Inference for Managers. ASA JSM Proceedings Stat Education.
70. Schield, Milo (2016) Stat 102: Social Statistics for Decision Makers. Invited IASE Roundtable Berlin
71. Schield, Milo (2016b) Augsburg Students Evaluations of STAT 102. ASA JSM Proceedings Stat Ed.

Papers in boxes were invited or peer-reviewed and published in journals, magazines or books.

1. Schield, Milo (1994). Schield, Milo (1994), Random Sampling versus Representative Samples, *1994 American Statistical Association Proceedings of Section on Statistical Education*, pp.107-110. See www.StatLit.org/pdf/1994SchieldASA.pdf.
2. Schield, Milo (1995). Correlation, Determination and Causation in Introductory Statistics, *1995 American Statistical Association Proceedings of Section on Statistical Education*, pp. 189-194. See www.StatLit.org/pdf/1995SchieldASA.pdf.
3. Schield, Milo (1996a). The Goal of Introductory Statistics: Reasoning About Data. Making Statistics More Effective in Schools & Business, Anchorage. www.StatLit.org/pdf/1996Schield-MSMESB.pdf.
4. Schield, Milo (1996b). Using Bayesian Inference in Classical Hypothesis Testing, *1996 American Statistical Association Proceedings of Section on Statistical Education*, pp. 274-279. See www.StatLit.org/pdf/1996SchieldASA.pdf.
5. Schield, Milo (1997a). Interpreting Statistical Confidence, *1997 American Statistical Association Proceedings of Section on Statistical Education*, pp. 137-142. See www.StatLit.org/pdf/1997SchieldASA.pdf.
6. Schield, Milo (1998a). Using Bayesian Strength of Belief to Teach Classical Statistics, 1998 International Conference on Teaching Statistics (ICOTS-5) Singapore. See www.StatLit.org/pdf/1998-Schield-ICOTS.pdf.
7. Schield, Milo (1998b). Evidential Statistics, *1998 Making Statistics More Effective in Schools of Business*. See www.StatLit.org/pdf/1998-Schield-MSMESB.pdf.
8. Schield, Milo (1998c). Statistical Literacy and Evidential Statistics, *1998 American Statistical Association Proceedings of Section on Statistical Education*, pp. 187-192. See www.StatLit.org/pdf/1998SchieldASA.pdf.
9. Schield, Milo (1999a). Statistical Literacy: Thinking Critically About Statistics, 1999 APDU *Of Significance*. Vol. 1, No 1. P. 15-20. See www.StatLit.org/pdf/1999SchieldAPDU.pdf.
10. Schield, Milo (1999b). Common Errors in Forming Arithmetic Comparisons, 1999 APDU *Of Significance*, pp. 47-48. See www.StatLit.org/pdf/1999SchieldAPDU2.pdf.
11. Schield, Milo (1999c). ASA Ethics Committee Guidelines: Comments & Recommendations. JSM. See www.StatLit.org/pdf/1999-Schield-Ethics-Committee.pdf
12. Schield, Milo (1999c). Simpson's Paradox and Cornfield's Conditions, *1999 American Statistical Association Proceedings of Section on Statistical Education*, pp. 106-111. See www.StatLit.org/pdf/1999SchieldASA.pdf.
13. Schield, Milo (2000a). *Statistical Literacy and Mathematical Thinking*. International Conference on Mathematics Education (ICME-9) Tokyo. See www.StatLit.org/pdf/2000SchieldICME.pdf.
14. Schield, Milo (2000b). Statistical Literacy: Difficulties in Describing and Comparing Rates and Percentages. *2000 American Statistical Association Proceedings of Section on Statistical Education*, pp. 76-81. See www.StatLit.org/pdf/2000SchieldASA.pdf.
15. Schield, Milo (2001a). Describing Rates and Percentages in Tables. Handout, 2001 Business of Communications conference. See www.StatLit.org/pdf/2001SchieldBusOfComm.pdf.
16. Schield, Milo (2001b). Statistical Literacy: Reading Tables of Rates and Percentages, *2001 American Statistical Association Proceedings of Section on Statistical Education*, [No pages numbers given]. See www.StatLit.org/pdf/2001SchieldASA.pdf.

17. Schield, Milo (2002). Three Kinds of Statistical Literacy, International Conference on Teaching Statistics (ICOTS-6). South Africa See www.StatLit.org/pdf/2002SchieldICOTS.pdf
18. Schield, Milo and Thomas Burnham (2002). Algebraic Relations between Relative Risk, Phi and Measures of Necessity and Sufficiency in 2x2 Tables. *2002 American Statistical Association Proceedings of Section on Statistical Education*. [CD-ROM], 3089 - 3094. See www.StatLit.org/pdf/2002SchieldBurnhamASA.pdf
19. Schield, Milo (2003). Statistical Literacy: Seeing How Statistical Significance is Contextual. Technical Report, Czech Republic. Copy at www.StatLit.org/pdf/2003-Schield-Tech-Report.pdf
20. Schield, Milo and Thomas Burnham (2003). Confounder-induced Spuriosity and Reversal: Algebraic Conditions for Binary Data Using a Non-Interactive Model. *2003 American Statistical Association Proceedings of the Section on Statistical Education*. [CD-ROM], 3690 - 3697. See www.StatLit.org/pdf/2003SchieldBurnhamASA.pdf
21. Schield, Milo and Thomas Burnham (2004). Confounder Resistance and Confounder Intervals for a Binary Confounder. *2004 American Statistical Association Proceedings of the Section on Statistical Education*. [CD-ROM], 2781 - 2788. See www.StatLit.org/pdf/2004SchieldBurnhamASA.pdf.
22. Schield, Milo (2004a). Statistical Literacy and Liberal Education at Augsburg College. *Peer Review,* Sept. 2004, 7-14. American Association of Colleges and Universities (AACU). See www.StatLit.org/pdf/2004SchieldAACU.pdf
23. Schield, Milo (2004b). *Statistical Literacy Curriculum Design.* IASE Curricular Development in Statistics Education Roundtable, pp. 54-74. Sweden. See www.StatLit.org/pdf/2004SchieldIASE.pdf. or www.stat.auckland.ac.nz/~iase/publications/rt04/2.4_Schield.pdf
24. Schield, Milo (2004c). *Three Graphs to Promote Statistical Literacy.* International Conference on Mathematics Education (ICME-10) Copenhagen. See www.StatLit.org/pdf/2004SchieldICME.pdf.
25. Terwilliger, Jim and Milo Schield (2004). *Frequency of Simpson's Paradox in NAEP Data.* Presented at the American Educational Research Association. See www.StatLit.org/pdf/2004TerwilligerSchieldAERA.pdf.
26. Burnham, Tom and Milo Schield (2005). An Online Grammar-parsing Program That Decodes Ordinary English Descriptions and Comparisons of Percentages and Rates. *2005 American Statistical Association Proceedings of the Section on Statistical Education*, [CD-ROM], 2202-2208. See www.StatLit.org/pdf/2005BurnhamSchieldASA.pdf.
27. Schield, Milo (2005a). Information Literacy, Statistical Literacy and Data Literacy. *IQ (IASSIST Quarterly)*, 7-14. See www.statlit.org/pdf/2004-Schield-IASSIST.pdf dated 2004; published in 2005.
28. Schield, Milo (2005b). Statistical Literacy: An Evangelical Calling for Statistical Educators, 2005 ISI Sydney. See www.StatLit.org/pdf/2005SchieldISI.pdf
29. Schield, Milo (2005c). *Statistical Prevarication: Telling Half Truths Using Statistics.* 2005 International Assoc. of Statistical Educators (IASE). Invited paper, Sydney. At www.StatLit.org/pdf/2005SchieldIASE.pdf
30. Schield, Milo (2005d). Statistical Literacy and Chance. *2005 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] 2302-2310. See www.StatLit.org/pdf/2005SchieldASA.pdf
31. Schield, Milo (2005e). Quantity Words Without Numbers: Why Students use "Many", 2005 QR Conference at Carleton College. See www.StatLit.org/pdf/2005SchieldCarleton.pdf

32. Schield, Milo and Thomas Burnham (2006). *Binary Confounders as Mathematical Objects: Confounder Influence and Confounder Intervals.* MAA (Draft). See www.StatLit.org/pdf/2006SchieldBurnhamMAA.pdf
33. Burnham, Thomas and Milo Schield (2006). Introduction to an Online Ratio Statement Validator, 2006 IASSIST Workshop. See www.StatLit.org/pdf/2006BurnhamSchieldIASSIST.pdf
34. Schield, Milo (2006a). Statistical Literacy Workshop Using a web-based Learning Object, 2006 IASSIST Workshop, Michigan: See www.StatLit.org/pdf/2006SchieldIASSISTworkshop.pdf
35. Schield, Milo (2006b). Statistical Literacy Survey Results, 2006 IASSIST. See www.StatLit.org/pdf/2006SchieldIASSIST.pdf
36. Schield, Milo (2006c). *Statistical Literacy Survey Analysis: Reading Tables and Graphs of Rates and Percentages.* International Conference on Teaching Statistics (ICOTS-7) Brazil. At www.StatLit.org/pdf/2006SchieldICOTS.pdf
37. Schield, Milo (2006d). Percentage Graphs in USA Today Snapshots Online, *2006 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] 2364-2371. See www.StatLit.org/pdf/2006SchieldASA.pdf
38. Schield, Milo (2006e). Understanding Confounding from Lurking Variables using Graphs. *STATS Magazine*, American Statistical Association. Fall 2006. pp. 14-18. See www.StatLit.org/pdf/2006SchieldSTATS.pdf
39. Schield, Milo (2007a). Teaching the Social Construction of Statistics. 2007 Midwest Sociological Society, Chicago. See www.StatLit.org/pdf/2007SchieldMSS.pdf
40. Schield, Milo (2007b). Statistical Literacy: Factual Assessment to Support Hypothetical Thinking, 2007 IASE, Guimarães, Portugal. www.StatLit.org/pdf/2007SchieldIASE.pdf
41. Schield, Milo and Cynthia Schield (2007). Numbers in the News: A Survey, *2007 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] 2243-2250. See www.StatLit.org/pdf/2007SchieldASA.pdf
42. Schield, Milo and Thomas Burnham (2007). Grammar of Statements Involving "Chance", *2007 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] pp. 2235-2242. See www.StatLit.org/pdf/2007SchieldBurnhamASA.pdf
43. Schield, Milo (2008a). Analyzing Numbers in the News: A Critical-Thinking Structured Approach, *2008 National Numeracy Network Conference.* See www.StatLit.org/pdf/2008SchieldNNN.pdf
44. Schield, Milo (2008b). Quantitative Literacy and School Mathematics: Percentages and Fractions, *Calculation vs. Context: Quantitative Literacy And Its Implications for Teacher Education*. Edited by Bernard L. Madison and Lynn Arthur Steen. 2008 Mathematical Association of America. P. 87-107. See www.statlit.org/pdf/2008SchieldMAA.pdf or www.maa.org/Ql/cvc/cvc-087-107.pdf
45. Schield, Milo (2008c). Statistical Literacy Skills Survey. Project Kaleidoscope and Project Quirk. See www.StatLit.org/pdf/2008SchieldPKAL.pdf
46. Raymond, Robert and Milo Schield (2008). Numbers in the News: A Survey, *2008 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 2848-2855. See www.StatLit.org/pdf/2008RaymondSchieldASA.pdf
47. Schield, Milo and Thomas V.V. Burnham (2008). Von Mises' Frequentist Approach to Probability, *2008 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 2187-2194. See www.StatLit.org/pdf/2008SchieldBurnhamASA.pdf

48. Schield, Milo and Cynthia Schield (2008). Student Attitudes toward Statistics at Augsburg College. *2008 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 2150-2155. See www.StatLit.org/pdf/2008SchieldASA.pdf
49. Schield, Milo (2009a). Numeracy: Assessing Basic Skills and Knowledge. 2009 Joint Mathematical Meeting of the Mathematical Association of America (MAA). See www.StatLit.org/pdf/2009SchieldMAA.pdf
50. Schield, Milo (2009b). Confound Those Speculative Statistics. *2009 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 4255-4266. See www.StatLit.org/pdf/2009SchieldASA.pdf
51. Schield, Milo and Robert Raymond (2009). Distinguishing Association from Causation in Media Headlines. *2009 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 4371-4385. See www.StatLit.org/pdf/2009SchieldRaymondASA.pdf
52. Schield, Milo (2010a). Quantitative Graduation Requirements at US Four-Year Colleges. MAA JMM. See www.StatLit.org/pdf/2010SchieldJMM.pdf
53. Schield, Milo (2010b). Assessing Statistical Literacy: TAKE CARE in *Assessment Methods in Statistical Education: An International Perspective*. Edited by P. Bidgood, N. Hunt and F. Joliffe. Wiley Publishers, Ch. 11, p. 133-152. Excerpts at www.statlit.org/pdf/2010SchieldExcerptsAssessingStatisticalLiteracy.pdf
54. Schield, Milo (2010c) Association-Causation Problems in News Stories. International Conference on Teaching Statistics (ICOTS-8) Ljubljana, Slovenia. www.StatLit.org/pdf/2010SchieldICOTS.pdf
55. Schield, Milo (2010d). The Social Construction of Ranks. *2010 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 1016-1030. See www.StatLit.org/pdf/2010SchieldASA.pdf
56. Schield, Milo (2011a) Teaching Statistical Literacy using Odyssey2Sense™: a Unique Web-Based Forum. The Mathematical Association of America. See www.StatLit.org/pdf/2011SchieldMAA.pdf
57. Schield, Milo (2011b). Statistical Literacy: A New Mission for Data Producers. *Statistical Journal of the International Association of Official Statistics.* 27 (2011) 173–183. Edited by N. Davies and J. Ridgway. DOI 10.3233/SJI-2011-0732 See www.StatLit.org/pdf/2011SchieldSJIAOS.pdf
58. Schield, Milo (2011c) Describing Arithmetic Relations Using Informal Grammar. *2011 American Statistical Association Proceedings of the Section on Statistical Education.* [CD-ROM] P. 911-925. See www.StatLit.org/pdf/2011SchieldASA.pdf
59. Schield, Milo (2011d). All Statistics are Socially Constructed. The International Association of Statistical Educators (IASE). Malahide, Ireland. See www.StatLit.org/pdf/2011SchieldIASE.pdf
60. Schield, Milo (2011e). Epidemiological Models and Spotty Statistics. The International Statistical Institute (ISI) Dublin. See www.StatLit.org/pdf/2011SchieldISI.pdf
61. Schield, Milo (2011f). Teaching Teachers Statistical Literacy Online. National Numeracy Network conference, Appalachian State College Conference. See www.StatLit.org/pdf/2011SchieldNNN.pdf
62. Schield, Milo (2012a). Coincidence in Runs and Clusters. Mathematical Association of American Conference. See www.StatLit.org/pdf/2012Schield-MAA.pdf
63. Schield, Milo (2012b). How Causal Heterogeneity Influences Statistical Significance in Clinical Trials. ASA Proceedings of the Section on Statistical Education. [CD-ROM] P. 2637-2645. See www.StatLit.org/pdf/2012Schield-ASA.pdf

64. Schield, Milo (2013a). Reinventing Business Statistics: Statistical Literacy for Managers. MBAA 2013 Chicago. See www.StatLit.org/pdf/2013-Schield-MBAA.pdf
65. Schield, Milo (2013b). Statistics Education: Steadfast or Stubborn? *ASA Proceedings of the Section on Statistical Education*. P. 1005-1017. See www.StatLit.org/pdf/2013-Schield-ASA.pdf
66. Schield, Milo (2014a). Two Big Ideas for Teaching Big Data: Coincidence and Confounding. ECOTS invited webinar. Copy at www.StatLit.org/pdf/2014-Schield-ECOTS.pdf
67. Schield, Milo (2014b). Odyssey: A Journey to Lifelong Statistical Literacy. International Conference on Teaching Statistics (ICOTS-9). Flagstaff, AZ. See www.StatLit.org/pdf/2014-Schield-ICOTS.pdf
68. Schield, Milo (2015a). What is Wrong with THE Introductory Statistics Course? USCOTS invited presentation. Copy at www.StatLit.org/pdf/2015-Schield-USCOTS.pdf
69. Schield, Milo (2015b). Statistical Inference for Managers. *ASA Proceedings of the Section on Statistical Education*. P. 3032-3046. Copy at www.StatLit.org/pdf/2015-Schield-ASA.pdf
70. Schield, Milo (2016). Stat 102: Social Statistics for Decision Makers. Invited paper IASE Roundtable, Berlin. Copy at www.StatLit.org/pdf/2016-Schield-IASE.pdf
71. Schield, Milo (2016b) Augsburg Students Evaluations of STAT 102. ASA JSM Proceedings Stat Ed. Copy at www.StatLit.org/pdf/2016-Schield-ASA.pdf

BOOKS:

Schield, Milo (2005-2011). *Statistical Literacy: Seeing the Story Behind the Statistics*. See www .StatLit.org/Schield.htm

WEBSITE:

Schield, Milo (2003-present). *Statistical Literacy Website:* Schield is the editor, webmaster and owner of the world's largest website dedicated exclusively to statistical literacy. He selects all the materials and authors the yearly StatLit News: a compendium of grants, books, articles and activities related to Statistical Literacy. See www.statlit.org/1StatLitNews.htm. In 2015, this website had more than 180,000 page views (from 70 pages), more than 300,000 visits and more than 435,000 downloads (from 841 papers and 376 slideshows).

WORKSHOPS:

Schield, Milo (2000). Teaching Conditional Thinking Using Ratios at the Western Statistics Teachers Conference in Colorado. Copy at www.StatLit.org/pdf/2000Schield-WSTC1-Notes.pdf

AUDIO:

Schield, Milo (2014). Two Big Ideas for Teaching Big Data: Coincidence and Confounding. ECOTS invited webinar (26 minutes). At https://www.causeweb.org/ecots/ecots14/35/

Schield, Milo and Marc Isaacson (2012). A Second Statistics Course is Needed. What should it be? At https://www.causeweb.org/ecots/ecots12/breakouts/7/

VIDEOS:

Schield, Milo (2015). Statisticians: Making our World a Better Place. USCOTS video (4.5 minutes). See www.statlit.org/swf/2015-Schield-USCOTS-AIDS.mp4

Schield, Milo (2012). Coincidence in Runs and Clusters. E-COTS web-based video presentation. See www.statlit.org/swf/2012Schield-Coincidence.swf

STATISTICS-RELATED RESEARCH PAPERS

Schield, Milo (1996). Review of *The Evolution With Age of Probabilistic, Intuitively Based, Misconceptions* by Efraim Fischbein and Ditza Schnarch. Presented at RSS Centre for Statistical Education, Nottingham. See www.StatLit.org/pdf/1996-Schield-Review-Fischbein-Schnarch.pdf

Schield, Milo (1997). Philosophical Issues in Statistical Inference. Augsburg Philosophy Colloquium. See www.StatLit.org/pdf/1997Schield-Augsburg.pdf

Schield, Milo (1997). Median Overlap, Misclassification and R-square. Technical Paper. See www.StatLit.org/pdf/1997-Schield-Median-Overlap.pdf

Schield, Milo (1997). Statistical Literacy, QR and QL. Technical/Background Paper. See www.StatLit.org/pdf/1997-Schield-Statistical-Literacy-QR-QL.pdf

Schield, Milo (1999). Notes on Tufte's Presentation. Copy at www.StatLit.org/pdf/1999-Tufte-presentation-Notes-by-Schield.pdf

Schield, Milo (1999). ASA Ethics Committee Guidelines: Comments & Recommendations. JSM. Copy at www.StatLit.org/pdf/1999-Schield-ASA-Ethics-Committee.pdf

Schield, Milo (2015). Statistical Literacy Roundtable Summary. USCOTS Roundtable. Organized and chaired by Milo Schield. www.statlit.org/pdf/2015-USCOTS-Statistical-Literacy-Roundtable.pdf

EXCEL DEMONSTRATION WORKSHEETS

1. Schield, Milo (2010). Excel Demo of Marilyn vos Savant's Monty-Hall Three-Door problem. Demo at www.statlit.org/Excel/2010-Schield3Door-Demo.xls
2. Schield, Milo (2010). Excel Demo of Marilyn vos Savant's Four-Envelope problem. Excel demo at www.statlit.org/Excel/2010Schield4EnvelopeDemoSavant.xls
3. Schield, Milo (2012). Excel Demo of the longest run in flips of a fair coin. Demo worksheet at www.statlit.org/Excel/2012Schield-Runs.xls
4. Schield, Milo (2012). Excel Demo of unlikely patterns in a two-dimensional grid with 1 chance in 100 grains of rice. Demo worksheet at www.statlit.org/Excel/2012Schield-Rice.xls
5. Schield, Milo (2012). Excel Demo of von Mises Birthday problem. Demo worksheet at www.statlit.org/Excel/2012Schield-Bday.xls
6. Schield, Milo (2016). Excel Demo of the relationship between sample means and medians when sampling from a uniform or a Normal distribution. Demo worksheet at www.statlit.org/Excel/2016-Schield-Mean-Median=Compare-1.xlsx

POLICY PROPOSALS, GRANT APPLICATIONS AND MISC.

1. Schield, Milo (1999). ASA Ethical Guidelines: Comments and Recommendations. ASA Committee on Professional Guidelines. See www.statlit.org/pdf/1999-Schield-ASA-Ethics-Committee.pdf
2. Schield, Milo (2000). Application for the ASA/NSF/BLS/Census Bureau Fellowship Program. www.StatLit.org/pdf/2000SchieldCensusASA.pdf
3. Schield, Milo (2000). Initial 2001 Grant Proposal to the W. M. Keck Foundation. www.StatLit.org/pdf/2000-Schield-Keck-Proposal1.pdf
4. Schield, Milo (2001). Revised 2001 Grant Proposal to the W. M. Keck Foundation. www.StatLit.org/pdf/2001-Schield-Keck-Proposal2a.pdf and 2001-Schield-Keck-Proposal2b.pdf
5. Schield, Milo (2006). NSF Grant Proposal: Developing a Statistical Literacy Turnkey Training System. 2006 NSF. Copy at www.statlit.org/pdf/2006-Schield-NSF.pdf
6. Schield, Milo (2014a). PKAL-TIDES Grant Proposal. www.statlit.org/pdf/2014-Schield-PKAL.pdf or at www.StatLit.org/pdf/2014-Schield-PKAL-TIDES-Proposal.pdf
7. Schield, Milo (2014b). NSF IUSE Grant Proposal. At www.statlit.org/pdf/2014-Schield-NSF.pdf Cover page at www.StatLit.org/pdf/2014-Schield-NSF-IUSE-Proposal.pdf
8. Schield, Milo (2015a). USCOTS 2015 Lifetime Achievement Award Nomination Packet. www.statlit.org/pdf/2015-USCOTS-Schield-Lifetime-Nomination-Packet.pdf
9. Schield, Milo (2015b). Nomination for the ASA-Pearl 2015 Causality Award. www.statlit.org/pdf/2015-Schield-Pearl-Causality-Award-Submission.pdf
10. Schield, Milo (2015c). Wiley Textbook proposal: Practical Statistics for Professionals. www.statlit.org/pdf/2015-Schield-Wiley-Book-Proposal.pdf

SUMMARIZE DATA IN CHARTS AND TABLES:

- XL1A: Use nominal frequency data to create pie & bar charts. Output Slides Input
- XL1B: Use nominal pivot-table data to create pie & bar charts: Output Input
- XL1C: Create time-based line graphs. Linear and Log display. Output Slides Input
- XL1D: Create six different two-way Pivot tables. Demo Output. Slides Data Input.

MODEL DATA USING EXCEL Pulse dataset

- XL2A Chart Trendline: Linear 1Y1X (3 graphs) Slides
- XL2B Chart Trendline: Non-Linear 1Y1X (7 graphs) Slides
- XL2C Chart Trendline: Linear 2Y1X (4 graphs) Slides
- XL2D Chart Trendline: Linear 3factor 1Y1X (Pivot table, 2 graphs) Slides
- XL3A: Toolpak Regression: Linear (5 graphs) 2 predictors. QQB: Output Slides Input
- XL4B: Logistic Regression 1Y1X (Schield OLS nudged). Demo Slides Input
- XL4C: Logistic Regression 1Y2X (Schield OLS nudged). Demo Slides Input

CREATE DISCRETE DISTRIBUTIONS USING EXCEL:

- XL4A: Create Binomial, Hyper geometric and Poisson. Output Slides Input

CREATE LOG-NORMAL DISTRIBUTIONS (GIVEN MEAN AND MEDIAN):

- XL5A: Create distribution of Subjects: Output. Slides Data Input
- XL5B: Create distribution of Subjects & Incomes: Output. Slides Data Input

CREATE HISTOGRAMS AND SAMPLING DISTRIBUTIONS USING EXCEL:

- XL3B: Use Toolpak HISTOGRAM command. Output Slides Input
- XL3C: Use COUNTIF and FREQUENCY functions. Output Slides Input

CREATE HISTOGRAMS AND SAMPLING DISTRIBUTIONS USING EXCEL:

- Create sampling distributions for a single die using COUNTIF in Excel 2013 (n=4, 16, 25, 50, 200). Step-by-step demo: Excel 2008 1up 6up and PPT. Results. Data (xlsx)

CREATE AND COMPARE CONFIDENCE INTERVALS USING EXCEL:

- Create Confidence Intervals using Excel 2010. 6up, 1up.
  - Compare Z and T Statistics using Excel 2003. pdf
  - Compare Confidence Functions using Excel 2010: pdf, xlsx.
- Compare Two Confidence Intervals Excel 2010. pdf, xlsx
- Display Paired Confidence Intervals using Excel. Template (xls). Demo: 6up, 1up.

CREATE HYPOTHESIS TESTS USING EXCEL:

Isaacson data set (240 rows, 8 columns).

- Hypothesis test for a single Population: **Z-Test function**. Excel 2008 demo: 6up, 1up.
- Hypothesis tests for two populations: **T-Test function.** Excel 2008 demo: 6up, 1up.
- Hypothesis tests for two populations: **T-Test command**. Excel 2013 demo 6up, 1up.
- Statistically-significant correlations as a function of sample size: A Simple Model (xls).

SPACE PHYSICS PAPERS:

1. M. Schield (1968). The Configuration of Geomagnetic Field Lines above the Auroral Zones, Copy at www.StatLit.org/pdf/1968-Milo-Schield-PhD-Dissertation-Rice.pdf

2. M. Schield (1969). Pressure Balance between Solar Wind and Magnetosphere [Preview] J. Geophys. Res., 74, 5, doi:10.1029/JA074i005p01275, 1969 Copy at https://www.researchgate.net/publication/240484136_Pressure_Balance_between_Solar_Wind_and_Magnetosphere Copy at www.StatLit.org/pdf/1969-Schield-JGR.pdf
3. M. Schield (1969). Correction to Paper by Milo A. Schield, 'Pressure Balance between Solar Wind and Magnetosphere' J. Geophys. Res., 74, 21, doi:10.1029/JA074i021p05189, 1969 Copy at www.StatLit.org/pdf/1969-Schield-JGR2.pdf
4. Schield, M. A.; Freeman, J. W.; Dessler, A. J., (1969) "A Source for Field-Aligned Currents at Auroral Latitudes" *Journal of Geophysical Research*, Vol 74,1. p.247 doi:10.1029/JA074i001p00247 Copy at www.StatLit.org/pdf/1969-Schield-Freeman-Dessler-JGR.pdf
5. M. Schield and L. Frank (1970). Electron Observations between the Inner Edge of the Plasma Sheet and the Plasmasphere. [Preview] J. Geophys. Res., 75, 28, doi:10.1029/JA075i028p05401, 1970 Copy at www.StatLit.org/pdf/1970-Schield-Frank-JGR.pdf

6. M. Schield (1970). Drift of Charged Particles in a Simple Geometric Field. University of Iowa conference paper.

PHILOSOPHY AND SCIENCE PAPERS:

1. Schield (1991). Summary of the 1954 *Handbook of Logic* by Roland Houde and Jerome Fisher. See www.StatLit.org/pdf/1991-Schield-Summary-1954-Houde-Fisher-Handbook-of-Logic.pdf
2. Schield (1993a). Condensed version of Lewis Carroll's *Symbolic Logic* (1896). See www.StatLit.org/pdf/1993-Schield-Summary-1896-Carroll-Symbolic-Logic.pdf
3. Schield (1993b). An Analysis of Consciousness. Augsburg Philosophy Colloquium. Copy at www.StatLit.org/pdf/1993-Schield-Philosophy-Consciousness.pdf

4. Schield, Milo (2004). Resolving Three Key Problems in the Humanities. *The International Journal of the Humanities*. Vol. 2, Num. 3. P. 2375-2385. See www.StatLit.org/pdf/2004SchieldNDIH.pdf

5. Schield, Milo (2005). Making Science a Core Liberal Art for the 21st Century. Project Kaleidoscope. See www.StatLit.org/pdf/2005SchieldPKAL.pdf.
6. Schield, Milo (2009). Promoting Objectivity in Science and Ethics. FreeMinds 09. See www.StatLit.org/pdf/2009SchieldFreeMinds.pdf

Papers shown in boxes were invited or refereed and published in journals, magazines or books.

Milo Schield: CV

DR. MILO A. SCHIELD

Synergistic Activities:
Dr. Schield is the Director of the W. M. Keck Statistical Literacy project – a project "to develop statistical literacy as an interdisciplinary curriculum in the liberal arts." He is the US Coordinator of the International Statistical Literacy project (ISLP), an elected member of the International Statistical Institute (ISI), the Vice-President of the National Numeracy Network (NNN), and the editor and webmaster of www.StatLit.org. He is a past-President of the Twin Cities Chapter of the American Statistical Association,

He is a tenured professor in Business Administration at Augsburg College with a Ph.D. in Space Physics (Rice University). He has been chair of the Business Department: the largest department at Augsburg.

He has taught traditional statistics at the undergraduate level for over 20 years; he has taught critical thinking at the undergraduate level for 10 years and at the graduate level for two; he has taught statistical literacy for over 20 years.

SESSIONS AT CONFERENCES: Dr. Schield has organized 17 sessions on statistical literacy at national meetings of the American Statistical Association. Speakers have included Dr. Donald Rubin (Harvard), Dr. Joel Best, author of *Damned Lies and Statistics*, Joe Abramson, author of *Making Sense of Data*, Nicholas Eberstadt, author of *The Tyranny of Numbers*, Jessica Utts, author of *Seeing Through Statistics*, Robyn Dawes, author of *Everyday Irrationality*, Vic Cohen, author of *News and Numbers*, Tom Wonnacott, author of numerous statistics textbooks and Jane Miller, author of *The Chicago Guide to Writing about Numbers*. He also organized a session on Observational Studies and Multivariate Thinking at the International Statistical Institute (ISI) conference in Lisbon (Dr. Donald Rubin, Sir David Cox and Nanny Wermuth) and in Dublin ().

TALKS: He has given over 70 papers (over 120 talks) on statistical literacy in 17 countries on six continents. In the US, he gave the keynote address at a conference sponsored by Project Kaleidoscope (PKAL). He has given talks at Making Statistics More Effective in Schools of Business (MSMESB), the Association of Public Data Users (APDU), Mathematical Association of America (MAA), the American Mathematics Association of Two Year Colleges (AMATYC), the International Association of Social Science Information Services and Technology (IASSIST) and the US Department of the Census and the Bureau of Labor Statistics. Internationally, he has given talks at ICOTS (Singapore, South Africa, Brazil and Slovenia), ICME (Tokyo and Copenhagen). ISI/ISE (Australia, Portugal and Ireland), and IASE (Sweden, Portugal and Ireland). He has given invited talks in China, England, Scotland and Wales.

RECOGNITION: In his book, *More Damned Lies and Statistics*, author Joel Best noted the many problems facing this movement and said, "*Despite these obstacles, a small educational movement advocating statistical literacy has emerged. Professor Milo Schield, Director of the W. M. Keck Statistical Literacy Project at Augsburg College in Minneapolis, is the movement's leading voice.*"

Professional Preparation:

Iowa State University	Physics major; economics minor	B.S.
University of Illinois	Physics major	M.S.
Rice University	Space Physics	Ph.D.

Appointments:

Augsburg College	Department of Business Administration	1985-present
St. Paul Companies	Senior Operations Researcher	1978-1985
Fox and Co., CPA	Senior Consultant	1975-1978