

## EDUCATION

- 2006 **Ph.D.**, *University of Minnesota*  
Quantitative Methods in Education, Department of Educational Psychology  
Advisor: Joan Garfield
- 1998 **B.S.**, *Saint Cloud State University*  
Mathematics Education

## ACADEMIC APPOINTMENTS

### University of Minnesota, Twin Cities

- 2023–Current **Professor of Teaching**, Department of Educational Psychology
- 2022–2023 **Associate Professor of Teaching**, Department of Educational Psychology
- 2013–2022 **Senior Lecturer**, Department of Educational Psychology
- 2006–2012 **Lecturer**, Department of Educational Psychology
- 2003–2006 **Instructor**, Department of Educational Psychology

### Other Professional Positions

- 1998–2002 **Mathematics Teacher**, *ROCORI High School*, Cold Spring, MN
- 1996–1998 **Mathematics Instructor**, *Saint Cloud State University*

## HONORS AND RECOGNITION

### University of Minnesota

- 2022 **CEHD Distinguished Teaching Award**, *University of Minnesota*, College of Education + Human Development
- 2013 **COGS Outstanding Faculty Award**, *University of Minnesota*, Council of Graduate Students

### External Sources

- 2019 **MPA Award for Outstanding Graduate Faculty in Psychology**, *Minnesota Psychological Association*
- 2014 **Waller Education Award**, *for outstanding contributions to and innovations in the teaching of elementary statistics*, American Statistical Association, Section on Statistical Education
- 1999 **Radioshack National Teacher Award Finalist**, *ROCORI High School*, Cold Spring, MN

### Honors Awarded to Student/Trainee

- 2005 **Graduate Student Teaching Award**, *University of Minnesota*, Department of Educational Psychology

## TEACHING

### Scheduled Teaching

**Basic and Applied Statistics** (EPSY 3264): Fo6(x2); So7; Sum07; Fo7; So8; Fo8(x2); Fo9(x2); F11; F13; Sum15; F15; Sum16; F16; F19

**Survey Design, Sampling, and Implementation** (EPSY 5244): F06(x2)

**Introductory Statistical Methods** (EPSY 5261): F23

**QME Seminar: Methods for Categorical Data in Education Research** (EPSY 8220): F13

**Methods in Data Analysis for Educational Research I** (EPSY 8251): F14; F15(x2); S16; F16(x2); S17; F17(x2); F18(x2); F19(x2); F20; F21; F22; F23

**Methods in Data Analysis for Educational Research II** (EPSY 8252): S12; S13; S14; F14; S15; S16; S17; S18(x2); S19(x2); S20(x2); S21(x2); S22(x2); S23(x2)

**Statistical Methods I: Probability and Inference** (EPSY 8261): Sum06; F06; Sum07; F07(x2); S08; Sum08; F08; S09; Sum09; S10; Sum10; F10(x2); S11; F11; F12; Sum13; Sum14; S15

**Statistical Methods II: Regression and the General Linear Model** (EPSY 8262): S07(x2); S08; S09; F09; S10; F10; S11; Sum11; F11; S12; Sum12; F12; S13(x2); F13; S14(x2); F14; S15

**Advanced Multiple Regression** (EPSY 8264): F18; F20; F21; F22; F23

**Statistical Analysis of Longitudinal Data** (EPSY 8282): S12; F17

## Guest Lectures

### *University of Minnesota*

2016 Guest Lecture, Kinesiology 8980, 15 participants

## Collaborative Teaching

2017 Co-taught EPSY 1261 Fall 2017, the first year it was taught.

## Workshops

† denotes graduate student

- [24] **Zieffler, A.** (2023, April). *Multiple regression*. Workshop presented for CEHD–Chungbuk National University Global Education in Public Policy Workshop, University of Minnesota, Minneapolis, MN.
- [23] Gieschen, T., Johnson, K., Hanson, M., Finholm, J., & **Zieffler, A.** (2023, April). *Be above average: Teaching stats for deeper understanding*. Workshop presented at the Minnesota Council of Teachers of Mathematics Spring Conference, Duluth, MN.
- [22] Elmquist, M.†, & **Zieffler, A.** (2019, November). *Blogdown workshop*. A workshop presented for the Department of Educational Psychology, University of Minnesota, Minneapolis, MN.
- [21] Stanhope, E., **Zieffler, A.**, Grayson, K., Larson, E., & Overvoorde, P. (2019, July). *Combining forces to use assessment to promote enduring quantitative reasoning curricular reform*. A workshop presented at the Society for the Advancement of Biology Education Research, Minneapolis, MN.
- [20] Kaplan, D., **Zieffler, A.**, Kozak, K., Burn, H., & Brilleslyper, M. (2019, June). *statPREP*. A workshop presented at Tarrant County College, Fort Worth, TX.
- [19] Kaplan, D., Pruium, R., **Zieffler, A.**, McNamara, A., Orosz, B. Ryu, H., & Roith, J. (2019, June). *statPREP*. A workshop presented at Howard Community College, Columbia, MD.
- [18] **Zieffler, A.**, Huberty, M.†, Dolor, J., Clement, K., & Noll, J. (2019, May). *Evidence and uncertainty: A modeling and simulation-based approach to statistical inference*. A two-day workshop presented at The United States Conference on Teaching Statistics, State College, PA.
- [17] Hardin, J., Kaplan, D., Silva, A., & **Zieffler, A.** (2018, June). *statPREP*. A workshop presented at College of the Canyons, Santa Clarita, CA.
- [16] Johnson, A., Kaplan, D., Pruium, R., Roith, J., & **Zieffler, A.** (2018, June). *statPREP*. A workshop presented at St. Catherine University, St. Paul, MN.
- [15] Kaplan, D., Kozak, K., McNamara, A., Roith, J., & **Zieffler, A.** (2017, June). *statPREP*. A workshop presented at St. Catherine University, St. Paul, MN.
- [14] **Zieffler, A.** & Parker, N.† (2014, January) *CATALST: Introductory statistics using randomization and bootstrap methods*. A workshop presented at the Joint Mathematics Meetings, Baltimore, MD.

- [13] **Zieffler, A.** (2013, March). *Using R for data analysis*. A workshop presented at the Minnesota Evaluation Studies Institute, Minneapolis, MN.
- [12] Isaak, R.<sup>†</sup>, Le, L.<sup>†</sup>, Ziegler, L.<sup>†</sup>, Garfield, J., **Zieffler, A.**, & delMas, R. (2012, May). *A flavor of the CATALST course: Using randomization-based methods in an introductory statistics course*. An invited workshop presented at the First Biennial Electronic Conference on Teaching Statistics. <http://www.causeweb.org/ecots/workshop>
- [11] Garfield, J., delMas, R., **Zieffler, A.**, Le, L.<sup>†</sup>, Ziegler, L.<sup>†</sup>, & Isaak, R.<sup>†</sup> (2012, January). *CATALST implementers workshop*. A workshop for CATALST implementers presented at the Joint Mathematics Meetings, Boston, MA.
- [10] **Zieffler, A.**, & Harring, J. (2011, December). *Comparing Groups: Randomization and Bootstrap Methods Using R*. An invited workshop presented at The 67th Deming Conference on Applied Statistics, Atlantic City, NJ.
- [9] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb, J., Cobb, G., Isaak, R.<sup>†</sup>, Le, L.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (2011, May). *CATALST implementers workshop*. A workshop for CATALST implementers presented at The United States Conference on Teaching Statistics, Raleigh, NC.
- [8] **Zieffler, A.** (2011, May). *Using R for teaching and research*. A workshop presented at North Dakota State University, Fargo, ND.
- [7] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb, J., & Cobb, G. (2011, January). *CATALST implementers workshop*. A workshop presented at The Joint Mathematics Meetings, New Orleans, LA.
- [6] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb, J., & Cobb, G. (2010, June). *CATALST Workshop*. A workshop presented at the University of Minnesota, Minneapolis, MN.
- [5] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb, J., & Cobb, G. (2010, January). *Become a catalyst for change in statistics education*. A workshop presented at The Joint Mathematics Meetings, San Francisco, CA. [http://www.ams.org/amsmtgs/2124\\_maaancillary.html](http://www.ams.org/amsmtgs/2124_maaancillary.html)
- [4] delMas, R., Garfield, J., & **Zieffler, A.** (2009, November). *Using model-eliciting activities to teach statistics*. A workshop presented at the annual meetings of the American Mathematics Association of Two-Year Colleges, Las Vegas, NV.
- [3] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., & Holcomb, J. (2009, June). *Become a catalyst for change in statistics education*. A CAUSEway Workshop presented at The Ohio State University, Columbus, OH. [http://www.causeweb.org/workshop/uscots09\\_catalyst4change/](http://www.causeweb.org/workshop/uscots09_catalyst4change/)
- [2] Kaplan, D., delMas, R., & **Zieffler, A.** (2009, February). *Starting with R*. A workshop presented at Macalester College, St. Paul, MN. <http://www.macalester.edu/~kaplan/startingwithr/>
- [1] Garfield, J., delMas, R., & **Zieffler, A.** (2008, June). *AIMS: Adapting and Implementing Innovative Materials in Statistics*. A CAUSEway Workshop presented at the University of Minnesota, Minneapolis, MN. <http://www.causeweb.org/workshop/aims/>

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## CURRICULUM DEVELOPMENT

### Curriculum Development Activities

- 2023 Updated the curricular material for the EPSY 5261 course with Chelsey Legacy
- 2023 Co-wrote online book, *An Introduction to Data Analysis*, for use in the EPSY 5261 course with Chelsey Legacy — <https://ziefooo2.github.io/epsy-5261/>
- 2021 Co-wrote online book, *Matrix Algebra for Educational Scientists*, for use in all of QME courses with Michael Rodriguez — <https://ziefooo2.github.io/matrix-algebra/>
- 2020 Updated the materials for EPSY 8251 and 8252, including creating online resources and textbooks — <https://ziefooo2.github.io/modeling/>
- 2016–2017 Helped to create, propose, and develop the EPsy 1261 course, including writing the curriculum.
- 2012–2013 Developed and taught a graduate seminar on methods for categorical data, *Methods for Categorical Response Data in Educational Research*.

- 2013 Co-developed the courses EPSY 8251 and EPSY 8252 with Michael Harwell (to replace EPSY 8261 and 8262).
- 2008 Co-developed the curriculum and materials for EPSY 3264 with Joan Garfield and Robert delMas. These materials have been updated and changed many times since then.

## ADVISING AND MENTORING

### Advisees

*Note that this section only includes students who completed their degree.*

- 2023–Present **Regina Lisinker**, *Educational Psychology*, PhD
- 2022–Present **Pablo Vivas Corrales**, *Educational Psychology*, MA
- 2021–2023 **Regina Lisinker**, *Educational Psychology*, MA  
Plan B Paper: Talking in Code: Code Review as a Form of Communication
- 2018–2023 **Vimal Rao**, *Educational Psychology*, PhD
- 2017–2022 **Chelsey Legacy**, *Educational Psychology*, PhD  
Thesis: Understanding the Development of Students' Multivariate Statistical Thinking in a Data Visualization Course
- 2014–2021 **Jonathan Brown**, *Educational Psychology*, PhD  
Thesis: Student Understanding of the Hypothetical Nature of Simulations in Introductory Statistics
- 2016–2020 **Rita Sandidge**, *Educational Psychology*, PhD  
Thesis: Cultural and Social Identity and the Role of Insurance Status in Mental Health Service Utilization: An Exploratory Data Analysis
- 2015–2019 **Ethan Brown**, *Educational Psychology*, PhD  
Thesis: Growing Certain: Students' Mechanistic Reasoning about the Empirical Law of Large Numbers
- 2011–2017 **Elizabeth Fry**, *Educational Psychology*, PhD  
Thesis: Introductory Statistics Students' Conceptual Understanding of Study Design and Conclusions
- 2012–2017 **Nicola Justice**, *Educational Psychology*, PhD  
Thesis: Statistics Graduate Students' Professional Development for Teaching: A Communities of Practice Model
- 2011–2017 **Laura Le**, *Educational Psychology*, PhD  
Thesis: Assessing the Development of Students' Statistical Thinking: An Exploratory Study
- 2013–2016 **Anelise Sabbag**, *Educational Psychology*, PhD  
Thesis: Examining the Relationship Between Statistical Literacy and Statistical Reasoning
- 2011–2015 **Alison Phillips**, *Educational Psychology*, PhD  
Thesis: Quantifying Quality: The Effects of Score Transformation Method and School Demographics on School Rankings Under the Elementary and Secondary Education Act
- 2011–2013 **Anelise Sabbag**, *Educational Psychology*, MA

### Other Advising Activities

- 2020–2022 **Advisor**, *Institute of Child Development Tidy Tuesday Student Group*
- 2013–2015 **Advisor**, *Educational Psychology Computing Club*

### Committee Advising

#### *Doctoral Final Committee: Committee Member*

- 2021 Hao Jia, *Educational Psychology*
- 2018 Julio Caesar, *Educational Psychology*
- 2017 Amy Grack Nelson, *Educational Psychology*
- 2017 Aleksis Kincaid, *Educational Psychology*
- 2015 Matthew Beckman, *Educational Psychology*
- 2016 Cortney Duffy, *Educational Psychology*

- 2016 Sousada Grande, Education, Curriculum & Instruction  
2015 Christopher Moore, Educational Psychology

*Doctoral Final Committee: Committee Reviewer*

- 2023 Anton Hesse, Kinesiology  
2022 Chelsey Legacy, Educational Psychology  
2022 Han Li, Developmental Psychology  
2022 Holly Link, Organizational Leadership, Policy, and Development  
2022 Ozge Ersan Cinar, Educational Psychology  
2022 Vimal Rao, Educational Psychology  
2022 Yue Zhang, Organizational Leadership, Policy, and Development  
2021 Ahmad Saquib Sina, Design  
2021 Britta Bresina, Educational Psychology  
2021 Jonathan Brown, Educational Psychology  
2021 Yu-Chi Wang, Educational Psychology  
2020 Marianne Elmquist, Educational Psychology  
2020 Nichole Sorenson, Organizational Leadership, Policy, and Development  
2019 Ethan Brown, Educational Psychology  
2019 Rita Sandidge, Educational Psychology  
2018 Mao Jacobson, Educational Psychology  
2018 Tamara Vos-Draper, Rehabilitation Science  
2018 Chih-Huang Yu, Rehabilitation Science  
2017 Chengxin Cao, Business Administration  
2017 Elizabeth Fry, Educational Psychology  
2017 Jung Eun Lee, Kinesiology  
2017 Laura Le, Educational Psychology  
2017 Nicola Justice, Educational Psychology  
2016 Anelise Sabbag, Educational Psychology  
2016 Christopher Clark, Education, Curriculum & Instruction  
2016 Elizabeth Fry, Educational Psychology  
2016 Susan Steinkamp, Educational Psychology  
2015 Alison Phillips, Educational Psychology  
2015 Christopher Moore, Educational Psychology  
2015 Kate Clayton, Educational Psychology  
2015 Katherine Edwards, Educational Psychology  
2015 Nicola Justice, Educational Psychology  
2014 Daniel White, Organizational Leadership, Policy, and Development  
2014 Natalie Olsen, Mass Communications  
2014 Yu-Feng Chang, Educational Psychology  
2012 Brandon Lebeau  
2010 Thomas Sanford, Educational Policy/Administration

*Doctoral Preliminary Committee: Committee Member*

- 2023 Mohammed Abuela, Educational Psychology  
2023 Cody Mikl, Organizational Leadership, Policy, and Development  
2023 Sook-Young Park, Social Work  
2022 Anton Hesse, Kinesiology

2022 Corissa Rohloff, Educational Psychology  
2022 Jun Li, Educational Psychology  
2022 Yun Leng Wong, Educational Psychology  
2021 Kristin Van Dorn, Organizational Leadership, Policy, and Development  
2021 Vimal Rao, Educational Psychology  
2020 Britta Bresina, Educational Psychology  
2020 Chelsey Legacy, Educational Psychology  
2020 Han Li, Developmental Psychology  
2020 Valerie Barbaro, Education, Curriculum & Instruction  
2019 Ahmad Saquib Sina, Design  
2019 Jonathan Brown, Educational Psychology  
2019 Neal Fredrickson, Education, Curriculum & Instruction  
2019 Yu-Chi Wang, Educational Psychology  
2019 Yue Zhang, Organizational Leadership, Policy, and Development  
2019 Whitney Meredith, Organizational Leadership, Policy, and Development  
2018 Bowen Liu, Educational Psychology  
2018 Holly Link, Organizational Leadership, Policy, and Development  
2018 Roger Karlson, Design  
2018 Yi Vue, Educational Psychology  
2017 Ethan Brown, Educational Psychology  
2017 Rita Sandidge, Educational Psychology  
2016 Meredith Fergus, Educational Policy/Administration  
2016 Susan Steinkamp, Educational Psychology  
2016 Tamara Vos-Draper, Rehabilitation Science  
2015 Jung Eun Lee, Kinesiology  
2015 Christopher Clark, Curriculum & Instruction  
2015 Stacy Karl, Educational Psychology  
2014 Alison Phillips, Educational Psychology  
2014 Amy Grack Nelson, Educational Psychology  
2014 Anelise Sabbag, Educational Psychology  
2014 Chengxin Cao, Business Administration  
2014 Chih-Huang Yu, Rehabilitation Science  
2014 Elizabeth Fry, Educational Psychology  
2014 Jamal Adam, Educational Policy/Administration  
2014 Jessie Kember, Educational Psychology  
2014 Katherine Edwards, Educational Psychology  
2015 Mao Jacobson, Educational Psychology  
2014 Nicola Justice, Educational Psychology  
2014 Sousada Grande, Curriculum & Instruction  
2013 Cortney Duffy, Educational Psychology  
2013 Daniel White, Organizational Leadership, Policy, and Development  
2013 Laura Le, Educational Psychology  
2013 Matthew Beckman, Educational Psychology  
2012 Amy Lein, Educational Psychology  
2012 Natalie Olsen, Mass Communications  
2011 Brandon Lebeau, Educational Psychology

- 2011 Jiyeon Park, Educational Psychology
- 2011 Julio Caesar, Educational Psychology
- 2009 Thomas Sanford, Educational Policy/Administration

*Master's Thesis/Research Committee: Committee Chair*

- 2023 Regina Lisinker

*Master's Thesis/Research Committee: Committee Member*

- 2023 Zachary Carpenter, Educational Psychology
- 2023 Kyle Stagnaro, Educational Psychology
- 2022 Aurore Phenow, Educational Psychology
- 2022 Youfu Yan, Educational Psychology
- 2021 Shelby Weisen, Educational Psychology
- 2020 Carlos Chavez, Educational Psychology
- 2020 Stacy Karl, Educational Psychology
- 2020 Joshua Jordanss Communications
- 2020 Emma Worthley, Educational Psychology
- 2020 Ryan Hennessey, Educational Psychology
- 2019 Yu-Chi Wang, Educational Psychology
- 2018 Kathy Kelly, Educational Psychology
- 2017 Erik Anderson, Educational Psychology
- 2016 Susan Steinkamp, Educational Psychology
- 2016 Rebekah Isaak, Educational Psychology
- 2015 Julia Baker, Educational Psychology
- 2015 George Brisse, Family Social Science
- 2015 Ethan Brown, Educational Psychology
- 2015 Yoo Jeong Jang, Educational Psychology
- 2014 Teruo Yokoyama, Educational Psychology
- 2014 Sue Sing Lim, Nutrition, MS
- 2013 Ange Pangss Communications
- 2012 Anelise Sabbag
- 2012 Ange Pang, Statistics, MS
- 2012 Matthew Stearns, Statistics, MS
- 2012 Bryan McCarthy, Social and Administrative Pharmacy, MS
- 2012 Sheila Frankfurt, Psychology

## Work in Preparation/Review

† denotes graduate student

- [4] Legacy, C., **Zieffler, A.**, Le, L., Vivas Corrales, P.†, & Fry, E. (in preparation). Results from the 2021 administration of the Statistics Teaching Inventory. *Journal of Statistics and Data Science Education*.
- [3] Legacy, C., **Zieffler, A.**, Rao, V. N. V.†, & delMas, R. (in review). Vampires and star-crossed lovers: Secondary teachers' reasoning about the connections between multivariate data and visualization. *Statistics Education Research Journal*.
- [2] Sabbag, A., **Zieffler, A.**, & Ng, C. (in review). Can we distinguish statistical literacy and statistical reasoning? *Statistics Education Research Journal*.

## Peer-Reviewed Publications

† denotes graduate student

- [25] Rao, V. N. V.<sup>†</sup>, Legacy, C., **Zieffler, A.**, & delMas, R. (2023). A sequence of activities to build students' reasoning about data and visualization. *Teaching Statistics*, 45(S1), S80–S92. <http://doi.org/10.1111/test.12341>
- [24] Legacy, C.<sup>†</sup>, **Zieffler, A.**, Baumer, B. S., Barr, V., & Horton, N. J. (2023). Facilitating team-based data science: Lessons learned from the DSC-WAV project. *Foundations of Data Science*, 5(2), 244–265. <https://doi.org/10.3934/fods.2022003>
- [23] Legacy, C.<sup>†</sup>, **Zieffler, A.**, Fry, E., & Le, L. (2022). COMPUTES: An instrument to measure introductory statistics instructors' emphasis on computational practices. *Statistics Education Research Journal*, 21(1). <https://doi.org/10.52041/serj.v21i1.63>
- [22] Yu, C.-H., Mathiowetz, V. G., **Zieffler, A.**, & Tomlin, G. S. (2021). Efficacy of a forearm rotation orthosis for persons with a hemiparetic arm. *American Journal of Occupational Therapy*, 75(6), 7506205110. <https://doi.org/10.5014/ajot.2021.043455>
- [21] **Zieffler, A.**, Justice, N., delMas, R., & Huberty, M.<sup>†</sup> (2021). The use of algorithmic models to develop secondary teachers' understanding of the statistical modeling process. *Journal of Statistics and Data Science Education*, 29(1), 131–147. <https://doi.org/10.1080/26939169.2021.1900759>
- [20] Justice, N., **Zieffler, A.**, Huberty, M.<sup>†</sup>, & delMas, R. (2018). Every rose has its thorn: Secondary teachers' reasoning about statistical models. *ZDM—The International Journal on Mathematics Education*, 50(7), 1253–1265. <https://doi.org/10.1007/s11858-018-0953-1>
- [19] Sabbag, A. G.<sup>†</sup>, Garfield, J., & **Zieffler, A.** (2018). Assessing statistical literacy and statistical reasoning: The REALI instrument. *Statistics Education Research Journal*, 17(2), 141–160. <https://doi.org/10.52041/serj.v17i2.163>
- [18] Stanhope, E., Ziegler, L., Haque, T., Le, L., Vinces, M., Davis, G. K., **Zieffler, A.**, Brodfuehrer, P., Preest, M., Belitsky, J., Umbanhowar, Jr., C., & Overvoorde, P. J. (2017). Development of a Biological Science Quantitative Reasoning Exam (BioSQuaRE). *CBE—Life Sciences Education*, 16(4), ar66. <https://doi.org/10.1187/cbe.16-10-0301>
- [17] Justice, N.<sup>†</sup>, **Zieffler, A.**, & Garfield, J. (2017). Statistics graduate teaching assistants' beliefs, practices, and preparation for teaching introductory statistics. *Statistics Education Research Journal*, 16(1), 294–319. <https://doi.org/10.52041/serj.v16i1.232>
- [16] Sabbag, A. G.<sup>†</sup>, & **Zieffler, A.** (2015). Assessing learning outcomes: An analysis of the GOALS-2 instrument. *Statistics Education Research Journal*, 14(2), 93–116. [http://iase-web.org/documents/SERJ/SERJ14\(2\)\\_Sabbag.pdf](http://iase-web.org/documents/SERJ/SERJ14(2)_Sabbag.pdf)
- [15] Umbanhowar Jr., C., Belitsky, J. M., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, McFadden, C., Overvoorde, P., Preest, M., Stanhope, L., Vinces, M., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015). Understanding the quantitative and computational skills of incoming biology students. <https://qubeshub.org/resources/806>
- [14] **Zieffler, A.**, & Huberty, M.<sup>†</sup> (2015). A catalyst for change in the high school math curriculum. *CHANCE*, 28(3), 44–49. <https://doi.org/10.1080/09332480.2015.1099365>
- [13] Garfield, J., Le, L.<sup>†</sup>, **Zieffler, A.**, & Ben-Zvi, D. (2014). Developing students' reasoning about samples and sampling variability as a path to expert statistical thinking. *Educational Studies in Mathematics*, 88(3), 327–342. <https://doi.org/10.1007/s10649-014-9541-7>
- [12] **Zieffler, A.**, Isaak, R.<sup>†</sup>, & Garfield, J. (2013). The course as textbook: A symbiotic relationship in the introductory statistics class. *Technology Innovations in Statistics Education*, 7(3). <http://escholarship.org/uc/item/12q2z58x>
- [11] Garfield, J., delMas, R., & **Zieffler, A.** (2012). Developing statistical modelers and thinkers in an introductory, tertiary-level statistics course. *ZDM—The International Journal on Mathematics Education*, 44(4), 883–898. <https://doi.org/10.1007/s11858-012-0447-5>
- [10] **Zieffler, A.**, Park, J.<sup>†</sup>, Garfield, J., delMas, R., & Bjornsdottir, A.<sup>†</sup> (2012). The Statistics Teaching Inventory: A survey on statistics teachers' classroom practices and beliefs. *Journal of Statistics Education*, 20(1). <https://doi.org/10.1080/10691898.2012.11889632>



- [9] Davison, M. L., **Zieffler, A.**, Cabrera, J.<sup>†</sup>, Karl, S. R.<sup>†</sup>, & Cohen, H. S. (2012). Automated assembly of optimally spaced and balanced paired comparisons: Controlling order effects. *Behavioral Research Methods*, 44(3), 753–764. <https://doi.org/10.3758/s13428-011-0170-0>
- [8] Garfield, J., **Zieffler, A.**, Kaplan, D., Cobb, G., Chance, B., & Holcomb, J. P. (2011). Rethinking assessment of student learning in statistics courses. *The American Statistician*, 65(1), 1–10. <https://doi.org/10.1198/tast.2011.08241>
- [7] Schillo, B. A., Mowery, A., Greenseid, L. O., Luxenberg, M. G., **Zieffler, A.**, Christenson, M., & Boyle, R. G. (2011). The relationship between media promotions and service volume for a statewide tobacco quitline and web-based cessation program. *BMC Public Health*, 11(939). <https://doi.org/10.1186/1471-2458-11-939>
- [6] **Zieffler, A.**, Garfield, J., delMas, R., Bjornsdottir, A.<sup>†</sup>, Isaak, R.<sup>†</sup>, Le, L.<sup>†</sup>, & Park, J.<sup>†</sup> (2011). Publishing in SERJ: An analysis of papers from 2002–2009. *Statistics Education Research Journal*, 10(2), 5–26. [http://www.stat.auckland.ac.nz/~iase/serj/SERJ10\(2\)\\_Zieffler.pdf](http://www.stat.auckland.ac.nz/~iase/serj/SERJ10(2)_Zieffler.pdf)
- [5] 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>
- [4] **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. [http://www.stat.auckland.ac.nz/~iase/serj/SERJ8\(1\)\\_Zieffler\\_Garfield.pdf](http://www.stat.auckland.ac.nz/~iase/serj/SERJ8(1)_Zieffler_Garfield.pdf)
- [3] Everson, M., **Zieffler, A.**, & Garfield, J. (2008). Implementing new reform guidelines in teaching introductory college statistics courses. *Teaching Statistics*, 30(3), 66–70. <https://doi.org/10.1111/j.1467-9639.2008.00331.x>
- [2] **Zieffler, A.**, Garfield, J., Alt, S.<sup>†</sup>, Dupuis, D.<sup>†</sup>, Holleque, K.<sup>†</sup>, & Chang, B.<sup>†</sup>, (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*, 16(2). <https://doi.org/10.1080/10691898.2008.11889566>
- [1] **Zieffler, A.**, Garfield, J., delMas, R., & Reading, C. (2008). A framework to support research on informal inferential reasoning. *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)

## Books and Book Chapters

<sup>†</sup> denotes graduate student

- [9] National Academies of Sciences, Engineering, and Medicine. (2018). [Contributing Author]. *Data science for undergraduates: Opportunities and options*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/25104>
- [8] Garfield, J., **Zieffler, A.**, & Fry, E.<sup>†</sup> (2017). What is statistics education? In D. Ben-Zvi, K. Makar, & J. Garfield (Eds.), *The international handbook of research in statistics education* (pp. 37–70). Cham, Switzerland: Springer International Publishing.
- [7] **Zieffler, A.**, & Fry, E.<sup>†</sup> (eds.) (2015). *Reasoning about uncertainty: Learning and teaching informal inferential reasoning*. Minneapolis, MN: Catalyst Press.
- [6] delMas, R., Garfield, J., & **Zieffler, A.** (2014). Using TinkerPlots™ to develop tertiary students' statistical thinking in a modeling-based introductory statistics class. In T. Wassong, D. Frischemeier, P. R. Fischer, R. Hochmuth, & P. Bender (Eds.), *Mit Werkzeugen, Mathematik und Stochastik Lernen—Using tools for Learning Mathematics and Statistics* (pp. 405–420). Wiesbaden, Germany: Springer Spektrum.
- [5] **Zieffler, A.**, & Catalysts for Change (2012). *Statistical thinking: A simulation approach to modeling uncertainty*. Minneapolis, MN: Catalyst Press.
- [4] **Zieffler, A.**, Harring, J., & Long, J. D. (2011). *Comparing groups: Randomization and bootstrap methods using R*. New York: Wiley.
- [3] Garfield, J., delMas, R., & **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* (pp. 75–86). Chichester, West Sussex, England: John Wiley & Sons Ltd.

- [2] **Zieffler, A.** (2008). [Contributing Author]. In J. Garfield & D. Ben-Zvi, *Developing students' statistical reasoning: Connecting research and teaching practice*. Springer: New York.
- [1] Ben-Zvi, D., Garfield, J., & **Zieffler, A.** (2006). Research in the statistics classroom: Learning from teaching experiments. In G. Burrill, & P. C. Elliott (Eds.), *Thinking and reasoning with data and chance: 68th NCTM yearbook* (pp. 467–482). Reston, VA: National Council of Teachers of Mathematics.

## Open Education Resources

- [4] **Zieffler, A.**, & Legacy, C. (2023). *An Introduction to Data Analysis*. <https://ziefooo2.github.io/epsy-5261/>
- [3] Rodriguez, M., & **Zieffler, A.** (2021). *Matrix algebra for educational scientists*. <https://ziefooo2.github.io/matrix-algebra/>
- [2] **Zieffler, A.**, & Catalysts for Change. (2013, 2015, 2017, 2018, 2021). *Lab manual for Statistical Thinking: A Simulation Approach to Modeling Uncertainty*. <https://github.com/ziefooo2/statistical-thinking/>
- [1] **Zieffler, A.**. (2020). *Statistical modeling and computation for educational scientists* <https://ziefooo2.github.io/modeling/>

## Software

† denotes graduate student

- [4] **Zieffler, A.** (2019). *gopherdown: R Markdown template for writing a UMN thesis*. <https://github.com/ziefooo2/gopherdown>
- [3] **Zieffler, A.** (2019). *educate: Miscellaneous R functions for educational statistics*. <https://github.com/ziefooo2/educate>
- [2] Brown, E., **Zieffler, A.**, Nickodem, K.†, Vue, K.†, & Anderson, E.† (2016). *QME: Classic test theory item analysis*. <https://github.com/ziefooo2/QME>
- [1] **Zieffler, A.**, Karl, S. R.†, & Cabrera, J.† (2011). *ross: An R package for Ross ordering*. <https://github.com/ziefooo2/Ross>

## Conference Papers and Proceedings

† denotes graduate student

- [16] Demirci, S., Dogucu, M., **Zieffler, A.**, & Rosenberg, J. (2023). Learning difficulties of introductory data science students. Proceedings of the IASE Satellite Conference.
- [15] Legacy, C.†, Rao, V. N.†, **Zieffler, A.**, & delMas, R. (2022). Data to graphs and back: Secondary teachers' reasoning about the aesthetic mappings that link data and visualizations. In K. Makar, and D. Ben-Zvi (Eds.), *Proceedings of the 12th International Research Forum on Statistical Reasoning, Thinking, and Literacy (SRTL-12)*.
- [14] **Zieffler, A.**, Huberty, M.†, delMas, R., & Justice, N. (2019). *From probabilistic to algorithmic modeling (and back): A case study of secondary teachers*. In R. Gould & L. Zanonian (Eds.), *Proceedings of SRTL-11: New ways of interacting with data, context and chance in statistical modelling processes*. Los Angeles, CA: University of California, Los Angeles.
- [13] Justice, N., Huberty, M.†, **Zieffler, A.**, & delMas, R. (2017). Secondary teachers' reasoning about statistical models. In S. Budgett, and M. Pfannkuch (Eds.), *Proceedings of SRTL-10: Innovations in statistical modelling to connect data, chance and context* (pp. 135–156). Auckland, New Zealand: University of Auckland.
- [12] Sabbag, A.†, Garfield, J., & **Zieffler, A.** (2015). Quality assessments in statistics education: A focus on the GOALS instrument. In M Alejandra Sorto (Ed.), *Advances in statistics education: Developments, experiences, and assessments (IASE 2015 Satellite Conference)*. Voorburg, The Netherlands: International Statistical Institute. [http://iase-web.org/documents/papers/sat2015/IASE2015%20Satellite%2041\\_SABBAG.pdf](http://iase-web.org/documents/papers/sat2015/IASE2015%20Satellite%2041_SABBAG.pdf)

- [11] Parker, N.<sup>†</sup>, Fry, E.<sup>†</sup>, Garfield, J., & **Zieffler, A.** (2014). Graduate teaching assistants' beliefs, practices, and preparation for teaching introductory statistics. In K. Makar, B. de Sousa, and R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS-9)*. Voorburg, The Netherlands: International Statistical Institute. [http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9\\_C200\\_PARKER.pdf](http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9_C200_PARKER.pdf)
- [10] Sabbag, A.<sup>†</sup> & **Zieffler, A.** (2014). A psychometric analysis of the goals and outcomes associated with learning statistics (GOALS) instrument. In K. Makar, B. de Sousa, and R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS-9)*. Voorburg, The Netherlands: International Statistical Institute. [http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9\\_P27\\_SabbagZieffler.pdf](http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9_P27_SabbagZieffler.pdf)
- [9] **Zieffler, A.**, delMas, R. C., Garfield, J. & Brown, E.<sup>†</sup> (2014). The symbiotic, mutualistic relationship between modeling and simulation in developing students' statistical reasoning about inference and uncertainty. In K. Makar, B. de Sousa, and R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS-9)*. Voorburg, The Netherlands: International Statistical Institute. [http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9\\_8B1\\_ZIEFFLER.pdf](http://iase-web.org/icots/9/proceedings/pdfs/ICOTS9_8B1_ZIEFFLER.pdf)
- [8] delMas, R., Garfield, J., & **Zieffler, A.** (2014). The symbiotic role of modeling and simulation for developing students' statistical reasoning related to inference and uncertainty. In *Papers Presented at the 2014 National Council of Teachers of Mathematics Research Pre-session*. New Orleans, LA.
- [7] delMas, R., Garfield, J., & **Zieffler, A.** (2010). Developing tertiary-level students' statistical thinking through the use of model-eliciting activities. In C. Reading (Ed.), *Proceedings of the Eighth International Conference on Teaching Statistics*. Voorburg, The Netherlands: International Statistical Institute.
- [6] **Zieffler, A.**, Garfield, J., delMas, R., and Bjornsdottir, A.<sup>†</sup> (2010). Development of an instrument to assess statistical thinking. In C. Reading (Ed.), *Proceedings of the Eight International Conference on Teaching Statistics*. Voorburg, The Netherlands: International Statistical Institute.
- [5] **Zieffler, A.** (2008). *Dirk Gently's Guide to Holistic Assessment*. In *Papers Presented at the 2008 Joint Statistical Meetings*. Denver, CO, July 31–August 7, 2008.
- [4] Garfield, J., **Zieffler, A.**, delMas, R., Chance, B., Hilton, S., & Lesser, L. (2007). Practical issues in conducting statistics education research. In *Papers Presented at the 2006 Joint Statistical Meetings*. Seattle, WA, August 6–10, 2006.
- [3] Lane-Getaz, S.<sup>†</sup>, & **Zieffler, A.** (2007). Using simulation to introduce inference: An active learning approach. In *Papers Presented at the 2006 Joint Statistical Meetings*. Seattle, WA, August 6–10, 2006.
- [2] **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*. [https://www.stat.auckland.ac.nz/~iase/publications/isi56/IPM40\\_Zieffler.pdf](https://www.stat.auckland.ac.nz/~iase/publications/isi56/IPM40_Zieffler.pdf)
- [1] **Zieffler, A.**, Garfield, J., delMas, R., & Gould, R. (2007). Studying the development of college students' informal reasoning about statistical inference. *Proceedings of the 5th Statistical Reasoning, Thinking and Literacy (SRTL) Research Forum, Coventry, England*.

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## Other Publications

<sup>†</sup> denotes graduate student

- [6] Horton, N. J., Baumer, Benjamin S., **Zieffler, A.**, & Barr, V. (2021). The Data Science Corps Wrangle-Analyze-Visualize program: Building data acumen for undergraduate students. *Harvard Data Science Review*, 3(1). <https://doi.org/10.1162/99608f92.8233428d>
- [5] **Zieffler, A.**, & Justice, N.<sup>†</sup> (2015). Teardowns, historical renovation, and paint-and-patch: Curricular changes and faculty development. Invited comment on G. Cobb, 'Mere renovation is too little too late: We need to Rethink our Undergraduate Curriculum from the Ground Up'. *The American Statistician*, 69(4). <http://dx.doi.org/10.1080/00031305.2015.1093029>
- [4] Isaak, R., **Zieffler, A.**, & Garfield, J. (2013). Response. *Technology Innovations in Statistics Education*, 7(3). <http://escholarship.org/uc/item/8gq9t3c3>

- [3] Gill, B., **Zieffler, A.**, Boynton, N., Alberts, K. S., Humphrey, P., McKenzie, J., & Posner, M. A. (2012). Response to ‘Statistics à la Mode’. *AmStat News*, February, x–xx. <http://magazine.amstat.org/blog/2012/02/01/maa-response/>
- [2] Garfield, J., & **Zieffler, A.** (2011). 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*, 174(Part 2), 280.
- [1] **Zieffler, A.** (1999). A statistical journey with ninth grade students. *Math Times*, Winter, 14.

## Invited Presentations

† denotes graduate student

- [60] Lisinker, R.†, **Zieffler, A.**, & Legacy, C. (2023, June). *Talking in code: Code review as a form of communication*. Invited lightning talk presented at the Research Satellite of the United States Conference on Teaching Statistics, State College, PA.
- [59] **Zieffler, A.**, & Brown, E. (2022, September). Invited disussant at the National Center for Leadership in Intensive Intervention (NCLII) Scholar Meeting, University of Minnesota, Minneapolis, MN.
- [58] **Zieffler, A.** (2022, February). *Andy: An academic career focused on teaching*. Invited presentation for the Educational Psychology Research Colloquium Series. University of Minnesota: Minneapolis, MN. <https://www.cehd.umn.edu/edpsych/research/research-presentations/>
- [57] Justice, N., **Zieffler, A.**, delMas, R., & Huberty, M. (2021, April). *Exploring new possibilities for teaching and learning statistical modeling: An algorithmic approach*. Invited presentation at Appalachian State University, Department of Mathematical Sciences.
- [56] **Zieffler, A.**, Justice, N., delMas, R., & Huberty, M.† (2021, April). *The use of algorithmic models to develop secondary teachers’ understanding of the statistical modeling process*. Invited presentation for the CAUSE webinar series. Online. <https://www.causeweb.org/cause/webinar/jsdse/2021-04>
- [55] **Zieffler, A.**, Hofelich Mohr, A., Brown, E. C., & Bye, J. K. (2020, July). *R @ 25 Lunch & Learn: Understanding the landscape of the popular free/open source statistics software*. Invited panel presentation for the Research Methodology Consulting Center and Liberal Arts Technologies and Innovation Services, University of Minnesota, Minneapolis, MN.
- [54] **Zieffler, A.** (2019, April). *Deprecating statistical significance: Toward better science*. Invited presentation for the Department of Speech-Language-Hearing Sciences (Pro-Sem), University of Minnesota, Minneapolis, MN.
- [53] **Zieffler, A.** (2018, October). *I’ve got a categorical variable. Now what?* Invited presentation for the Research Methodology Consulting Center (Lunch & Learn Series), University of Minnesota, Minneapolis, MN.
- [52] **Zieffler, A.** (2018, June). *Statistical computing: Non-ignorable missingness in the graduate-level social science curriculum*. Invited presentation at the Annual Meeting of the Statistical Society of Canada, Montreal.
- [51] **Zieffler, A.** (2017, July). *The idle ramblings of an inquisitive malcontent (or discussing models)*. Invited presentation at the 10th Statistical Reasoning, Thinking and Literacy (SRTL) Research Forum, Rotorua, New Zealand.
- [50] **Zieffler, A.**, Sullivan, A., Utts, J., & Wender, B. (2017, May). *Statistics and the emerging discipline of data science*. Invited presentation and breakout session at the United States Conference on Teaching Statistics. State College, PA.
- [49] **Zieffler, A.**, Belitsky, J., Stanhope, E., & Overvoorde, P. (2017, March). *Development of BioSQuaRE*. Invited presentation at the HHMI Constellation Studio Meeting, Chevy Chase, MD.
- [48] **Zieffler, A.**, & Stohl Lee, H. (2017, February). *Using simulations and modeling environments as data sources*. Invited presentation at the Data Science Education Technology Conference. Berkeley, CA.
- [47] **Zieffler, A.** (2016, December). *Increasing diversity in data science*. Invited presentation at Envisioning the data science discipline: The undergraduate perspective. National Academies of Sciences, Engineering, and Medicine, Washington DC.

- [46] **Zieffler, A.** (2016, March). *Putting the CART before the horse: Introducing advanced methodologies in introductory statistics courses*. Invited presentation at the Canadian Statistical Science Institute (CANSSI) Statistics Education Workshop at the Fields Institute, Toronto, Ontario, Canada. <http://www.fields.utoronto.ca/activities/15-16/statistics-ed-research>
- [45] Lebeau, B., **Zieffler, A.**, & Nickodem, K.<sup>†</sup> (2015, December). *Web scraping to item response theory: A college football adventure*. Invited presentation at the Central Iowa R Users Group, Des Moines, IA. <http://educate-r.org/2015/12/04/centraliowaruser/>
- [44] Sabbag, A.<sup>†</sup>, Garfield, J., & **Zieffler, A.** (2015, October). *A focus on statistical reasoning. What did we learn from the GOALS instrument?* Invited presentation at Stat Chat, Macalester College, St. Paul, MN.
- [43] **Zieffler, A.** & Huberty, M.<sup>†</sup> (2015, October). *Modeling and simulation via CATALST: An alternative option for high school students*. Invited webinar for the ASA K-12 Statistics Education Webinar Series. <https://www.amstat.org/education/webinars/>
- [42] **Zieffler, A.** (2015, July). *Statistics education: Is an evidence-based discipline based on evidence?* Invited presentation at the Canadian Statistical Sciences Institute's Statistics Education Workshop at The University of Western Ontario, London, Ontario, Canada.
- [41] delMas, R., Brown, E.<sup>†</sup>, & **Zieffler, A.** (2015, April). *A comparison between randomization-based and conventional introductory statistics courses*. Invited presentation at the School of Social Science, University of Iceland, Reykjavik.
- [40] delMas, R., Brown, E.<sup>†</sup>, & **Zieffler, A.** (2015, March). *A comparison between randomization-based and conventional introductory statistics courses*. Invited presentation at the Mid-Michigan Chapter of the American Statistical Association and faculty and students of the Department of Mathematics, Central Michigan University, Mount Pleasant, MI.
- [39] **Zieffler, A.** (2014, November). *On Your Markdown. Get set. Go!* Invited presentation for the Department of Speech-Language-Hearing Sciences (Pro-Sem), University of Minnesota, Minneapolis, MN.
- [38] **Zieffler, A.**, delMas, R., Garfield, J., & Brown, E.<sup>†</sup> (2014, July). *The symbiotic, mutualistic relationship between modeling and simulation in developing students' statistical reasoning about inference and uncertainty*. Invited paper presented at the Ninth International Conference on Teaching Statistics (ICOTS-9), Flagstaff, Arizona.
- [37] delMas, R., **Zieffler, A.**, & Brown, E.<sup>†</sup> (2014, April). *The symbiotic role of modeling and simulation for developing students' statistical reasoning related to inference and uncertainty*. Invited presentation at the National Council of Teachers of Mathematics Research Pre-session, New Orleans, LA.
- [36] **Zieffler, A.** (2013, April). *Spend time now; Save time later* Invited presentation for the Department of Speech-Language-Hearing Sciences (Pro-Sem), University of Minnesota, Minneapolis, MN.
- [35] Fry, E.<sup>†</sup>, Ziegler, L.<sup>†</sup>, Garfield, J., **Zieffler, A.**, & delMas, R. (2013, January). *The CATALST Course: Using randomization-based methods in an introductory statistics course*. Invited panel presentation at the Joint Mathematics Meetings, San Diego, CA.
- [34] Garfield, J., Kaplan, D., Konold, C., Lock, R., & **Zieffler, A.** (2012, July). *Models and modeling in introductory statistics classes*. Invited panel presentation at the Joint Statistics Meetings, Boston, MA.
- [33] Isaak, R.<sup>†</sup>, Garfield, J., **Zieffler, A.**, & delMas, R. (2012, June). *A different introductory statistics menu: Randomization and resampling techniques*. Invited presentation at the Quantitative Analysis Center Summer Workshop, Wesleyan University, Middletown, CT.
- [32] Garfield, J., delMas, R., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (2012, January). *Change agents for teaching and learning statistics: The catalyst cooks come to Harvard*. Invited presentation at Harvard University, Cambridge, MA.
- [31] **Zieffler, A.**, & Garfield, J. (2012, January). *Teaching introductory statistics to college students who have taken curricula based on the CCSS*. Invited presentation at the Joint Mathematics Meetings, Boston, MA.
- [30] **Zieffler, A.** (2011, December). *Computing tools for the applied data analyst*. An invited presentation at the EDMS Measurement & Statistics Monday Symposia, University of Maryland, College Park, MD.
- [29] Isaak, R.<sup>†</sup>, Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb, J., Cobb, G., Everson, M., Ziegler, L.<sup>†</sup>, & Le, L.<sup>†</sup> (2011, August). *The course as textbook*. Invited paper presented at the Joint Statistical Meetings, Miami, FL.

- [28] Ziegler, L.<sup>†</sup>, **Zieffler, A.**, Garfield, J., delMas, R., Rossman, A., Chance, B., Holcomb, J., Cobb, G., Isaak, R.<sup>†</sup>, & Le, L.<sup>†</sup> (2011, August). *CART in CATALST*. Invited paper presented at the Joint Statistical Meetings, Miami, FL.
- [27] Isaak, R.<sup>†</sup>, Le, L.<sup>†</sup>, Ziegler, L.<sup>†</sup>, Garfield, J., **Zieffler, A.**, & delMas, R. (2011, June). *Create an iron chef in statistics classes?* Invited Web seminar presented for the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE), The Ohio State University, Columbus, OH. <http://www.causeweb.org/webinar/teaching/2011-06>
- [26] **Zieffler, A.**, delMas, R., Groth, R., & Mvududu, N. (2011, May). *Introduction to qualitative research methods in statistics education research*. Invited presentation at the United States Conference on Teaching Statistics, Raleigh, NC.
- [25] Garfield, J., delMas, R., & **Zieffler, A.** (2011, March). *Developing students' statistical reasoning through active learning*. Invited presentation at the Japanese Conference on Teaching Statistics, Rikkyo University, Tokyo, Japan.
- [24] Garfield, J., delMas, R., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L. A.<sup>†</sup> (2011, March). *A different flavor of introductory statistics: Teaching students to really cook*. Invited presentation at the Center for Statistical Information, Rikkyo University, Tokyo, Japan.
- [23] **Zieffler, A.**, Garfield, J., delMas, R., Rossman, A., Chance, B., Holcomb, J., Cobb, G., Isaak, R.<sup>†</sup>, Le, L.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (2011, April). *It takes a village to effect change: The CATALST course teaching experiment*. Invited presentation at the National Council of Teachers of Mathematics Research Presession, Indianapolis, IN.
- [22] delMas, R., Garfield, J., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (2011, February). *A different flavor of introductory statistics: Teaching students to really cook*. Invited presentation at Stat Chat, Macalester College, St. Paul, MN.
- [21] delMas, R., Garfield, J., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (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.
- [20] delMas, R., Garfield, J., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (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.
- [19] delMas, R., Garfield, J., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (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.
- [18] **Zieffler, A.** (2010, July). *Assessment for learning*. Invited presentation for the Project MOSAIC Kick-Off Workshop, Institute for Mathematics and its Applications, Minneapolis, MN.
- [17] 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.
- [16] **Zieffler, A.** (2010, May). *Vive la reforme! On the history of statistics education*. Invited presentation for the Statistics Department, University of California, Los Angeles.
- [15] **Zieffler, A.** (2010, March). *Using R for statistical analysis*. Invited presentation for the Minnesota Evaluation Studies Institute, Bloomington, MN.
- [14] Garfield, J., delMas, R., & **Zieffler, A.** (2010, February). *Sample an AIMS activity: What makes the standard deviation larger or smaller?* Invited Web seminar for the Consortium for the Advancement of Undergraduate Statistical Education (CAUSE), The Ohio State University, Columbus, OH.
- [13] **Zieffler, A.** (2010, January). *Excuse me ... Where is the Department of Statistics Education?* Invited presentation at the Joint Mathematical Meetings, San Francisco, CA.
- [12] **Zieffler, A.** (2009, September). *Vive la reforme! On the history of statistics education*. Invited presentation at Stat Chat, Macalester College, St. Paul, MN.
- [11] delMas, R., Garfield, J., & **Zieffler, A.** (2009, August). *A national survey on teaching practices in undergraduate statistics instruction*. Invited presentation at the Joint Statistical Meetings, Washington, DC.

- [10] **Zieffler, A.**, Garfield, J., & delMas, R. (2009, August). *Change agents for teaching and learning statistics: The CATALST project*. Invited presentation at the Joint Statistical Meetings, Washington, DC.
- [9] Kaplan, D., & **Zieffler, A.** (2009, June). *Using R for teaching statistics*. Invited presentation at the United States Conference on Teaching Statistics, Columbus, OH.
- [8] delMas, R., Garfield, J., & **Zieffler, A.** (2009, February). *Aiming to improve students' statistical reasoning: An introduction to AIMS materials*. Invited Web seminar for the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE), The Ohio State University, Columbus, OH.
- [7] **Zieffler, A.** (2008, October). *Graphics and Visualizations*. Invited presentation at Stat Chat, Macalester College, St. Paul, MN.
- [6] **Zieffler, A.** (2008, August). *Dirk Gently's guide to holistic assessment*. Invited paper presented at the Joint Statistical Meetings, Denver, CO.
- [5] Rodriguez, M., & **Zieffler, A.** (2007, November). *Measurement that supports assessment for learning*. Invited Web seminar for the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE), The Ohio State University, Columbus, OH.
- [4] **Zieffler, A.**, Garfield, J., & delMas, R. (2007, August). *Studying the role of simulation in developing students' statistical reasoning*. Invited presentation at the 56th Session of the International Statistical Institute (ISI), Lisbon, Portugal.
- [3] **Zieffler, A.**, & Everson, M. (2007, May). *GAISE 2007: A statistics odyssey*. Invited presentation at the United States Conference on Teaching Statistics, Columbus, OH.
- [2] **Zieffler, A.** (2007, March). *Conducting classroom research in statistics education: Issues, challenges and examples*. Invited Web seminar presented for the Consortium for the Advancement of Undergraduate Statistics Education (CAUSE), The Ohio State University, Columbus, OH.
- [1] **Zieffler, A.** (2006, August). *Conducting classroom research and writing a dissertation: Lessons learned about statistics education research*. Invited paper presented at the Joint Statistical Meetings, Seattle, WA.

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## Contributed Presentations

† denotes graduate student

- [47] Le, L., Hayat, M., Green, J., Kaplan, J., Peters, S., & **Zieffler, A.** (2023, June). *Demystifying the publishing process for statistics education journals*. Presentation at the United States Conference on Teaching Statistics, State College, PA.
- [46] Erickson, J., McNaron, Toni, **Zieffler, A.**, & Beaton, J. (2022, November). *Impactful faculty-led professional development (PD) A discipline-specific framework to guide instructors' investment in the field*. Panel presentation at National Alliance of Concurrent Enrollment Partnerships (NACEP) annual conference, Minneapolis, MN.
- [45] Legacy, C.†, Rao, V. N. V.†, **Zieffler, A.**, & delMas, R. C. (2022, January). *Data to graphs and back: Secondary teachers' reasoning about the aesthetic mappings that link data and visualizations*. Presentation at the 12th Statistical Reasoning, Thinking and Literacy (SRTL-12) Research Forum, Online.
- [44] McNamara, A., Beckman, M., Legacy, C.†, **Zieffler, A.**, delMas, R. C., & Rao, V. N. V.† (2021, August). *Integrating computation in statistics: Instructional decisions for Teaching R Speed* presentation at the Joint Statistical Meetings, Seattle, Washington.
- [43] Rowell, G., Kuiper, S., Sturdivant, R., & **Zieffler, A.** (2021, August). *Can students learn statistics while playing games? A regression example*. Presentation at the Joint Statistical Meetings, Seattle, WA.
- [42] **Zieffler, A.** (2021, July). *Program assessment sub-working group*. Presentation at the South Big Data Hub All-Hands Meeting, Online.
- [41] Baumer, B. S., Horton, N. J., **Zieffler, A.**, & Legacy, C.† (2021, June). *Facilitating team-based data science: Lessons learned from the DSC-WAV project*. Presentation at the United States Conference on Teaching Statistics, Online.
- [40] Justice, N., **Zieffler, A.**, delMas, R., & Huberty, M. (2021, February). *Scouting new trails: An algorithmic approach to teaching and learning statistical modeling*. Presentation at Pacific Lutheran University.

- [39] Justice, N., Huberty, M.<sup>†</sup>, **Zieffler, A.**, & delMas, R. (2019, November). *Is it time to put the CART before the horse? A case for algorithmic modeling in the K–12 curriculum*. Presentation at the University of Washington Math Enthusiast Series, Tacoma, WA.
- [38] Huberty, M.<sup>†</sup>, **Zieffler, A.**, delMas, R., & Justice, N. (2019, July). *From probabilistic to algorithmic modeling (and back): A case study of secondary teachers*. Presentation at the 11th Statistical Reasoning, Thinking and Literacy (SRTL-11) Research Forum, Los Angeles, CA.
- [37] **Zieffler, A.** (2019, July). *TinkerPlots II: The departed*. Presentation at the 11th Statistical Reasoning, Thinking and Literacy (SRTL-11) Research Forum, Los Angeles, CA.
- [36] **Zieffler, A.** (2019, July). *Discussion*. Presentation at the 11th Statistical Reasoning, Thinking and Literacy (SRTL-11) Research Forum, Los Angeles, CA.
- [35] Dolor, J., Clement, K., **Zieffler, A.**, Huberty, M.<sup>†</sup>, Noll, J., & Kirin, D. (2019, June). *Exploring student approaches to model construction in a simulation-based inference curriculum*. Presentation at the United States Conference on Teaching Statistics, State College, PA.
- [34] Huberty, M., Justice, N., **Zieffler, A.**, & delMas, R. (2018, July). *Secondary teachers' understanding of statistical modeling after teaching a simulation-based statistical inference course*. Presentation at the 10th International Conference on Teaching Statistics, Kyoto, Japan.
- [33] Butler, D., Finholm, J., Johnson, K., Nguyen, M., Huberty, M.<sup>†</sup>, & **Zieffler, A.** (2018, May). *Teaching statistics from the trenches*. Presentation at the Minnesota Council of Teachers of Mathematics Spring Conference, Duluth, MN.
- [32] Gust, A., Swendiman, S., Hanson, M., Mullenbach, M., Gieschen, T., Huberty, M.<sup>†</sup>, & **Zieffler, A.** (2018, May). *Be above average: Teaching introductory statistics for deeper understanding*. Presentation at the Minnesota Council of Teachers of Mathematics Spring Conference, Duluth, MN.
- [31] Kolaczyk, E., **Zieffler, A.**, & Wender, B. (2018, May). *Data science education across the U.S. and the National Academies*. Presentation at the Electronic Conference On Teaching Statistics.
- [30] Justice, N.<sup>†</sup>, **Zieffler, A.**, Huberty, M., & delMas, R. (2017, July). *Secondary teachers' reasoning about statistical models*. Presentation at the 10th Statistical Reasoning, Thinking and Literacy (SRTL-10) Research Forum, Rotorua, New Zealand.
- [29] LeBeau, B., **Zieffler, A.**, & Nikodem, K.<sup>†</sup> (2016, August). *Estimating NCAA football coaches' abilities: An application of item response theory*. Presentation at the Joint Statistical Meetings, Chicago, IL. <http://educate-r.org/2016/07/31/jsm2016.html>
- [28] Brown, E.<sup>†</sup>, Vue, K.<sup>†</sup>, & **Zieffler, A.** (2016, June). *Convenient educational and psychological test reporting with the QME package and a Shiny UI*. Presentation at the 2016 UseR! conference, Palo Alto, CA.
- [27] Overvoorde, P., Belitsky, J., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, Preest, M., Stanhope, L., Umbanhowe, C., Jr., Vines, M., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2016, April). *Lessons learned during the development of BioSQuaRE, an instrument to assess undergraduate biological quantitative skills*. Presentation at the HHMI Constellation Studios for Science Education, Chevy Chase, MD.
- [26] Johnston-Goodstar, K., VeLure Roholt, R. R., Fink, A.<sup>†</sup>, & **Zieffler, A.** (2016, April). *School climate and Native American youth well-being*. Roundtable presentation at the annual meeting of the American Educational Research Association, Washington DC.
- [25] **Zieffler, A.**, & Huberty, M.<sup>†</sup> (2015, November). *Modeling and simulation via CATALST: An alternative option for high school students*. Presentation at the National Council of Teachers of Mathematics Regional Conference, Minneapolis, MN.
- [24] Sabbag, A.<sup>†</sup>, Garfield, J., & **Zieffler, A.** (2015, July). *Quality assessments in statistics education: A focus on the GOALS instrument*. Presentation at the International Association for Statistics Education Satellite Conference, Rio do Janeiro, Brazil.
- [23] Belitsky, J., Vines, M., Darling, N., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, McFadden, C., Overvoorde, P., Preest, M., Stanhope, L., Umbanhowe, C., Jr., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015, May). *Assessing quantitative skills preparedness and learning*. Presentation at the Ohio Project Kaleidoscope Conference, Otterbein University, Westerville, OH.



- [22] Overvoorde, P., Belitsky, J., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, McFadden, C., Preest, M., Stanhope, L., Umbanhowe, C., Jr., Vincas, M., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015, May). *Defining the quantitative and computational skills of incoming biology students*. Presentation at the Understanding Interventions Conference, San Diego, CA.
- [21] Overvoorde, P., Belitsky, J., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, McFadden, C., Preest, M., Stanhope, L., Umbanhowe, C., Jr., Vincas, M., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015, February). *Past and future of BioSQuaRE as an instrument developed by the Q6 Consortium*. Presentation at the Quantitative Undergraduate Biology Education Summit, Raleigh, NC.
- [20] Justice, N.<sup>†</sup>, Garfield, J., Fry, E.<sup>†</sup>, & **Zieffler, A.** (2014, July). *The Graduate Student Statistics Teaching Inventory*. Paper presented at the Ninth International Conference on Teaching Statistics (ICOTS-9), Flagstaff, Arizona.
- [19] delMas, R., **Zieffler, A.**, & Brown, E.<sup>†</sup> (2013, August). *Students' emerging reasoning with uncertainty in a randomization-based first course in statistics at the tertiary level*. Presentation at the Eighth International Research Forum on Statistical Reasoning, Thinking, and Literacy, Duluth, MN.
- [18] Isaak, R.<sup>†</sup>, **Zieffler, A.**, Garfield, J., & Kaplan, D. (2012, January). *Developing a modeling concept inventory*. Presentation at the Joint Mathematics Meetings, Boston, MA.
- [17] Isaak, R.<sup>†</sup>, **Zieffler, A.**, Garfield, J., & Kaplan, D. (2011, November). *Developing a concept inventory for modeling*. An M-Cast presented for Project MOSAIC. <http://www.mosaic-web.org/MCAST/videos/MCAST-2011-11-18/index.htm>
- [16] Park, J.<sup>†</sup>, delMas, R., **Zieffler, A.**, & Garfield, J. (2011, August). *A research-based statistics course for tertiary students*. Paper presented at the 58th Session of the International Statistical Institute (ISI), Dublin, Ireland.
- [15] **Zieffler, A.**, delMas, R., & Garfield, J. (2011, July). *How do tertiary students reason about samples and sampling in the context of a modeling and simulation approach to inference?* Presentation at the 7th Statistical Reasoning, Thinking and Literacy (SRTL) Research Forum, Texel Island, The Netherlands.
- [14] **Zieffler, A.** (2011, May). *Using R for teaching bootstraps and randomizations*. Demonstration session at the United States Conference on Teaching Statistics, Raleigh, NC.
- [13] Garfield, J., delMas, R., & **Zieffler, A.** (2010, July). *Developing tertiary-level students' statistical thinking through the use of model-eliciting activities*. Presentation at the Eighth International Conference on Teaching Statistics, Ljubljana, Slovenia.
- [12] **Zieffler, A.**, Garfield, J., & delMas, R. (2010, July). *Development of an instrument to assess statistical thinking*. Paper presented at the Eighth International Conference on Teaching Statistics, Ljubljana, Slovenia.
- [11] Park, J.<sup>†</sup>, Bjornsdottir, A.<sup>†</sup>, **Zieffler, A.**, Garfield, J., & delMas, R. (2010, May). *Developing a statistics teaching and beliefs survey*. Paper presented at the annual meeting of the American Educational Research Association, Denver, CO.
- [10] Garfield, J., delMas, R., & **Zieffler, A.** (2009, September). *Science Education Resource Center Digital Library project*. Presentation at Stat Chat, Macalester College, St. Paul, MN.
- [9] Schillo, B., Dreher, M., St. Claire, A., Luxenberg, M., Christenson, M., & **Zieffler, A.** (2009, April). *Promoting statewide helpline and web-based cessation services: An analysis of service volumes and media efforts*. Paper presented at the Joint Conference of Society for Research on Nicotine and Tobacco and Society for Research on Nicotine and Tobacco-Europe, Dublin, Ireland.
- [8] **Zieffler, A.** (2009, April). *Using R in the introductory graduate statistics sequence*. Presentation for the Educational Statisticians Special Interest Group, at the annual meeting of the American Educational Research Association, San Diego, CA.
- [7] **Zieffler, A.** (2008, March). *Rethinking graduate applied educational statistics classes*. Presentation for the Educational Statisticians Special Interest Group, at the annual meeting of the American Educational Research Association, New York, NY.
- [6] delMas, R., Garfield, J., & **Zieffler, A.** (2008, January). *Innovative, research-based activities for a first course in statistics*. Paper presented at the Joint Mathematics Meetings, San Diego, CA.
- [5] **Zieffler, A.**, Garfield, J., delMas, R., & Gould, R. (2007, August). *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.

- [4] **Zieffler, A.**, & Garfield, J. (2007, April). *Modeling the growth of students' covariational reasoning during an introductory statistics course*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- [3] Garfield, J., delMas, R., & **Zieffler, A.** (2006, September). *Adapting and Implementing Innovative Materials in Statistics (AIMS): Developing lessons aligned with GAISE*. Presentation at Stat Chat, Macalester College, St. Paul, MN.
- [2] **Zieffler, A.** (2005, August). *Using GAISE to create a better introductory statistics course*. Paper presented at the Joint Statistical Meetings, Minneapolis, MN.
- [1] **Zieffler, A.** (2001, June). *Using the TI-83 calculator to create fractals*. Paper presented at the Saint Cloud State University Fractals & Chaos Workshop, Saint Cloud, MN.

## Posters

† denotes graduate student

- [38] Lisinker, R.†, **Zieffler, A.**, & Legacy, C. (2023, June). *Talking in code: Code review as a form of communication*. Poster presented at the 13th Annual Satellite Conference of the International Association for Statistical Education, Toronto, Canada.
- [37] Vivas Corrales, P.†, Legacy, C., Le, L., **Zieffler, A.**, & Fry, E. (2023, June). *Statistics Teaching Inventory: Exploring the alignment of introductory statistics instructors' teaching and assessment practices to professional recommendations*. Poster presented at the Research Satellite of the United States Conference on Teaching Statistics, State College, PA.
- [36] Lisinker, R.†, **Zieffler, A.**, & Legacy, C. (2023, June). *Talking in code: Code review as a form of communication*. Poster presented at the United States Conference on Teaching Statistics, State College, PA.
- [35] Lisinker, R.†, **Zieffler, A.**, & Legacy, C. (2023, June). *Talking in code: Code review as a form of communication*. Poster presented at the Research Satellite of the United States Conference on Teaching Statistics, State College, PA.
- [34] Dragich, E.†, Beckman, M., Çetinkaya-Rundel, M., Dogucu, M., Legacy, C., Tackett, M., & **Zieffler, A.** (2023, June). *Creating a standardized assessment to measure learning in introductory data science courses*. Poster presented at the United States Conference on Teaching Statistics, State College, PA.
- [33] Dragich, E.†, Beckman, M., Çetinkaya-Rundel, M., Dogucu, M., Legacy, C., Tackett, M., & **Zieffler, A.** (2023, June). *Creating a standardized assessment to measure learning in introductory data science courses*. Poster presented at the Research Satellite of the United States Conference on Teaching Statistics, State College, PA.
- [32] Beckman, M., Cetinkaya-Rundel, M., Dogucu, M., Dragich, E.†, Legacy, C., Tackett, M., & **Zieffler, A.** (2022, August). *Piloting a new assessment tool for data science education researchers*. Poster presented at the 18th ACM Conference on International Computing Education Research (ICER '22), Lugano, Switzerland. ACM, New York, NY, USA.
- [31] Stagnaro, K.†, Kim, J., McMaster, K.L., Kendeou, P., & **Zieffler, A.** (2022, July). *Assessing inference making with the Minnesota Inference Assessment (MIA)*. Poster presented at the Society for Text & Discourse 32nd Annual Meeting, Atlanta, GA, United States.
- [30] Legacy, C.†, **Zieffler, A.**, Fry, E., & Le, L. (2021, August). *COMPUTES: Evaluating the state of computing in introductory statistics*. Poster presented at the 12th Annual Satellite Conference of the International Association for Statistical Education, Online.
- [29] Rao, V. N. V.†, Legacy, C.†, Brown, J. M.†, **Zieffler, A.**, & delMas, R. (2021, August). *Data-to-graphs and back: Secondary teachers' reasoning about aesthetic mappings in data visualization*. Poster presented at the 12th Annual Satellite Conference of the International Association for Statistical Education, Online.
- [28] Legacy, C.†, **Zieffler, A.**, Fry, E., & Le, L. (2021, June). *The state of computing in introductory statistics*. Poster presented at the United States Conference on Teaching Statistics, Online.
- [27] McNamara, A., Legacy, C.†, Rao, V.†, Butler, E. B.†, delMas, R., **Zieffler, A.**, & Beckman, M. (2021, June). *Computing in the statistics curriculum: Lessons learned from the educational sciences*. Poster presented at the United States Conference on Teaching Statistics, Online.

- [26] Rao, V.<sup>†</sup>, Legacy, C.<sup>†</sup>, & **Zieffler, A.** (2021, June). *Students' perspectives on entering a data science career after experiential learning with local community organizations*. Poster presented at the United States Conference on Teaching Statistics, Online.
- [25] Brondos Fry, E., Legacy, C.<sup>†</sup>, **Zieffler, A.**, & Le, L. (2020, October). *The state of computing in introductory statistics*. Poster presented at Women in Statistics & Data Science Conference, Pittsburgh, PA, United States. <https://ww2.amstat.org/meetings/wds/2020/onlineprogram/ViewPresentation.cfm?file=308508.pdf>
- [24] Legacy, C.<sup>†</sup>, **Zieffler, A.**, Fry, E., & Le, L. (2020, February). *The state of computing in introductory statistics*. Poster presented at Graduate Student Research Day, University of Minnesota, Minneapolis, MN.
- [23] Brown, J.<sup>†</sup>, delMas, R., & **Zieffler, A.** (2018, July). *Statistical problem-solving cycles while solving simulation tasks during guided interviews*. Poster presented at the Joint Statistical Meetings, Vancouver, BC.
- [22] Brown, J.<sup>†</sup>, delMas, R., & **Zieffler, A.** (2018, March). *Statistical problem-solving cycles while solving simulation tasks during guided interviews*. Poster presented at University of Minnesota's Department of Educational Psychology Graduate Student Research Day, Minneapolis, MN.
- [21] Huberty, M.<sup>†</sup>, Justice, N., **Zieffler, A.**, & delMas, R. (2018, March). *A catalyst to understanding secondary mathematics teachers' knowledge and transitional conceptions of statistical models*. Poster presented at the CEHD Research Day, University of Minnesota, Minneapolis, MN.
- [20] Justice, N.<sup>†</sup>, **Zieffler, A.**, & Garfield, J. (2017, March). *An investigation of statistics graduate students? Communities of practice for teaching*. Poster presented at the University of Minnesota Department of Educational Psychology Graduate Student Research Day, Minneapolis, MN.
- [19] Vinces, M., Stanhope, L., Belitsky, J., Brodfuehrer, P., Davis, G., Haque, T., Le, L.<sup>†</sup>, Overvoorde, P., Preest, M., Umbanhowe, C., Jr., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015, November). *Development of BioSQuaRE, an instrument, an instrument to assess undergraduate biological quantitative skills*. Poster presented at the Crossing Boundaries: Transforming STEM Education, Network for Academic Renewal STEM Conference, Seattle, WA.
- [18] Davis, G., Stanhope, L., Belitsky, J., Brodfuehrer, P., Haque, T., Le, L.<sup>†</sup>, McFadden, C., Overvoorde, P., Preest, M., Umbanhowe, C., Jr., Vinces, M., **Zieffler, A.**, & Ziegler, L.<sup>†</sup> (2015, June). *Defining the quantitative skills of incoming biology students*. Poster presented at the HHMI Constellation Studio A meeting, Chevy Chase, MD.
- [17] delMas, R., Garfield, J., **Zieffler, A.**, & Fry, E.<sup>†</sup> (2015, May). *e-ATLAS: Evaluation and assessment of teaching and learning about statistics*. Poster presented at the United States Conference on Teaching Statistics, State College, PA.
- [16] Garfield, J., delMas, R., **Zieffler, A.**, Fry, E. B.<sup>†</sup>, & Pearl, D. (2015, January). *Evaluation and assessment of teaching and learning about statistics (e-ATLAS)*. Poster presented at the Joint Mathematics Meeting, San Antonio, TX.
- [15] Galos, D.<sup>†</sup>, Hurtado, G., Marczak, M., Lim, S. S.<sup>†</sup>, **Zieffler, A.**, Alviz, K.<sup>†</sup>, & Rajasenkar, N. (2014, November). *Physical activity And screen time among students receiving SNAP-Ed: A latent-class analysis*. Poster presented at the American Public Health Association Annual Meeting and Exposition, New Orleans, LA.
- [14] Le, L.<sup>†</sup>, Ziegler, L.<sup>†</sup>, & **Zieffler, A.** (2014, March). *Developing a quantitative skills assessment for incoming biology students*. Poster presented at Graduate Student Research Day, University of Minnesota, Minneapolis, MN.
- [13] Peralta Torres, Y. E.<sup>†</sup>, & **Zieffler, A.** (2014, March). *Do knowledge and beliefs matter? A profile of future primary mathematics teachers*. Poster presented at Graduate Student Research Day, University of Minnesota, Minneapolis, MN.
- [12] Garfield, J., delMas, R. & **Zieffler, A.** (2013, January). *Collaborative research: The CATALST project, change agents for teaching and learning statistics*. Refereed poster presented at the Transforming Undergraduate Education in STEM: Building a Community to Transform Undergraduate STEM Education conference sponsored by the TUES division of the National Science Foundation, Washington, DC.
- [11] Fry, E.<sup>†</sup>, Garfield, J., delMas, R., & **Zieffler, A.** (2013, January). *e-ATLAS: Evaluation and assessment of teaching and learning about statistics*. Invited poster presented at the Joint Mathematics Meetings, San Diego, CA.

- [10] Garfield, J., delMas, R., & **Zieffler, A.** (2012, January). *Evaluation and assessment of teaching and learning about statistics (e-ATLAS)*. Invited poster presented at the Joint Mathematics Meetings, Boston, MA.
- [9] Garfield, J., delMas, R., **Zieffler, A.**, Rossman, A., Chance, B., Holcomb & H., Cobb, G. (2012, January). *Change agents for teaching and learning statistics (CATALST)*. Invited poster presented at the Joint Mathematics Meeting, Boston, MA.
- [8] Garfield, J., **Zieffler, A.**, delMas, R., Park, J., Bjornsdottir, A.<sup>†</sup>, & Isaak, R.<sup>†</sup> (2011, April). *Assessing what students really understand about statistical inference*. Poster presented at the annual meeting of the American Educational Research Association, New Orleans, LA.
- [7] delMas, R., Garfield, J., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, Park, J.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (2011, January). *A different flavor of introductory statistics: Teaching students to really cook*. Poster presented at The Joint Mathematics Meetings, New Orleans, LA.
- [6] Garfield, J., delMas, R., **Zieffler, A.**, Le, L.<sup>†</sup>, Isaak, R.<sup>†</sup>, & Ziegler, L.<sup>†</sup> (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.
- [5] Garfield, J., delMas, R., & **Zieffler, A.** (2010, May). *Building a statistics course on model-eliciting activities*. Poster presented at the annual meeting of the American Educational Research Association, Denver, CO.
- [4] Garfield, J., delMas, R., & **Zieffler, A.** (2010, January). *Change agents for teaching and learning statistics*. Poster presented at the Joint Mathematics Meetings, San Francisco, CA.
- [3] delMas, R., Garfield, J., & **Zieffler, A.** (2008, January). *Adapting and Implementing Innovative Materials in Statistics Courses (AIMS)*. Poster presented at the Joint Mathematics Meetings, San Diego, CA.
- [2] **Zieffler, A.** (2005, July). *Correlation is not causation: Instructor perceptions of student understanding & misconceptions in bivariate data*. Poster presented at the United States Conference on Teaching Statistics, Columbus, OH.
- [1] **Zieffler, A.** (2005, July). *Correlation is not causation: Instructor perceptions of student understanding & misconceptions in bivariate data*. Poster presented at The Fourth International Research Forum on Statistical Reasoning, Thinking, and Literacy, Auckland, New Zealand.

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## External Research Funding

*Phase two: The Data Science WAV: Experiential Learning with Local Community Organizations.* National Science Foundation funded September 1, 2022–August 31, 2023, \$21,519.00, Zieffler, A. (PI). HDR DSC-1923700. Subaward from Smith College.

*Collaborative Research: The Data Science WAV: Experiential Learning with Local Community Organizations.* National Science Foundation funded October 1, 2019–September 30, 2022, \$69,985, Zieffler, A. (PI). HDR DSC-1923700.

*Defining the quantitative and computational skills of incoming science students.* A Science Education Program Award to Macalester College as a lead institution for a collaboration between Bryn Mawr, Oberlin, St. Olaf, Lewis and Clark, Harvey Mudd, Claremont-McKenna Colleges, and the University of Minnesota. Howard Hughes Medical Initiative funded 2013–2016, \$250,000, Overvoorde, P. (PI). Grant #520076788.

*Collaborative Research: Evaluation and assessment of teaching and learning about statistics (e-ATLAS).* National Science Foundation funded June 1, 2011–May 31, 2013, \$91,970, Garfield, J., Pearl, D., delMas, R., & Zieffler, A. (PIs). DUE-1044812 & 1043141.

*Collaborative research: The CATALST project, Change Agents for Teaching and Learning STatistics.* National Science Foundation funded August 2008–July 2011, \$299,974, Garfield, J., delMas, R., & Zieffler, A. (PIs). DUE-0814433.

*National statistics teaching practice survey: Instrument development.* National Science Foundation funded July 2008–June 2011, \$71,887, Garfield, J., delMas, R., & Zieffler, A. (PIs). DUE-0808862.

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## Internal Research Funding

*CATALST e-textbook.* CEHD Incentive Funds, Summer 2012, Zieffler, A.

*Validation study of assessments of statistical learning outcomes.* Indirect Cost Recovery Award, March 2011, Garfield, J., delMas, R., & Zieffler, A.

*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.

*Adapting the Statistics Teaching Inventory for online or hybrid classes.* Indirect Cost Recovery Award, Summer 2010, Everson, M., delMas, R., Zieffler, A., Garfield, J.

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## Evaluation Projects

*Student engagement in statistics using technology: Making data based decisions.* A Division of Undergraduate Education, National Science Foundation award funded April, 2017–April, 2020, \$300,000, S. Kuiper and R. Sturdivant (PIs). Grant # DUE-1712475. Grant evaluator.

*Transforming data into knowledge: Curricular innovations in the era of big data.* A Science Education Program Award to Macalester College, Howard Hughes Medical Initiative funded September, 2012–August, 2016, \$1,300,000, P. Overvoorde (PI and Program Director). Grant # 5007550. Grant evaluator.

*CCLI Phase II: Building a Community around modeling, statistics, computation, and calculus.* National Science Foundation funded December 2009–November 2012, \$424,185, D. Kaplan (PI). DUE-0920350. Grant evaluation team.

*Creating a teaching and learning infrastructure for introductory statistics redesign.* National Science Foundation funded July 2008–June 2010, \$142,615, R. Gould (PI). DUE-0737126. Grant evaluation team.

*Collaborative Research: INCIST: Improving National acceptance of computationally intensive statistical techniques.* National Science Foundation funded September 2009–August 2012, \$350,000, W. West and R. Woodard (PIs). DUE-0817397. Grant evaluation team.

*Rational number project: Instructional module for fractions, decimals and percents.* National Science Foundation funded October 2006 – September 2009, \$554,418, K. Cramer & T. Wyberg (PIs). DUE-0628005. Grant evaluator.

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## Editorial Service

2012–2023 **Co-Editor**, *Technology Innovations in Statistics Education*

2010–2012 **Associate Editor**, *Journal of Statistics Education*

Ongoing **Journal Reviewer**, *The American Statistician*; *Applied Psychological Methods*; *Educational Researcher*; *Educational Studies in Mathematics*; *Journal of Engineering Education*; *Journal of Statistics Education*; *PLOS ONE*; *Statistics Education Research Journal*; *Technology Innovations in Statistics Education*, *Teaching Statistics*

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## Service to the Department, College, and University

2022–Current **Social Committee (Ad Hoc), Department of Educational Psychology**

2023 **Teaching Mentor for Corrisa Rohloff, Preparing Future Faculty, University of Minnesota**

2023 **Virtual Graduate Fair Representative, Department of Educational Psychology**

2023 **Co-Chair Teaching Committee, Department of Educational Psychology**

2022–2023 **Department Chair Search Committee, Department of Educational Psychology**

2022 **Board Member, College in the School Advisory Board, University of Minnesota**

2022 **Chair, QME Search Committee for Assistant Teaching Professor, Department of Educational Psychology**

2021 **Committee Member, QME Search Committee, Department of Educational Psychology**

2021–2023 **Committee Member, Mathematics Education Search Committee, Department of Curriculum and Instruction**

2020 **Committee Member, Antiracist Action Council, Department of Educational Psychology**

2020 **Committee Member, Mathematics Education Search Committee, Department of Curriculum and Instruction**

2019–2022 **Committee Member, Faculty and P&A Development and Recognition Committee, Department of Educational Psychology**

2018 **Committee Member, Departmental Task Force on P&A Voting Rights**

2017–2018 **Committee Member, Core Values Committee, Department of Educational Psychology**

- 2017 **Representative**, *Graduate Advisory Committee, Department of Educational Psychology*
- 2016–2018 **Committee Member**, *QME Search Committee, Department of Educational Psychology*
- 2014–Current **Faculty Coordinator**, *College in the Schools, University of Minnesota*
- 2016–2017 **Committee Member**, *Diversity Committee, Department of Educational Psychology*
- 2014–2016 **Selection Committee**, *Outstanding Contributions to Postbaccalaureate, Graduate, and Professional Education, University of Minnesota*
- 2013–2014 **Selection Committee**, *Morse Alumni Undergraduate Teaching Award, University of Minnesota*
- 2011–2014 **Representative**, *CEHD Curriculum Committee*
- 2012 **Representative**, *University of Minnesota Senate*
- 2013–2017 **Alternate Representative**, *University Senate, University of Minnesota*

## Service to the Profession

- 2021–Current **Research Advisory Board Member**, *Consortium for the Advancement of Undergraduate Statistics Education*
- 2023 **Mentor**, *United States Conference on Teaching Statistics Speed Mentoring session*
- 2021–2023 **Committee Member**, *ASA Section on Statistics and Data Science Education Mentoring Program*
- 2020–2023 **Mentor**, *ASA Section on Statistics and Data Science Education Mentoring Program*
- 2020 **Co-Chair**, *Education & Workforce Working Group, South Big Data innovation Hub. <https://southbigdatahub.org/>*
- 2018–Current **Organizer**, *StatChat: An informal but informative get-together of local statistics educators in the Twin-Cities*
- 2017 **External Reviewer**, *Statistics and Data Sciences Program, St. Olaf College*
- 2016–2018 **Committee Member**, *Envisioning the Data Science Discipline: The Undergraduate Perspective Study, National Academies of Sciences, Engineering, and Medicine*
- 2012–2013 **Chair**, *Special Interest Group on Statistics Education, Mathematical Association of America*
- 2011–2012; 2013–2014 **Executive Committee**, *Special Interest Group on Statistics Education, Mathematical Association of America*
- 2007–2014 **Research Advisory Board Member**, *Consortium for the Advancement of Undergraduate Statistics Education*
- 2013–2014 **Session Organizer**, *9th International Conference on Teaching Statistics*
- 2013 **Scientific Committee**, *The International Collaboration for Research on Statistical Reasoning, Thinking, and Literacy (SRTL-8)*
- 2007 **Conference Referee**, *IASE/ICMI Joint Study Conference*
- 2009 **Conference Referee**, *8th International Conference on Teaching Statistics*
- 2011 **Grant Reviewer**, *Social Sciences and Humanities Research Council, Canada*