

# **DOUGLAS WHITAKER**

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## **PROFESSIONAL EXPERIENCE**

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- 2018 – Present      Assistant Professor  
                            Department of Mathematics and Statistics  
                            Mount Saint Vincent University, Halifax, NS
- 2016 – 2018      Assistant Professor  
                            Department of Mathematics, Statistics, and Computer Science  
                            University of Wisconsin-Stout, Menomonie, WI

## **EDUCATION**

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- 2016      Ph.D. in Statistics Education, University of Florida  
                    Minor: Quantitative Research and Evaluation Methodology
- 2012      M.Stat. in Statistics, University of Florida
- 2010      B.A. in Statistics, University of Florida
- 2010      B.S. in Mathematics, University of Florida

## **PUBLICATIONS**

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Note: \* denotes with a student

### **Peer-Reviewed Journal Articles**

- Jacobbe, T., delMas, R., Hartlaub, B., Haberstroh, J., Case, C., Foti, S., & Whitaker, D. (2023). Establishing the Validity and Reliability of the LOCUS Assessments. *Numeracy*, 16(1), Article 5. <https://digitalcommons.usf.edu/cgi/viewcontent.cgi?article=1420&context=numeracy>
- Whitaker, D., Unfried, A., & Bond, M.E. (2022). Challenges associated with measuring attitudes using the SATS family of instruments. *Statistics Education Research Journal*, 21(1), Article 4. <https://doi.org/10.52041/serj.v21i1.88>
- \*Whitaker, D., Barss, J., & Drew, B. (2022). Measuring Opportunity Cost in Statistics Using Evaluative Space Grid Items: Results from a Pilot Study. *Journal of Research in Science, Mathematics, and Technology Education*, 5(1), 11–46. <https://files.eric.ed.gov/fulltext/ED616714.pdf>
- Whitaker, D. (2020). Epistemic and mathematical beliefs of exemplary statistics teachers. *International Journal for Mathematics Teaching and Learning*, 21(2), 119–142. <https://www.cimt.org.uk/ijmtl/index.php/IJMTL/article/view/253>

Mason, K., Stanislawski, D., & Whitaker, D. (2019). Developing embedded signature assessments for continuous improvement in teacher education. *The Teacher Educator*, 54(2), 171–192.  
<https://doi.org/10.1080/08878730.2018.1520375>

Whitaker, D. & Jacobbe, T. (2017). Students' understanding of bar graphs and histograms: Results from the LOCUS assessments. *Journal of Statistics Education*, 25(2), 90-102.  
<http://dx.doi.org/10.1080/10691898.2017.1321974>

Whitaker, D. (2016). Lexical ambiguities in the vocabulary of statistics. *International Journal for Mathematics Teaching and Learning*, 17(3).  
<http://www.cimt.org.uk/ijmtl/index.php/IJMTL/article/view/31>

Kennedy-Lewis, B.L., Whitaker, D., & Soutullo, O. (2016). "Maybe that helps folks feel better about what they're doing": Examining contradictions between educator presumptions, student experiences, and outcomes at an alternative school. *Journal of Education for Students Placed at Risk*, 21(4), 230-245.  
<http://dx.doi.org/10.1080/10824669.2016.1220308>

Halbritter, D.A., Daniels, J.C., Whitaker, D.C., & Huang, L. (2015). Reducing mowing frequency increases floral resource and butterfly abundance in managed roadside margins. *Florida Entomologist*, 98(4), 1081-1092. <https://journals.flvc.org/flaent/article/view/85018/>

Huggins-Manley, A.C., & Whitaker, D. (2015). SEAsic: R package for score equity assessment. *Applied Psychological Measurement*, 39(6), 496-497. <http://dx.doi.org/10.1177/0146621615572832>

Whitaker, D., Foti, S., & Jacobbe, T. (2015). The Levels of Conceptual Understanding in Statistics (LOCUS) project: Results of the pilot study. *Numeracy*, 8(2), Article 3.  
<https://scholarcommons.usf.edu/numeracy/vol8/iss2/art3/>

Gaulee, U., Lee, B., Whitaker, D., Ridgewell, N.K., Koro-Ljungberg, M., Watson, D. M., & Butcher, C. (2015). A constructivist study of graduate students' health care experiences. *The Qualitative Report*, 20(7), 482-497. <https://nsuworks.nova.edu/tqr/vol20/iss4/10/>

Whitaker, D.C., Giurcanu, M.C., Young, L.J., Gonzalez, P., Etxeberria, E., Roberts, P., Hendricks, K., & Roman, F. (2014). Starch content of citrus leaves permits diagnosis of huanglongbing in the warm season but not cool season. *HortScience*, 49(6), 757-762.  
<https://journals.ashs.org/hortsci/view/journals/hortsci/49/6/article-p757.xml>

Jacobbe, T., Hartlaub, B.A., & Whitaker, D. (2013). Motivation for and benefits from attending the AP Statistics Reading. *Journal of Education and Training Studies*, 1(2), 32-37.  
<http://redfame.com/journal/index.php/jets/article/viewFile/135/108>

Joseph, A. & Whitaker, D. (2010). Effects of teaching suprasegmentals on second language learning and motivation. *University of Florida Journal of Undergraduate Research*, 12(1), 1-10.  
<http://ufdc.ufl.edu/UF00091523/00119>

## **Book Chapters**

Whitaker, D., Unfried, A., & Bond, M. (2019). Design and validation arguments for the Student Survey of Motivational Attitudes toward Statistics (S-SOMAS) instrument. In J. Bostic, E. Krupa, & J. Shih (Eds.), *Assessment in mathematics education contexts: Theoretical frameworks and new directions* (1st ed., pp. 120–146). New York, NY: Routledge.

## **Refereed Teaching Articles**

Whitaker, D. (2021). Nonlinear modeling: Something fishy. *Statistics Teacher*.  
<https://www.statisticsteacher.org/2021/03/29/nonlinear-modeling-something-fishy/>

Case, C. & Whitaker, D. (2016). Innocent until proven guilty: Exploring statistical power through simulations. *Mathematics Teacher*, 109(9), 686-692.  
<https://www.jstor.org/stable/10.5951/mathteacher.109.9.0686>

## **Editor-Reviewed Articles**

Whitaker, D. (2017) Navigating the assessment landscape: Reflecting on my experiences. *Intersection Points: The Newsletter of the Research Council on Mathematical Learning*, 41(3), 9-10.  
<https://www.rcml-math.org/assets/Newsletter/rcml%20newsletter%20jan%202017.pdf#page=9>

Whitaker, D. & Jacobbe, T. (2014). Lessons from the LOCUS assessments (part 1): Comparing groups. *Statistics Teacher Network*, (83), 13-15.  
<https://ww2.amstat.org/education/stn/pdfs/STN83.pdf#page=13>

## **Conference Proceedings**

Whitaker, D., Unfried, A., Batakci, L., Bolon, W., Bond, M.E., Kerby-Helm, A., & Posner, M.A. (2022). A New Survey of Student Attitudes toward Statistics: The S-SOMAS. In S.A. Peters, L. Zapata-Cardona, F. Bonafini, & A. Fan (Eds.), *Bridging the Gap: Empowering & Educating Today's Learners in Statistics. Proceedings of the Eleventh International Conference on Teaching Statistics (ICOTS11 2022)*, Rosario, Argentina. Voorburg, The Netherlands: International Statistical Institute.  
<https://doi.org/10.52041/iae.icots11.T14D1>

Unfried, A., Whitaker, D., Batakci, L., Bolon, W., Bond, M.E., Kerby-Helm, A., & Posner, M.A. (2022). The Big Picture: A Family of Instruments for Understanding University-Level Statistics and Data Science Attitudes. In S.A. Peters, L. Zapata-Cardona, F. Bonafini, & A. Fan (Eds.), *Bridging the Gap: Empowering & Educating Today's Learners in Statistics. Proceedings of the Eleventh International Conference on Teaching Statistics (ICOTS11 2022)*. Voorburg, The Netherlands: International Statistical Institute. <https://doi.org/10.52041/iae.icots11.T8A1>

Kerby-Helm, A., Posner, M.A., Unfried, A., Whitaker, D., Bond, M.E., Batakci, L., & Bolon, W. (2022). S-SOMADS: A new survey to measure student attitudes toward data science. In S.A. Peters, L. Zapata-

Cardona, F., Bonafini, & A. Fan (Eds.), *Bridging the Gap: Empowering & Educating Today's Learners in Statistics. Proceedings of the Eleventh International Conference on Teaching Statistics (ICOTS11 2022)*. Voorburg, The Netherlands: International Statistical Institute.  
<https://doi.org/10.52041/iae.icots11.T8A2>

Bond, M.E., Batakci, L., Bolon, W., Kerby-Helm, A., Whitaker, D., Unfried, A., & Posner, M.A. (2022). A model for the classroom environment. In S.A. Peters, L. Zapata-Cardona, F. Bonafini, & A. Fan (Eds.), *Bridging the Gap: Empowering & Educating Today's Learners in Statistics. Proceedings of the Eleventh International Conference on Teaching Statistics (ICOTS11 2022)*. Voorburg, The Netherlands: International Statistical Institute. <https://doi.org/10.52041/iae.icots11.T8A3>

Bolch, C., Tjoe, H., Casey, S., Whitaker, D., Harrell-Williams, L., Engledowl, C., Mule', T., & Piontek, J. (2022). Validity Evidence for Statistics Education Instruments: Findings and Best Practices. In S.A. Peters, L. Zapata-Cardona, F. Bonafini, & A. Fan (Eds.), *Bridging the Gap: Empowering & Educating Today's Learners in Statistics. Proceedings of the Eleventh International Conference on Teaching Statistics (ICOTS11 2022)*. Voorburg, The Netherlands: International Statistical Institute.  
<https://doi.org/10.52041/iae.icots11.T4B3>

Whitaker, D., Bolch, C., Harrell-Williams, L., Casey, S., Huggins-Manley, C., Engledowl, C., & Tjoe, H. (2022). The search for validity evidence for instruments in statistics education: Preliminary findings. In R. Helenius & E. Falck (Eds.), *Statistics Education in the Era of Data Science. Proceedings of the Satellite Conference of the International Association for Statistical Education (IASE)*.  
<https://doi.org/10.52041/iae.obau>

Whitaker, D. (2020). Challenges Assessing Statistics Attitudes: Opportunities and Costs. *Proceedings of the 47th Annual Meeting of the Research Council on Mathematics Learning*, 43-50. <https://www.rcml-math.org/assets/Proceedings/RCML%202020%20Proceedings%202-19-20.pdf#page=49>

Whitaker, D., Unfried, A., & Batakci, L. (2018). A framework and survey for measuring students' motivational attitudes toward statistics. In M. A. Sorto, A. White, & L. Guyot (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July, 2018)*. Voorburg, The Netherlands: International Statistical Institute. [http://iae-web.org/icots/10/proceedings/pdfs/ICOTS10\\_C200.pdf](http://iae-web.org/icots/10/proceedings/pdfs/ICOTS10_C200.pdf)

Whitaker, D. (2018). Validity evidence claims and plan for the SOMAS instruments [Abstract]. In M. A. Sorto, A. White, & L. Guyot (Eds.), *Looking back, looking forward. Proceedings of the Tenth International Conference on Teaching Statistics (ICOTS10, July, 2018)*. Voorburg, The Netherlands: International Statistical Institute. [https://iae-web.org/icots/10/proceedings/pdfs/ICOTS10\\_P69.pdf](http://iae-web.org/icots/10/proceedings/pdfs/ICOTS10_P69.pdf)

\*Whitaker, D. & Gorney, K. (2017). Surveys of attitudes about statistics: An analysis of items [Abstract]. In Galindo, E., & Newton, J., (Eds.). *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 1075). Indianapolis, IN: Hoosier Association of Mathematics Teacher Educators.  
<http://www.pmena.org/pmenaproceedings/PMENA%2039%202017%20Proceedings.pdf#page=1089>

Whitaker, D. (2016). The development of a professional statistics teaching identity. In Wood, M.B., Turner, E.E., Civil, M., & Eli, J.A. (Eds.), *Proceedings of the 38th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (pp. 992-999). Tucson, AZ: The University of Arizona.

<http://www.pmena.org/pmenaproceedings/PMENA%2038%202016%20Proceedings.pdf#page=1006>

Whitaker, D. (2015). In-service statistics teachers' professional identities [Abstract]. In Bartell, T.G., Bieda, K.N, Putnam, R.T., Bradfield, K., & Dominguez, H. (Eds.), *Proceedings of the 37th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 482). East Lansing, MI: Michigan State University.

<http://www.pmena.org/pmenaproceedings/PMENA%2037%202015%20Proceedings.pdf#page=493>

Jacobbe, T., Case, C., Whitaker, D., & Foti, S. (2014). Establishing the validity of the LOCUS assessments through an evidenced-centered design approach. In K. Makar & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July, 2014), Flagstaff, Arizona*. Voorburg, The Netherlands: International Statistical Institute.  
[http://icots.info/9/proceedings/pdfs/ICOTS9\\_7C2\\_JACOBBE.pdf](http://icots.info/9/proceedings/pdfs/ICOTS9_7C2_JACOBBE.pdf)

Jacobbe, T., Foti, S., Case, C., & Whitaker, D. (2014). High school (ages 14 – 18) students' understanding of statistics. In K. Makar & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July, 2014), Flagstaff, Arizona*. Voorburg, The Netherlands: International Statistical Institute.  
[http://icots.info/9/proceedings/pdfs/ICOTS9\\_2C2\\_CASE.pdf](http://icots.info/9/proceedings/pdfs/ICOTS9_2C2_CASE.pdf)

Jacobbe, T., Foti, S., & Whitaker, D. (2014). Middle school (ages 10 – 13) students' understanding of statistics. In K. Makar & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July, 2014), Flagstaff, Arizona*. Voorburg, The Netherlands: International Statistical Institute.  
[http://icots.info/9/proceedings/pdfs/ICOTS9\\_2B1\\_FOTI.pdf](http://icots.info/9/proceedings/pdfs/ICOTS9_2B1_FOTI.pdf)

Jacobbe, T., Whitaker, D., Case, C., & Foti, S. (2014). The LOCUS assessment at the college level: Conceptual understanding in introductory statistics. In K. Makar & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July, 2014), Flagstaff, Arizona*. Voorburg, The Netherlands: International Statistical Institute.  
[http://icots.info/9/proceedings/pdfs/ICOTS9\\_3C3\\_WHITAKER.pdf](http://icots.info/9/proceedings/pdfs/ICOTS9_3C3_WHITAKER.pdf)

Whitaker, D., Foti, S., & Jacobbe, T. (2014). Investigation of AP Statistics students' understanding of technical terminology with possible lexical ambiguities [Abstract]. In K. Makar & R. Gould (Eds.), *Sustainability in statistics education. Proceedings of the Ninth International Conference on Teaching Statistics (ICOTS9, July, 2014), Flagstaff, Arizona*. Voorburg, The Netherlands: International Statistical Institute. [http://icots.info/9/proceedings/pdfs/ICOTS9\\_P13\\_WhitakerJacobbeFoti.pdf](http://icots.info/9/proceedings/pdfs/ICOTS9_P13_WhitakerJacobbeFoti.pdf)

Whitaker, D.C., Giurcanu, M.C., Young, L.J., Gonzalez, P., Etxeberria, E., Roberts, P., Hendricks, K., & Roman, F. (2013). Starch content in citrus leaves: A test with seasonal accuracy. *Proceedings of the*

*Florida State Horticultural Society*, 126, 75-83.  
<https://journals.flvc.org/fshs/article/view/83686/80498>

## **PRESENTATIONS**

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Note: \* denotes with a student

### **Invited Presentations**

Frischemeier, D., Leavy, A., & Whitaker, D. (2021, July). *Session of the IASE Journal – Statistics Education Research Journal (SERJ)*. Panel discussion at the 63rd ISI World Statistics Congress (WSC), Virtual. Organizer: J. Kaplan.

Foti, S., Loy, A., Whitaker, D., & Ziegler, L. (2021, June). *Online/Hybrid Teaching in Statistics and Data Science: Lessons for the future from a year of COVID teaching*. Panel discussion at the Symposium on Data Science & Statistics 2021 (SDSS), Virtual. Organizer: L. Le.

Whitaker, D. & Jacobbe, T. (2015, June). *LOCUS: Assessing conceptual understanding of statistics*. Presented at the Statistics Society of Canada 2015 Annual Meeting (SSC), Halifax, NS.

Whitaker, D., & Jacobbe, T. (2014, October). *LOCUS: A tool for assessing statistical reasoning in the CCSS*. Presented at the National Council of Teachers of Mathematics 2014 Regional Conference and Exposition, Indianapolis, IN.

Case, C., Whitaker, D., Jacobbe, T., & Foti, S. (2014, July). *High school (ages 14 – 18) students' understanding of statistics*. Paper presented at the Ninth International Conference on Teaching Statistics (ICOTS), Flagstaff, AZ.

Foti, S., Whitaker, D., & Jacobbe, T. (2014, July). *Middle school (ages 10 – 13) students' understanding of statistics*. Paper presented at the Ninth International Conference on Teaching Statistics (ICOTS), Flagstaff, AZ.

Jacobbe, T., Whitaker, D., Foti, S., & Case, C. (2014, July). *Establishing the validity of the LOCUS assessments through an evidence-centered design approach*. Paper presented at the Ninth International Conference on Teaching Statistics (ICOTS), Flagstaff, AZ.

Whitaker, D., Jacobbe, T., Foti, S., & Case, C. (2014, July). *The LOCUS assessment at the college level: Conceptual understanding in introductory statistics*. Paper presented at the Ninth International Conference on Teaching Statistics (ICOTS), Flagstaff, AZ.

### **National and International Presentations**

Whitaker, D., Unfried, A., Batakci, L., Bolon, W., Bond, M.E., Kerby-Helm, A., & Posner, M.A. (2022, September). *A New Survey of Student Attitudes toward Statistics: The S-SOMAS*. Paper presented at the Eleventh International Conference on Teaching Statistics (ICOTS), Rosario, Argentina/Virtual Hybrid.

Bolch, C., Engledowl, C., Tjoe, H., Harrell-Williams, L., Whitaker, D., Casey, S., Mule', T., & Piontek, J. (2022, September). *Validity Evidence for Statistics Education Instruments: Findings and Best Practices*. Paper presented at the Eleventh International Conference on Teaching Statistics (ICOTS), Rosario, Argentina/Virtual Hybrid.

Bond, M.E., Batakci, L., Bolon, W., Kerby-Helm, A., Whitaker, D., Unfried, A., & Posner, M.A. (2022, September). *Not an Afterthought: Characteristic Questions on Surveys*. Paper presented at the Eleventh International Conference on Teaching Statistics (ICOTS), Rosario, Argentina/Virtual Hybrid.

Kerby-Helm, A., Posner, M.A., Unfried, A., Whitaker, D., Bond, M.E., Batakci, L., & Bolon, W. (2022, September). *A Family of Instruments to Measure Data Science Attitudes*. Paper presented at the Eleventh International Conference on Teaching Statistics (ICOTS), Rosario, Argentina/Virtual Hybrid.

Unfried, A., Whitaker, D., Batakci, L., Bolon, W., Bond, M.E., Kerby-Helm, A., & Posner, M.A. (2022, September). *The Big Picture: A Family of Instruments for Understanding University-Level Statistics and Data Science Attitudes*. Paper presented at the Eleventh International Conference on Teaching Statistics (ICOTS), Rosario, Argentina/Virtual Hybrid.

Bond, M., Batakci, L., Posner, M., Whitaker, D., Kerby-Helm, A., & Unfried, A., (2022, August). *What Do Instructors Think About Teaching Statistics?* Presented at the 2022 Joint Statistical Meetings (JSM), Washington, DC.

Posner, M., Kerby-Helm, A., Unfried, A., Whitaker, D., Bond, M., & Batakci, L. (2022, August). *I Love Data Science! Do My Students? Let's Measure It!* Presented at the 2022 Joint Statistical Meetings (JSM), Washington, DC.

Unfried, A., Whitaker, D., Bond, M., Batakci, L., Kerby-Helm, A., & Posner, M. (2022, August). *Measuring Student Attitudes – a Modern Approach, and Why You Should Get Involved*. Presented at the 2022 Joint Statistical Meetings (JSM), Washington, DC.

Posner, M.A., Kerby-Helm, A., Unfried, A., & Whitaker, D. (2022, August). *Attitudes Matter! A New Instrument in Motivational Attitudes Toward Statistics / Data Science*. Presented at MAA MathFest 2022, Philadelphia, PA.

Bond, M.E., Unfried, A., Whitaker, D., Kerby-Helm, A., Posner, M.A., Batakci, L., & Bolon, W. (2022, June). *The SOMAS/DS Family of Instruments to Measure Students, Instructors and Learning Environment*. Poster presented at the 2022 Improving Undergraduate STEM Education (IUSE) Summit, Washington, DC.

Whitaker, D. (2022, May). *Investigation of Bivariate Grid-Type Items for Measuring Attitudes in Statistics Education: Preliminary Results*. Presentation at the Statistics Society of Canada 2021 Annual Meeting (SSC), Virtual.

\*Dunham, M., Unfried, A., & Whitaker, D. (2022, May). *Pilot 2: Further Development and Psychometric Analysis of the Student Survey of Motivational Attitudes Towards Statistics*. Poster presented at the

2022 Electronic Conference on Teaching Statistics (eCOTS), Virtual.

<https://causeweb.org/cause/uscots/uscots21/pilot-2-further-development-and-psychometric-analysis-student-survey-motivational>

\*Allan, K. & Whitaker, D. (2022, May). *Determining an Appropriate Placement Test for Introductory Statistics: Preliminary Findings*. Poster presented at the 2022 Electronic Conference on Teaching Statistics (eCOTS), Virtual. <https://www.causeweb.org/cause/ecots/ecots22/program/posters/tu-06>

\*Harrell-Williams, L., Casey, S., Bolch, C., Whitaker, D., & Mule', T. (2022, May). *Assessing the Modern Student: Using a Modern Measurement Theory Framework When Choosing a Measure for Classroom or Research Use*. Workshop presented at the 2022 Electronic Conference on Teaching Statistics (eCOTS), Virtual.

Unfried, A.J., Whitaker, D., Batakci, L., & Posner, M.A. (2022, April). *Motivational Attitudes in Statistics and Data Science*. Presentation at the 2022 Joint Mathematics Meetings, Virtual.

Whitaker, D., Bolch, C., Harrell-Williams, L., Casey, S., Huggins-Manley, C., Engledowl, C., & Tjoe, H. (2021, September). *The search for validity evidence for instruments in statistics education: preliminary findings*. Paper presented at the International Association for Statistical Education (IASE) 2021 Satellite Conference, Virtual.

Unfried, A., Posner, M., Bond, M., Kerby-Helm, A., Bolon, W., Whitaker, D., & Batakci, L. (2021, August). *Why Do We Need Yet ANOTHER Instrument Measuring Student Attitudes?* Presentation at the 2021 Joint Statistical Meetings (JSM), Virtual. <http://sdsattitudes.com/wp/jsm2021/>

\*Hebert, N. & Whitaker, D. (2021, July). *Examining the use of the LOCUS assessment with undergraduate students*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2021, Virtual. <https://www.causeweb.org/cause/uscots/uscots21/th-16-examining-use-locus-assessment-undergraduate-students>

Bond, M., Batakci, L., Kerby-Helm, A., Unfried, A., & Whitaker, D. (2021, July). *SOMAS/DS: Measuring the learning environment, the instructor, and the student*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2021, Virtual.  
<https://www.causeweb.org/cause/uscots/uscots21/th-13-somasds-measuring-learning-environment-instructor-and-student>

Whitaker, D., Batakci, L., Bolon, W., Bond, M., Kerby-Helm, A., & Unfried, A. (2021, June). *Students' motivational attitudes about statistics: Results from the SSOMAS pilot*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2021, Virtual.  
<https://www.causeweb.org/cause/uscots/uscots21/we-09-students%E2%80%99-motivational-attitudes-about-statistics-results-s-somas-pilot>

Harrell-Williams, L., Manley, C., Tjoe, H., Casey, S., Engledowl, C., Whitaker, D., & Bolch, C. (2021, June). *Expanding opportunities: Facilitating discussions to improve measurement practices in statistics education research*. Poster presented at the United States Conference on Teaching Statistics (USCOTS)

2021, Virtual. <https://www.causeweb.org/cause/uscots/uscots21/we-15-expanding-opportunities-facilitating-discussions-improve-measurement-practices>

Whitaker, D. (2021, June). *Developing and revising the Student Survey of Motivational Attitudes Toward Statistics: Results from a pilot study*. Presentation at the Statistics Society of Canada 2021 Annual Meeting (SSC), Virtual.

\*Whitaker, D., & White, A. (2020, May). *Measuring statistics attitudes and anxieties*. Poster presented at The Fifth Biennial Electronic Conference on Teaching Statistics (eCOTS), Virtual. <https://www.causeweb.org/cause/ecots/ecots20/posters/2-05>

Whitaker, D. (2020, March). *Challenges assessing statistics attitudes: Opportunities and costs*. Paper presented at the 47th Annual Meeting of the Research Council on Mathematics Learning, Las Vegas, NV.

Whitaker, D., Unfried, A., & Bond, M. (2019, May). Challenges to using and interpreting the SATS-36 instrument: Do you like statistics? Do your students like statistics? How do you know? Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2019, State College, PA.

Bond, M., Batakci, L., Bolon, W., & Whitaker, D. (2019, May). *Environment matters: Institution, course and pedagogy*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2019, State College, PA.

Harrell-Williams, L.M. & Whitaker, D. (2019, May). *Evaluating validity evidence for instruments in statistics education*. Breakout session for the United States Conference on Teaching Statistics (USCOTS) 2019, State College, PA.

Whitaker, D., Unfried, A., & Batakci, L. (2018, July). *A framework and survey for measuring students' motivational attitudes toward statistics*. Paper presented at the 10th International Conference on Teaching Statistics (ICOTS), Kyoto, Japan.

Whitaker, D. (2018, July). *Validity evidence claims and plan for the SOMAS instruments*. Poster presented at the 10th International Conference on Teaching Statistics (ICOTS), Kyoto, Japan.

Stanislawski, D., Mason, K., & Whitaker, D. (2018, March). *Development and use of embedded signature assessments for continuous improvement and assessment*. Presented at the American Association of Colleges for Teacher Education Annual Meeting (AACTE) 2018 Annual Meeting, Baltimore, MD.

Whitaker, D. (2018, February). *Pre-service mathematics teachers' attitudes about statistics: Pilot study of a new instrument*. Poster presented at the Twenty-Second Annual Conference of the Association of Mathematics Teacher Educators (AMTE), Houston, TX.

\*Whitaker, D. & Gorney, K. (2017, November). *Surveys of attitudes about statistics: An analysis of items*. Poster presented at the 39th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Indianapolis, IN.

Whitaker, D. (2017, May). *The attitudes and beliefs of exemplary statistics teachers*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2017, State College, PA.

Whitaker, D. (2017, May). *Research and data ethics in the statistics classroom*. Poster presented at the United States Conference on Teaching Statistics (USCOTS) 2017, State College, PA.

Whitaker, D. (2017, February). *How mathematics teachers became exemplary statistics teachers*. Presented at the Twenty-First Annual Conference of the Association of Mathematics Teacher Educators (AMTE), Orlando, FL.

Whitaker, D. (2016, November). *The development of a professional statistics teaching identity*. Paper presented at the 38th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Tucson, AZ.

Whitaker, D. (2016, August). *The development of exemplary Advanced Placement Statistics teachers*. Presented at the 2016 Joint Statistical Meetings (JSM), Chicago, IL.

Whitaker, D. (2016, May). *Statistics as a potential way to change mathematics instruction in high school teachers*. Poster presented at The Third Biennial Electronic Conference on Teaching Statistics (eCOTS), Virtual. <https://www.causeweb.org/cause/ecots/ecots16/posters/c/6>

Kennedy-Lewis, B.L., Whitaker, D., & Soutullo, O. (2016, April). Educators' justifications for sending students to a disciplinary alternative school versus student outcomes: Examining consistencies and contradictions. Presented at the American Educational Research Association Annual Meeting (AERA), Washington, DC.

Whitaker, D. (2016, February). *The development of exemplary statistics teachers' professional identities*. Presented at the 43rd Annual Conference of the Research Council on Mathematics Learning (RCML), Orlando, FL.

Whitaker, D. (2015, November). *In-service statistics teachers' professional identities*. Poster presented at the 37th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), East Lansing, MI.

Whitaker, D. (2015, June). *Students' understanding of histograms and bar graphs: Results from the LOCUS assessments*. Poster presented at the Statistics Society of Canada 2015 Annual Meeting (SSC), Halifax, NS.

Whitaker, D. (2015, June). *Transition and collaboration: The identity of an AP Statistics teacher*. Poster presented at the Statistics Society of Canada 2015 Annual Meeting (SSC), Halifax, NS.

Whitaker, D. (2015, June). *Transition and collaboration: The identity of an AP Statistics teacher*. Poster presented at the 3rd Annual SSC Student Conference, Halifax, NS.

delMas, R., Jacobbe, T., & Whitaker, D. (2015, May). *Establishing the validity and reliability of assessments of statistical understanding*. Poster presented at the United States Conference on Teaching Statistics 2015 (USCOTS), State College, PA.

Case, C., Foti, S., Whitaker, D., & Jacobbe, T. (2015, February). *LOCUS: Assessing students' and teachers' knowledge of statistics*. Presented at the Research Council on Mathematics Learning 42nd Annual Meeting (RCML), Las Vegas, NV.

Case, C., Foti, S., & Whitaker, D. (2014, November). *The impact of collaborative teaching for graduate students*. Presented at the School Science and Mathematics Association 2014 Annual Convention (SSMA), Jacksonville, FL.

Whitaker, D., Foti, S., Case, C., & Jacobbe, T. (2014, November). *LOCUS assessments: Implications for and uses in research and teaching*. Presented at the School Science and Mathematics Association 2014 Annual Convention (SSMA), Jacksonville, FL.

Whitaker, D., Foti, S., & Jacobbe, T. (2014, July). *Investigation of AP statistics students' understanding of technical terminology with possible lexical ambiguities*. Poster presented at the Ninth International Conference on Teaching Statistics (ICOTS), Flagstaff, AZ.

Case, C., Whitaker, D., Foti, S., & Jacobbe, T. (2014, May). *LOCUS as a tool to measure teachers' preparation to teach statistics*. Poster presented at The Second Biennial Electronic Conference on Teaching Statistics (eCOTS), Virtual. <https://www.causeweb.org/cause/ecots/ecots14/posters/5/>

Jacobbe, T., Whitaker, D., Case, C., & Foti, S. (2014, April). *LOCUS: A tool for assessing statistical reasoning in the CCSS*. Presented at National Council of Teachers of Mathematics Annual Conference (NCTM), New Orleans, LA.

Jacobbe, T., delMas, R.C., Haberstroh, J., Hartlaub, B., Whitaker, D., Case, C., & Foti, S. (2014, April). *A measure of students' understanding of statistics*. Poster presented at the American Educational Research Association Annual Meeting (AERA), Philadelphia, PA.

Jacobbe, T., Haberstroh, J., delMas, R.C., Hartlaub, B., Whitaker, D., Case, C., & Foti, S. (2014, April). *Establishing the content validity of the LOCUS assessments through evidence-centered design*. Paper presented at the American Educational Research Association Annual Meeting (AERA), Philadelphia, PA.

Whitaker, D. & Case, C. (2013, August). *LOCUS pilot study and preliminary findings*. Topic Contributed Paper presented at the 2013 Joint Statistical Meetings (JSM), Montréal, QC.

Pennock Schaub, M., Wade, D., & Whitaker, D. (2012, October). *The effects of attitude and explicit instruction on second language phonological skills: Voiceless occlusives and vowels*. Poster presented at the 2012 Hispanic Linguistics Symposium, Gainesville, FL.

## **Regional, State, and Provincial Presentations**

Whitaker, D. (2016, May). *Four tensions from changing with technology: In search of balance*. Presented at the eCOTS 2016 North Florida Regional Mini Conference, Gainesville, FL.

Gaulee, U., Lee, B., Ridgewell, N.K., Butcher, C., Koro-Ljungberg, M., Whitaker, D., Almazam, F., & Watson, D. M. (2013, November). *Constructivist study of graduate students' health care experiences*. Paper presented at the 58th Annual Meeting of the Florida Educational Research Association (FERA), Gainesville, FL.

Whitaker, D., Giurcanu, M., Gonzalez, P., Roberts, P., Hendricks, K., Roman, F., Young, L., & Etxeberria, E. (2013, June). *Using citrus leaf starch content to predict huanglongbing disease with and without a gold standard*. Paper presented at the 126th Annual Meeting of the Florida State Horticultural Society, Sarasota, FL.

## **Local Presentations**

\*Dunham, M., Unfried, A., & Whitaker, D. (2022, April). *Pilot 2: Further Development and Psychometric Analysis of the Student Survey of Motivational Attitudes Towards Statistics*. Presented at the CSUMB Research, Scholarship, & Creative Activity Spring Showcase, Seaside, CA.

Foti, S., Case, C., & Whitaker, D. (2014, October). *The impact of collaborative teaching for graduate students*. Poster presented at the 2014 Graduate Student Research Day, Gainesville, FL.

Doğan, S., Smithka, I., & Whitaker, D. (2014, April). *Lecture plus: How to lecture more effectively*. Poster presented at the 10th Annual SAGE Research Symposium, Gainesville, FL.

Whitaker, D. (2014, April). *Worlds collide: The vocabulary of AP Statistics students*. Poster presented at the 10th Annual SAGE Research Symposium, Gainesville, FL.

Whitaker, D. & Jacobbe, T. (2013, April). *The evolution of items from the LOCUS assessment*. Poster presented at the 9th Annual SAGE Research Symposium, Gainesville, FL.

## **R PACKAGES**

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Note: \* denotes with a student

Whitaker, D. (2022). *MASDERtools: Functions for Analyzing SOMAS/SOMADS Data*. R package version 0.1.0. <https://github.com/SDSattitudes/MASDERtools>

\*Whitaker, D., Drew, B., & Barss, J. (2021). *GridItemTools: Grid item tools*. R package version 0.0.12. <https://github.com/douglaswhitaker/GridItemTools>

\*Whitaker, D. & Hebert, N. (2021). *MVQuickGraphs: Quick multivariate graphs*. R package version 0.1.6. <https://github.com/douglaswhitaker/MVQuickGraphs> [2020: version 0.1.2 released on CRAN]

Schau, C., Bond, M. E., & Whitaker, D. (2021). *SATSdata: Survey of Attitudes Toward Statistics (SATS) Data Warehouse*. R package version 1.0.0. <https://github.com/SDSattitudes/SATSdata> [2021: version 0.1.6 released]

Huggins-Manley, A.C. & Whitaker, D. (2014). *SEAsic: Score equity assessment- summary index computation*. R package version 0.1. <http://cran.r-project.org/package=SEAsic>

Whitaker, D. & Christman, M. (2014). *clustsig: Similarity profile analysis*. R package version 1.1. <http://cran.r-project.org/package=clustsig> [2010: version 1.0 released on CRAN]

## COURSES TAUGHT

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Note: \* denotes Co-Instructor; † denotes Team Teaching

### **Mount Saint Vincent University**

- Introduction to Probability (undergraduate: Fall 2018, Winter 2020 [F2F/Online], Winter 2022 [Online])
- Introduction to Statistics I (undergraduate: seven semesters beginning in Fall 2018 [F2F/Online in Winter 2020, Online since Fall 2020])
- Introduction to Statistics II (undergraduate: Winter 2019, Winter 2023)
- Introduction to Nonparametric Statistics (undergraduate: Fall 2020 [Online])
- Survey Design (undergraduate: Winter 2021 [Online])
- Intermediate Applied Statistics I: Linear Models (undergraduate: Fall 2019, Fall 2021)
- Intermediate Mathematical Statistics/Concepts in Mathematical Statistics (undergraduate: Winter 2023)
- Independent Study Courses:
  - Intermediate Applied Statistics I: Linear Models (undergraduate: 1 student during one semester)
- Directed Study Courses:
  - Advanced Survey Analysis (undergraduate: 2 students during one semester)
  - Survey Imputation and Analysis (undergraduate: 1 student)

### **University of Wisconsin-Stout**

- Multivariate Statistical Analysis (graduate: Fall 2017 [Online], Spring 2019 [Online])
- Statistical Methods (undergraduate & graduate: Fall 2017, Spring 2018, Summer 2018)
- Elementary Statistics Honors (undergraduate: Spring 2018)
- Elementary Statistics (undergraduate: Summer 2017 [Online], Summer 2018 [Online])
- Concepts of Mathematics (undergraduate: Fall 2016, Spring 2017)
- Intermediate Algebra (undergraduate: Fall 2016, Spring 2017, Fall 2017, Spring 2018)
- Independent Study Courses:
  - Applied Multivariate Statistical Methods (undergraduate: 3 students during one semester)

### **University of Florida**

- Introduction to Statistics I (undergraduate: Fall 2011)
- Introduction to Statistics II (undergraduate: Spring 2011, Spring 2012, Summer B 2012)
- Mathematics Content and Methods for Teaching Mathematics in the Inclusive Elementary Class Part 2 (undergraduate: Fall 2015)
- \*Teaching K-8 Math Methods (graduate: Summer A 2013)
- \*Research Methods of Construction (graduate: Fall 2012)

## **P.K. Yonge Developmental Research School**

- †Advanced Placement (AP) Statistics (secondary: AY 2013-2014)

## **SUPERVISION**

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### **Graduate Students**

Katerina Allan, M.A.Ed. in Curriculum Studies (2021 – Present)

Thesis Title: *Development and validation of an introductory statistics placement test [tentative]*

### **Undergraduate Students**

Joseph Barss, B.Sc. (Honours) in Mathematics with Statistics Specialization (2023 – Present)

Project Title: *Multiple imputation of survey data [tentative]*

Bailey Drew, B.Sc. (Honours) in Mathematics with Statistics Specialization (2021)

Project Title: *Determining groups of student attitudes using cluster analysis*

Nathan Hebert, B.Sc. (Honours) in Mathematics with Statistics Specialization (2021)

Project Title: *Use of the LOCUS assessment with undergraduate students: an application of multivariate and logistic regression analyses*

## **FELLOWSHIPS AND AWARDS**

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|-------------|---|
| 2017 – 2018 | AMTE Service, Teaching, and Research (STaR) Fellowship  |
| 2014 – 2015 | Community for Advancing Discovery Research in Education (CADRE) Fellowship,<br>Education Development Center (EDC) |
| 2014        | I-Cubed Graduate Student Mentoring Award (with Catherine Case and Steven Foti),<br>University of Florida          |
| 2012 – 2016 | Graduate School Fellowship, University of Florida   |
| 2010        | Elected to Phi Beta Kappa, University of Florida  |

## **RESEARCH GRANTS**

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### **External Awarded**

Unfried, A., Posner, M.A., Bond, M., Whitaker, D., & Kerby, A. (2020–2023). *Developing Validated Instruments to Measure Student/Faculty Attitudes in Undergraduate Statistics and Data Science Education*. Funding Agency: National Science Foundation (NSF DUE-2013392). US\$599,998. Role: Co-Principal Investigator.

### **Internal Awarded**

Whitaker, D. (2022 – 2023). [*Indigenous-Black-International Science Student Assistantship*]. Mount Saint Vincent University: Women in Science and Engineering – Atlantic Region (WISEatlantic) Program. Can\$1,000.00. Role: Principal Investigator. Research Assistant: Linh Bui.

Whitaker, D. (2021 – 2022). [*Graduate Student Assistantship*]. Mount Saint Vincent University: Graduate Studies Scholarships, Assistantships, and Awards Committee. Can\$1,500.00. Role: Principal Investigator. Research Assistant: Katerina Allan

Whitaker, D. (2020 – 2022). [*Special Competition for Student Research Assistantships*]. Mount Saint Vincent University: Committee on Research and Publications. Can\$3,315.00. Role: Principal Investigator. Research Assistant: Nathan Hebert

Whitaker, D. (2019 – 2021). *Investigation of Non-Likert-Type Scales for Measuring Affective Outcomes in Statistics Education*. Mount Saint Vincent University: Committee on Research and Publications. Can\$9,998.00. Role: Principal Investigator.

Whitaker, D. (2018 – 2019). [*Graduate Student Assistantship*]. Mount Saint Vincent University: Graduate Studies Scholarships, Assistantships, and Awards Committee. Can\$1,431.52. Role: Principal Investigator. Research Assistant: Carlotta Heymann

## **TRAVEL GRANTS**

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### **External Organizations**

- 2017 Validity Evidence for Measurement in Mathematics Education Conference (US\$850 + hotel)
- 2015 Statistics Society of Canada, Statistical Education Section – Registration Fee (Can\$215)
- 2013 Florida State Horticultural Society Conference Travel Grant (US\$200)

### **Mount Saint Vincent University**

- 2022 Dean's Committee on Travel Allocations Travel Grant (Can\$200 total)
- 2021 Dean's Committee on Travel Allocations Travel Grant (Can\$337 total)
- 2019 Dean's Committee on Travel Allocations Travel Grant (Can\$2,000 total)

### **University of Wisconsin-Stout**

- 2017 Professional Development Grant (with undergraduate student Kylie Gorney) (US\$1,500)  
2017 Professional Development Grant (US\$1,147)

### **University of Florida**

- 2015 Graduate Student Council Travel Grant (US\$350)  
2015 School of Teaching and Learning Travel Grant (US\$350)  
2014 School of Teaching and Learning Travel Grant (US\$350)  
2014 Mathematics Education Program Travel Grant (US\$800)  
2014 School of Teaching and Learning Travel Grant (US\$450)  
2013 Graduate Student Council Travel Grant (US\$250)  
2013 School of Teaching and Learning Travel Grant (US\$500)

## **SERVICE**

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### **Mount Saint Vincent University**

- 2022 – Present Statistics Coordinator, Department of Mathematics and Statistics  
2022 Member, Term Lecturer/Assistant Professor Department Appointments Committee (DAC)  
2022 – Present Chair, Academic Appeals Committee (AAC)  
2021 – 2022 Member, Academic Appeals Committee (AAC)  
2020 – 2021 Member, Assistant Professor of Mathematics Department Appointments Committee (DAC)  
2020 – Present Member, Department of Mathematics and Statistics website improvement ad-hoc committee  
2018 – 2021 Mathematics Department Library Liaison

### **University of Wisconsin-Stout**

- 2017 – 2018 Mathematics Education Concentration Coordinator  
2017 – 2018 Member, Bachelor of Science in Science Education Advisory Committee  
2017 – 2018 Member, Assistant Professor of Statistics Search Committee, Department of Mathematics, Statistics, and Computer Science  
2017 Salary Equity Statistical Model Review  
2017 Member, Math Teaching and Learning Center Coordinator Search Committee, Department of Mathematics, Statistics, and Computer Science  
2016 – 2018 Mathematics Education Program Representative, School of Education Council  
2016 – 2018 Member, Colloquium Committee, Department of Mathematics, Statistics, and Computer Science

### **Service to the Profession**

- 2022 Strand Leader (Statistics, Probability, and Data Science), PME-NA 44

2021	Session Chair, Twelfth International Association for Statistical Education (IASE) Satellite Conference
2021	Session Moderator, Statistics Society of Canada 2021 Annual Meeting (SSC)
2018 – Present	Associate Editor, Statistics Education Research Journal (SERJ)
2018 – Present	Co-Editor, Statistics Teaching and Learning Corner ( <a href="http://stattlc.com">stattlc.com</a> )
2014	Session Chair, Ninth International Conference on Teaching Statistics (ICOTS)
2014	Judge, American Statistical Association's National K-12 Poster Competition

## Service to the Community

2019 – 2022	Presented biostatistics seminars for internationally educated physicians and pharmacists, Immigrant Services Association of Nova Scotia (ISANS) [approximately annually]
2018 – 2019	Presented sessions at MSVU Science Circles and Dal Math Circles with Dr. Danielle Cox
2015	Judge, Alachua County VEX Robotics Competition
2012 – 2016	Science Fair Judge, Alachua County Public Schools
2010	Analysis of survey data for Alachua County Housing Authority

## Ad-hoc Refereeing Service

Harvard Data Science Review (HDSR)  
 International Journal for Mathematics Teaching and Learning (IJMTL)  
 Investigations in Mathematics Learning (IML)  
 Journal of Statistics Education (JSE)  
 Statistics Education Research Journal (SERJ)  
 Teaching Children Mathematics (TCM)  
 Teaching Innovations in Statistics Education (TISE)  
 The Mathematics Educator (TME)  
 38th Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)  
 43rd Annual Conference of the Research Council on Mathematics Learning (RCML)  
 Ninth International Conference on Teaching Statistics (ICOTS-9)  
 Tenth International Conference on Teaching Statistics (ICOTS-10)  
 Eleventh International Conference on Teaching Statistics (ICOTS-11)  
 Twelfth International Association for Statistical Education (IASE) Satellite Conference

## Book Reviews

- Whitaker, D. (2015). [Review of the book *The best writing on mathematics 2014*, by M. Pitici]. *The Key Reporter*. <https://www.keyreporter.org/book-reviews/2015/the-best-writing-on-mathematics-2014/>
- Whitaker, D. (2015). [Review of the book *Bee time: Lessons from the hive*, by M. L. Winston]. *The Key Reporter*. <https://www.keyreporter.org/book-reviews/2015/beetime-lessons-from-the-hive/>

Whitaker, D. (2014). [Review of the book *How not to be wrong: The power of mathematical thinking*, by J. Ellenberg]. *The Key Reporter*. <https://www.keyreporter.org/book-reviews/2014/how-not-to-be-wrong-the-power-of-mathematical-thinking/>

## **OTHER PROFESSIONAL POSITIONS**

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- 2019 Lecturer (0.2 FTE), University of Wisconsin-Stout, Menomonie, WI
- 2018 Secondary Mathematics edTPA Scorer, Pearson Education
- 2018 AP Statistics Reader, Educational Testing Service (ETS)
- 2012 Statistical Consultant, MCC Statistical Consulting, Gainesville, FL

## **PROFESSIONAL MEMBERSHIPS**

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American Mathematical Society (AMS)

American Statistical Association (ASA)

Statistics Society of Canada (SSC)