Joshua M. Rosenberg

Curriculum Vitae

Associate Professor, STEM Education
Department of Theory and Practice in Teacher Education
The University of Tennessee, Knoxville
420 Claxton, 1122 Volunteer Blvd., Knoxville, TN 37996
865-974-5973 | jmrosenberg@utk.edu

Education

Degrees

2018, PhD, Educational Psychology & Educational Technology
Michigan State University

2012, MA, Education
Michigan State University

2010, BS, Biology
University of North Carolina, Asheville

Additional Qualifications

2016, Graduate Certificate, Science Education
Michigan State University

2010, Educator's License - Science and Biology, Teacher Licensure Program
University of North Carolina, Asheville

Professional Experience

2023-present, Associate Professor, STEM Education
University of Tennessee, Knoxville

2018-2023, Assistant Professor, STEM Education
University of Tennessee, Knoxville

2012-2018, Graduate Research and Teaching Assistant
Michigan State University

2010-2012, Science Teacher (Biology and Earth Science)
Shelby High School, Shelby, NC

2009-2010, Science Teacher Intern (Biology and Chemistry)
C.D. Owen High School, Swannanoa, NC

Additional Professional Affiliations

Faculty Fellow, College of Emerging and Collaborative Studies, University of Tennessee, Knoxville
Faculty Fellow, Center for Enhancing Education in Mathematics and Sciences, University of Tennessee, Knoxville
Faculty Fellow, Education Research & Opportunity Center, University of Tennessee, Knoxville
Affiliated Researcher, AmplifyLearn.AI, University of Washington

Fellowships and Awards

2024, Professional Promise in Research and Creative Achievement award, University of Tennessee, Knoxville

2024, Lura Odland Excellence award, College of Education, Health, and Human Sciences, University of Tennessee, Knoxville

2023-2024, Expanding Horizons Mid-Career Faculty Development Program, University of Tennessee, Knoxville

2023, NSF CAREER awardee

2023, Faculty Mentor, SEC Emerging Scholars Program Postdoctoral Researcher (Maryrose Weatherton)

2023, Research Worth Reading Award, Research in Artificial Intelligence in Science Eduation Research Interest Group, National Association for Research in Science Teaching

2023, Outstanding Graduate Research Mentor Award, Graduate Student Senate, University of Tennessee, Knoxville

2022, Early Career Award, Technology as an Agent of Change in Teaching and Learning (TACTL) Special Interest Group (SIG), American Educational Research Association (AERA)

2021, Best Poster Award, Fourteenth International Conference on Educational Data Mining

2021-2022, Open Educational Resources (OER) Research Fellow, William and Flora Hewlett Foundation

2021, Louie M. & Betty M. Phillips Faculty Support in Education Award, University of Tennessee, Knoxville (UTK)

2021, Mentor, Summer Undergraduate Research Internship Program, Office of Undergraduate Research, UTK

2020, Research Assistant Award, Office of Undergraduate Research, UTK

2020, Southeastern Conference (SEC) Visiting Faculty Travel Grant Program (Host: Annelise Russell, Martin School of Public Policy, University of Kentucky)

2016, Best Paper Award, Technological Pedagogical Content Knowledge SIG, Society for Information Technology and Teacher Education International Conference

2014, Outstanding Paper Award, Society for Information Technology and Teacher Education International Conference

Grants

$7,356,845; $6,248,084 as Principal Investigator [PI] or Co-PI

PI, Co-PI, and Co-I

2024-2025, Investigator, *AI for Education: Developing Curricula, Planning for External Funding, and Connecting Faculty* ($21,000; with *PI* Louis Rocconi), AI Tennessee Initiative, University of Tennessee, Knoxville.

2023-2028, PI, *CAREER: Creatively Reimagining Engagements with Data in Biology Learning Environments*, ($846,612), NSF. NSF Grant No. 2239152.

2022-2025, Co-PI, *Computer Science for Appalachia: Expanding a research-practice partnership to integrate computer science and literacy in rural East Tennessee schools*, ($999,980; with *PI* Lynn Hodge). NSF. NSF Grant No. 2219418.

2022-2024, Co-PI, *Broadening participation in introductory computer science: investigating self-assessment practices for increasing student learning and self-efficacy in two institutional contexts* ($299,836; with *PI* Alex Lishinski). NSF. NSF Grant No. 2215245

2022-2023, Co-PI, *Launching a Micro-credential in Educational Data Analytics* ($10,000; with *Co-PI* Louis Rocconi). University of Tennessee, Knoxville's College of Education, Health, and Human Sciences Strategic Investment Program.

2022-2025, Co-PI, *Quantifying the robustness of causal inferences: Extensions and applications.* ($899,319.13; *PI*: Kenneth Frank, Michigan State University; UTK subcontract: $105,727). Institute of Education Sciences.

2021-2022, PI, *Not only for scientists and engineers: Advancing Bayesian methods for pre-collegiate learners* ($1,991), Supplemental funding to NSF Grant No. 193770 (Dear Colleague Letter: Research Collaboration Opportunity in Europe for NSF Awardees). National Science Foundation.

2020-2025, Co-I, *Imagining possibilities in post-secondary education and STEMM in rural Appalachia* ($1,208,563), National Institutes of Health.

2020-2021, Co-PI, *Propelling teacher professional development through FAAST feedback on student epistemic views* ($15,000; *PI*: Christina Krist, University of Illinois Urbana-Champaign). Technology Innovations in Educational Research and Design Pilot Projects Program.

2019-2021, PI, *Understanding the development of interest in computer science: An experience sampling approach* ($346,688). National Science Foundation [NSF]. http://picsul.utk.edu/ (NSF Grant No. 1937700)

2019-2021, Co-PI, *CS for Appalachia: A research-practice partnership for integrating computer science into East Tennessee schools* ($252,453; *PI*: Lynn Hodge, UTK). NSF. (NSF Grant No. 1923509)

2019-2022, Co-PI, *Advancing computational grounded theory for audiovisual data from STEM classrooms* ($1,313,855; *PI*: Christina Krist, University of Illinois Urbana-Champaign; UTK subcontract: $101,469). NSF. https://tca2.education.illinois.edu/ (NSF Grant No. 1920796)

2019-2020, PI, *Planting the seeds for computer science education in East Tennessee through a research-practice partnership* ($13,200). Community Engaged Research Seed Program, UTK.

2018-2020, Co-PI, *Exploring how beginning elementary mathematics teachers seek out resources through social media* ($8,820; *PI*: Stephen Aguilar). Herman & Rasiej K-5 Mathematics Initiative, University of Southern California.

Senior Personnel

2020-2023, Senior Personnel, *Learning analytics in STEM education research institute* ($933,150; *PI*, Shaun Kellogg, North Carolina State University; UTK subcontract: $62,870. National Science Foundation (NSF), NSF Grant No. 2025090

2019-2022, Senior Personnel, *Medical entomology and geospatial analyses: Bringing innovation to teacher education and surveillance studies* ($149,611; *PI*: Rebecca Trout Fryxell). United States Department of Agriculture - Agriculture and Food Research Initiative. (USDA Grant No. 2019-68010-29119) https://www.megabitess.org/

Publications

+ Denotes a collaboration with a mentee who is a graduate student
ˆ Denotes a collaboration with a mentee who is an undergraduate student

Books (3)

Akcaoglu, M., Rosenberg, J. M., Lishinski, A., Narvaiz, S., & Bulut, O. (under contract). *Computational social science cookbook with R: A practical guide* (a volume in the *Chapman & Hall/CRC Big Data Series*). CRC Press.

Estrellado, R. A., Freer, E. A., Mostipak, J., Rosenberg, J. M., & Velásquez, I. C. (2020). *Data science in education using R*. Routledge. *Note.* All authors contributed equally. http://www.datascienceineducation.com/

Articles Published in Refereed Journals (53)

+Narvaiz, S., Lin, Q., Rosenberg, J. M., Frank, K. A., Maroulis, S. J., Wang, W., & Xu, R. (2024). konfound: An R Sensitivity Analysis Package to Quantify the Robustness of Causal Inferences. *Journal of Open Source Software, 9*(95), 1-6. https://joss.theoj.org/papers/10.21105/joss.05779.pdf

Carpenter, J. P., Rosenberg, J. M., Kessler, A., Romero-Hall, E., & Fischer, C. (2024). The importance of context in teacher educators' professional digital competence. *Teachers and Teaching*, 1-17. https://www.tandfonline.com/doi/full/10.1080/13540602.2024.2320155

Ranellucci, J., & Rosenberg, J. M. (2023). Students' interest, engagement, and achievement in online high school science courses. *Educational Psychology*, 1-19.

Staudt Willet, K.B., Rosenberg, J.M. (2023). The design and effects of educational data science workshops for early career researchers. *Journal Formative Design in Learning*. https://doi.org/10.1007/s41686-023-00083-7

Hodge, E. M., Rosenberg, J. M., & López, F. A. (2023). "We Don't Teach Critical Race Theory Here": A Sentiment Analysis of K-12 School and District Social Media Statements. *Peabody Journal of Education*, 1-15. https://www.tandfonline.com/doi/full/10.1080/0161956X.2023.2261318

Garner, A. V., & Rosenberg, J. (2023). Utilizing iNaturalist to Support Place-Based Learning and Data Analysis. *Science Scope, 46*(7), 54-60. https://www.nsta.org/science-scope/science-scope-fall-2023/using-inaturalist-support-place-based-learning-and-data

Rosenberg, J. M. (2023). Open and Useful? Exploring the Science Education Resources on OER Commons. *Contemporary Issues in Technology and Teacher Education, 23*(3), 490-507.

Borchers, C., Rosenberg, J. M., & Swartzentruber, R. M. (2023). Facebook post data: a primer for educational research. *Educational Technology Research and Development*, 1-20. https://link.springer.com/article/10.1007/s11423-023-10269-2

Carpenter, J. P., Morrison, S. A., Rosenberg, J. M., & Hawthorne, K. A. (2023). Using social media in pre-service teacher education: The case of a program-wide twitter hashtag. *Teaching and Teacher Education, 124*, 1-17. https://www.sciencedirect.com/science/article/pii/S0742051X23000240

Rosenberg, J., ^Borchers, C., Stegenga, S. M., ^Burchfield, M. A., Anderson, D., & Fischer, C. (2022). How educational institutions reveal students' personally identifiable information on Facebook. *Learning, Media, & Technology.* https://www.tandfonline.com/doi/full/10.1080/17439884.2022.2140672

Rosenberg, J. M., ^Borchers, C., ^Burchfield, M. A., Anderson, D., Stegenga, S. M., & Fischer, C. (2022). Posts about students on Facebook: A data ethics perspective. *Educational Researcher, 51*(8), 547-550. https://journals.sagepub.com/doi/full/10.3102/0013189X221120538

Kubsch, M., Krist, C., & Rosenberg, J. M. (2023). Distributing Epistemic Functions and Tasks - A framework for augmenting human analytic power with machine learning in science education research. *Journal of Research in Science Teaching.* https://onlinelibrary.wiley.com/doi/full/10.1002/tea.21803. *Note.* All authors contributed equally. This paper received the 2023 Research Worth Reading Award for the Research in Artificial Intelligence in Science Eduation Research Interest Group, National Association for Research in Science Teaching.

Rosenberg, J. M., Kubsch, M., Wagenmakers, E.-J., & Dogucu, M. (2022). Making sense of uncertainty in the science classroom: A Bayesian approach. *Science & Education*, 31, 1239–1262. https://link.springer.com/article/10.1007/s11191-022-00341-3

Jones. R. S., & Rosenberg, J. M. (2022). Characterizing whole class discussions about data and statistics with conversation profile analysis. *Journal of Mathematical Behavior, 67*, 1-16. https://www.sciencedirect.com/science/article/abs/pii/S0732312322000645

Rosenberg, J. M., Schultheis, E., Kjelvik, M., Reedy, A., & +Sultana, O. (2022). Big data, big changes? A survey of K-12 science teachers in the United States on which data sources and tools they use in the classroom. *British Journal of Educational Technology, 53*(5), 1179-1201. https://bera-journals.onlinelibrary.wiley.com/doi/10.1111/bjet.13245

+Michela, E., Rosenberg, J., Kimmons, R., +Sultana, O., ^Burchfield, M. A., & ^Thomas, T. (2022). "We are trying to communicate the best we can": Understanding districts' communication on Twitter during the COVID-19 pandemic. *AERA Open, 8*, 1-18. https://doi.org/10.1177/23328584221078542

Trout Fryxell, R. T., Camponovo, M., Smith, B., Butefish, K., Rosenberg, J. M., Andsager, J. L., ... & Willis, M. P. (2022). Development of a community-driven mosquito surveillance program for vectors of La Crosse virus to educate, inform, and empower a community. *Insects, 13*(2), 164. https://www.mdpi.com/2075-4450/13/2/164

Rutherford, T., Duck, K., Rosenberg, J. M., & Patt, R. (2022). Leveraging mathematics software data to understand student learning and motivation during the COVID-19 pandemic. *Journal of Research on Technology in Education, 54*(1), 94-131. https://www.tandfonline.com/doi/full/10.1080/15391523.2021.1920520

Aguilar, S. J., Rosenberg, J., Greenhalgh, S., Fütterer, T., Lishinski, A., & Fischer, C. (2021). A different experience in a different moment? Teachers' social media use before and during the COVID-19 pandemic. *AERA Open, 7*, 1-17. https://journals.sagepub.com/doi/full/10.1177/23328584211063898

+Lawson, M. A., Herrick, I., R., & Rosenberg, J. M. (2021). Better together: Mathematics and science pre-service teachers' sensemaking about STEM. *Educational Technology & Society, 24*(4), 180–192.

Schweinsburg, M., ... Luis, S. (2021). Same data, different conclusions: Radical dispersion in empirical results. *Organizational Behavior and Human Decision Processes, 165*(7), 228-249. https://www.sciencedirect.com/science/article/pii/S0749597821000200 (*Note.* I was an author and contributor to this large-scale, collaborative project.)

Greenhalgh, S. P., Rosenberg, J. M., & Russell, A. (2021). The influence of policy and context on teachers' social media use. *The British Journal of Educational Technology, 52*(5), 2020-2037. https://bera-journals.onlinelibrary.wiley.com/doi/10.1111/bjet.13096?af=R

Frank, K. A., Lin, Q., Maroulis, S., Strassman, A., Xu, R., Rosenberg, J. M., Hayter, C., Mahmoud, R., Kolak, M., Dietz, T., & Zhang, L. (2021). Hypothetical case replacement can be used to quantify the robustness of trial results. *Journal of Clinical Epidemiology, 134*(6), 150-159. https://www.sciencedirect.com/science/article/pii/S0895435621000366 *Note.* I was a scientific programmer for this project.

Rosenberg, J. M., ^Borchers, C., Dyer, E., Anderson, D. J., & Fischer, C. (2021). Advancing new methods for understanding public sentiment about educational reforms: The case of Twitter and the Next Generation Science Standards. *AERA Open, 7*, 1-17. https://journals.sagepub.com/doi/10.1177/23328584211024261

Ranellucci, J., Robinson, K., Rosenberg, J. M., Lee, Y.-K., Roseth, C., & Linnenbrink-Garcia. (2021). Comparing the roles and correlates of emotions in class and during online video lectures in a flipped anatomy classroom. *Contemporary Educational Psychology, 64*(4), 1-15. https://doi.org/10.1016/j.cedpsych.2021.101966

Akcaoglu, M., Rosenberg, J. M., Hodges, C. B., Hilpert, J. (2021). An exploration of factors impacting middle school students' attitudes toward computer programming. *Computers in the Schools, 38*(1), 19-35. https://doi.org/10.1080/07380569.2021.1882209

Rosenberg, J. M., & Krist, C. (2021). Combining machine learning and qualitative methods to elaborate students' ideas about the generality of their model-based explanations. *Journal of Science Education and Technology, 30*(2), 255-267. https://link.springer.com/article/10.1007%2Fs10956-020-09862-4. *Note.* Both authors contributed equally.

Rosenberg, J. M., & Staudt Willet, K. B. (2021). Balancing participants' privacy and open science in the context of COVID-19: A response to Ifenthaler & Schumacher (2016). *Educational Technology Research & Development, 69*(1), 347-351.

Harper, F. K., Rosenberg, J. M., ^Comperry, S., ^Howell, K., & ^Womble, S. (2021). #Mathathome during the COVID-19 Pandemic: Exploring and reimagining resources and social supports for parents. *Education Sciences, 11*(2), 60, 1-24. https://www.mdpi.com/2227-7102/11/2/60

Anderson, D. J., Rowley, B., Stegenga, S., Irvin, P. S., & Rosenberg, J. M. (2020). Evaluating content-related validity evidence using a text-based, machine learning procedure. *Educational Measurement: Issues and Practice, 39*(4), 53-64. https://onlinelibrary.wiley.com/doi/abs/10.1111/emip.12314

Rosenberg, J. M., Reid, J., Dyer, E., Koehler, M. J., Fischer, C., & McKenna, T. J. (2020). Idle chatter or compelling conversation? The potential of the social media-based #NGSSchat network as a support for science education reform efforts. *Journal of Research in Science Teaching, 57*(9), 1322-1355. https://onlinelibrary.wiley.com/doi/10.1002/tea.21660

Carpenter, J., Rosenberg, J. M., Dousay, T., Romero-Hall, E., Trust, T., Kessler, A., Phillips, M., Morrison, S., Fischer, C. & Krutka, D. (2020). What should teacher educators know about technology? Perspectives

and self-assessments. *Teaching and Teacher Education, 95*(10), 103-124. https://doi.org/10.1016/j.tate.2020.103124

Ranellucci, J., Rosenberg, J. M., & Poitras, E. (2020). Exploring pre-service teachers' use of technology: The technology acceptance model and expectancy-value theory. *Journal of Computer Assisted Learning, 36*(6), 810-824. http://dx.doi.org/10.1111/jcal.12459

Schmidt, J. A., Beymer, P. N., Rosenberg, J. M., Naftzger, N. J., & Shumow, L. (2020). Experiences, activities, and personal characteristics as predictors of engagement in STEM-focused summer programs. *Journal of Research in Science Teaching, 57*(8), 1281-1309. https://onlinelibrary.wiley.com/doi/full/10.1002/tea.21630

Greenhalgh, S. P., Rosenberg, J. M., Koehler, M. J., Akcaoglu, M., & Staudt Willet, K. B. (2020). Identifying multiple learning spaces within a single teacher-focused Twitter hashtag. *Computers & Education, 148*(4). https://doi.org/10.1016/j.compedu.2020.103809

Beymer, P. N., Rosenberg, J. M., & Schmidt, J. A. (2020). Does choice matter or is it all about interest? An investigation using an experience sampling approach in high school science classrooms. *Learning and Individual Differences, 78*(2), 1-15. https://doi.org/10.1016/j.lindif.2019.101812

Rosenberg, J. M., +Edwards, A., & Chen, B. (2020). Getting messy with data: Tools and strategies to help students analyze and interpret complex data sources. *The Science Teacher, 87*(5). https://learningcenter.nsta.org/resource/?id=10.2505/4/tst20_087_05_30

Xu, R., Frank, K. A., Maroulis, S., & Rosenberg, J. M. (2019). konfound: Command to quantify robustness of causal inferences. *The Stata Journal, 19*(3), 523-550. https://journals.sagepub.com/doi/full/10.1177/1536867X19874223

Blondel, D. V., Sansone, A., Rosenberg, J. M., Yang, B. W., Linennbrink-Garcia, L., & Schwarz-Bloom, R. D. (2019). Development of an online experiment platform (Rex) for high school biology. *Journal of Formative Design for Learning, 3*(1) 62-81. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6716597/

Henriksen, D., Mehta, R. & Rosenberg, J. (2019). Supporting a creatively focused technology fluent mindset among educators: survey results from a five-year inquiry into teachers' confidence in using technology. *Journal of Technology and Teacher Education, 27*(1), 63-95. https://www.learntechlib.org/primary/p/184724/

Rosenberg, J. M., & +Lawson, M. J. (2019). An investigation of students' use of a computational science simulation in an online high school physics class. *Education Sciences, 9*(49), 1-19. https://www.mdpi.com/2227-7102/9/1/49

Rosenberg, J. M., Beymer, P. N., Anderson, D. J., & Schmidt, J. A. (2018). tidyLPA: An R package to easily carry out Latent Profile Analysis (LPA) using open-source or commercial software. *Journal of Open Source Software, 3*(30), 978. https://doi.org/10.21105/joss.00978

Greenhalgh, S. P., Staudt Willet, K. B., Rosenberg, J. M., & Koehler, M. J. (2018). Tweet, and we shall find: Using digital methods to locate participants in educational hashtags. *TechTrends, 62*(5), 501-508. https://doi.org/10.1007/s11528-018-0313-6

Beymer, P. N., Rosenberg, J. M., Schmidt, J. A., & Naftzger, N. (2018). Examining relationships between choice, affect, and engagement in out-of-school time STEM programs. *Journal of Youth and Adolescence, 47*(6), 1178-1191. https://doi.org/10.1007/s10964-018-0814-9

Akcaoglu, M., Rosenberg, J. M., Ranellucci, J., & Schwarz, C. V. (2018). Outcomes from a self-generated utility value intervention on fifth and sixth-grade students' value and interest in science. *International Journal of*

Educational Research, 87, 67-77. https://www.sciencedirect.com/science/article/pii/S0883035517308492

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. (2018). A person-in-context approach to student engagement in science: Examining learning activities and choice. *Journal of Research in Science Teaching, 55*(1), 19-43. https://dx.doi.org/10.1002/tea.21409 (*Note. This article was recognized as one of the 20 most-downloaded articles in JRST between June, 2016 and June, 2018*)

Rosenberg, J.M., Greenhalgh, S.P., Graves Wolf, L. & Koehler, M.J. (2017). Strategies, use, and impact of social media for supporting teacher community within professional development: The case of one urban STEM program. *Journal of Computers in Mathematics and Science Teaching, 36*(3), 255-267. https://www.learntechlib.org/primary/p/180387/

Koehler, M. J., Greenhalgh, S. P., Rosenberg, M. J., & Keenan, S. (2017). What the tech is going on with digital teaching portfolios? Using the TPACK framework to analyze teachers' technological understanding. *Journal of Technology and Teacher Education, 25*, 31-59. http://www.learntechlib.org/p/173346/ ">

Rosenberg, J. M., Greenhalgh, S. P., Koehler, M. J., Hamilton, E., & Akcaoglu, M. (2016). An investigation of State Educational Twitter Hashtags (SETHs) as affinity spaces. *E-Learning and Digital Media, 13*(1-2), 24-44. http://dx.doi.org/10.1177/2042753016672351

Greenhalgh, S. P., Rosenberg, J. M., & Wolf, L. G. (2016). For all intents and purposes: Twitter as a foundational technology for teachers. *E-Learning and Digital Media, 13*(1-2), 81-98. http://dx.doi.org/10.1177/2042753016672131

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2016). Examining the Substitution Augmentation Modification Redefinition (SAMR) model for technology integration. *Tech Trends, 60*, 433-441. http://dx.doi.org/10.1007/s11528-016-0091-y

Rosenberg, J. M., Terry, C. A., Bell, J., Hiltz, V., & Russo, T. (2016). Design guidelines for graduate program social media use. *Tech Trends, 2*, 167-175. http://dx.doi.org/10.1007/s11528-016-0023-x

Rosenberg, J. M., & Koehler, M. J. (2015). Context and Technological Pedagogical Content Knowledge (TPACK): A systematic review. *Journal of Research on Technology in Education, 47*, 186-210. http://dx.doi.org/10.1080/15391523.2015.1052663

Commissioned Papers and White Papers, Reports, and Articles in the Popular Press (6)

Bilal, D., Fagan, J., Rius, A., Vogiatzis, K., Liu, C., Dahms, H., Duncan, L., Kim, H., Odoi, A., Rosenberg, J., Singh, V., & Sobes, V. (2023). *AI TENNessee Initiative: Education. AI Tennessee Initiative. N.b.* I co-chaired the committee that wrote this white paper with C. Liu.

Rosenberg, J. M., & Jones, R. S. (2022). *K-12 data science learning.* Paper commissioned by the National Academies of Sciences, Engineering, and Medicine for *Foundations of Data Science for Students in Grades K-12: A Workshop.* https://www.nationalacademies.org/event/09-13-2022/docs/DD667E469D0EC5DD91A7D85BC839A9852491A3CF9F15

Rosenberg, J. M. (2021). School posts on Facebook could threaten student privacy. *The Conversation.*

Rosenberg, J. M. (2020). Open-source authorship of data science in education using R. *R Views.* https://rviews.rstudio.com/2020/07/01/open-source-authorship-of-data-science-in-education-using-r/

Rosenberg, J. M. (2018). Opportunities for engaging students in "data practices" in online science classes. *Michigan Virtual Learning Research Institute Blog: Research, Policy, Innovation & Networks.* https:

//mvlri.org/blog/opportunities-engaging-students-data-practices-online-science-classes/

Rosenberg, J. M., & Ranellucci, J. (2017). Student motivation in online science courses: A path to spending more time on course and higher achievement. *Michigan Virtual Learning Research Institute Blog: Research, Policy, Innovation & Networks*. https://mvlri.org/blog/student-motivation-in-online-science-courses-a-path-to-spending-more-time-on-course-and-higher-achievement/

Naftzger, N., Schmidt, J. A., Shumow, L., Beymer, P. N., & Rosenberg, J. M. (2019). *Exploring the link between STEM activity leader practice and youth engagement: Findings from the STEM IE study*. Washington, DC: American Institutes for Research. https://www.informalscience.org/exploring-link-between-stem-activity-leader-practice-and-youth-engagement-findings-stem-ie-study

Editor-Reviewed Articles Published in Journals (11)

Allman, B., Kimmons, R., +Wang, W., +Bao, H., Rosenberg, J. M., & Koehler, M. J. (2024). Trends and topics in educational technology, 2024 edition. *TechTrends.* https://doi.org/10.1007/s11528-024-00950-5

Allman, B., Kimmons, R., Rosenberg, J., & Dash, M. (2023). Trends and Topics in Educational Technology, 2023 Edition. *TechTrends, 67*(3), 583-591.

Hodge, E. M., López, F. A., & Rosenberg, J. M. (2022). How to respond to community concerns about critical race theory. *Phi Delta Kappan, 104*(3), 48-53. https://journals.sagepub.com/doi/full/10.1177/00317217221136599

Jiang, S., Lee, V. R., & Rosenberg, J. M. (2022). Data science education across the disciplines: Underexamined opportunities for K-12 innovation. *British Journal of Educational Technology, 53*(5), 1073-1079. https://bera-journals.onlinelibrary.wiley.com/doi/full/10.1111/bjet.13258

Kimmons, R., Rosenberg, J.M. (2022). Trends and topics in educational technology, 2022 Edition. *TechTrends, 66*, 134-140. https://doi.org/10.1007/s11528-022-00713-0

Frank K.A., Lin Q., Maroulis S., Mueller A.S., Xu R., Rosenberg J.M., Hayter C.S., Mahmoud R.A., Kolak M., Dietz T., Zhang L. (2022). Response to "Three Comments on the RIR method". *Journal of Clinical Epidemiology, 146*, 134-140. https://pubmed.ncbi.nlm.nih.gov/35131466/

Kessler, A. M., Likely, R., & Rosenberg, J. (2021). Open for whom? The need to define open science for science education. *Journal of Research in Science Teaching, 58*(10), 1590-1595. https://onlinelibrary.wiley.com/doi/epdf/10.1002/tea.21730

Rosenberg, J. M., ^Burchfield, M. B., ^Borchers, C., ^Gibbons, B., & Anderson, D., and Fischer, C. (2021). Posts on Facebook by schools and districts and the potential risks to students' privacy. *Phi Delta Kappan*. https://kappanonline.org/social-media-students-privacy-facebook-rosenberg/

Kimmons, R., Rosenberg, J., & Allman, B. (2021). Trends in educational technology: What Facebook, Twitter, and Scopus can tell us about current research and practice. *TechTrends, 65*(2), 125-136.

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Lishinski, A., Bao, H., & Rosenberg, J. (2024, March). Self-efficacy Interventions for CS1. In *Proceedings of the 55th ACM Technical Symposium on Computer Science Education V.2* (p. 1935).

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Rosenberg, J. M., Galas, E., & Staudt Willet, K.B. (2021). Who are the data scientists in education? An investigation of the identities and work of individuals in diverse roles. In E. de Vries, Y. Hod, & J., Ahn (Eds.), *The International Society of the Learning Sciences 2020 Conference Proceedings* (pp. 1057-1058). International Society of the Learning Sciences. https://repository.isls.org/handle/1/7394

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+Mann, M., ˆBui, H., ˆGibbons, B., +Lishinski, A., Dyer, E., & Rosenberg, J. M. (2021). "Not my subject"?: A survey of teachers regarding the implementation of new K-8 computing education standards. In *Proceedings of the 51st ACM Technical Symposium on Computer Science Education* (p. 1343). https://dl.acm.org/doi/abs/10.1145/3408877.3439666

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Presentations

Invited Talks (5)

Hu, A. D., Greenhalgh, S. P. Rosenberg, J. M., & Staudt-Willet, B. (March, 2023). *What ChatGPT is, how it is impacting universities, and how might we make "good" use of it.*. Panel presentation at the Michigan State University College of Education. Michigan State University, East Lansing, MI.

Rosenberg, J. M. (April, 2021). *AI and ML and data! Oh my! Supporting teachers' and learners' work by considering the human sides of data science.* Keynote presentation at the LEAD Graduate School and Research Network retreat. The University of Tübingen, Baden-Württemberg, Germany.

Rosenberg, J. M. (October, 2021). *All together now: Leveraging data science techniques alongside traditional approaches to understand learning.* Invited presentation at the International Conference on Education Research. Seoul National University, Seoul, South Korea.

Rosenberg, J. M. (February, 2020). *Studying education-focused Twitter hashtags in light of state-based and national policies and practices.* Presentation at the 2020 Spring Seminar Series at the Martin School of Public Policy at the University of Kentucky, Lexington, KY.

Rosenberg, J.M. (September, 2019). *Making data science education count: Exploring the integration of data science into education.* Presentation at the Middle Tennessee State University Mathematics and Science Education Doctoral Seminar series. Middle Tennessee State University, Murfreesboro, TN.

Rosenberg, J. M. (February, 2019). *Making sense of recent advances in the Technological Pedagogical Content Knowledge framework.* English International Congress at the Universidad Técnica del Norte, Ibarra, Ecuador.

Peer-Reviewed Conference Presentations (93)

Garner, A. V., Bao, H., & Rosenberg, J. (2024, March). Collect, analyze interpret, oh my! 7th grade students' intended engagements in the OpenSciEd curriculum [Paper presentation]. National Association of Research in Science Teaching Annual Conference, Denver, CO, United States.

Kubsch, M., Krist, K., Wulff, P., Rosenberg, J., Hall, K., Cox, E., Palaguachi, C., & Tschisgale, P. (2024, March). How to use AI and center people in science education research [Workshop]. National Association

of Research in Science Teaching Annual Conference, Denver, CO, United States.

Weatherton, M., Rosenberg, J., Schussler, E. E., & Lishinski, A. (2024, March). Exploring undergraduate students' momentary anxiety in introductory biology classes with intensive longitudinal methods [Paper presentation]. National Association of Research in Science Teaching Annual Conference, Denver, CO, United States.

Supovitz, J. A., Diehl, D. K., DeBray, E. H., Rosenberg, J. M., Gonzalez Canche, M. S., Jabbar, H., Rubin, P. G., & Ferrare, J. J. (2024, April). Network analysis to inform policy: Testing a rapid-response approach [Roundtable presentation]. American Educational Research Association Annual Meeting, Philadelphia, PA, United States.

López, F., Darriet, C., Cervantes-Soon, C. G., Santibanez, L., Delcid, G. M., Serrano, E. M., Pritchard, C., Rosenberg, J. M., Frankenberg, E., & Asson, S. (2024, April). Enrollment patterns and online portrayals of dual language program [Roundtable presentation]. American Educational Research Association Annual Meeting, Philadelphia, PA, United States.

Morina, F., Fütterer, T., Rosenberg, J. M., Carpenter, J. P., & Fischer, C. (2024, April). Investigating associations of teacher characteristics with open educational resource usage in social media communities [Roundtable presentation]. American Educational Research Association Annual Meeting, Philadelphia, PA, United States.

Robertson, J. R., Logan, M. W., Rosenberg, J. M., & Lombardi, D. (2024, April). Scientific thinking, reasoning, and knowledge construction across adolescence [Poster presentation]. American Educational Research Association Annual Meeting, Philadelphia, PA, United States.

A Bayesian Approach to Making Sense of Uncertainty in the Science Classroom Uncertainty and Sensemaking in Science Classrooms, 1:00-2:30pm Wednesday, 19 April, 2023 (with Marcus Kubsch, Mine Dogucu, and E.J. Wagenmakers

A Curriculum Analysis of The Sources of Data and Data Engagements of Science Students, 10:30am-12:00pm Thursday, 20 April, 2023 (with Amanda Garner)

Distributing Epistemic Functions and Tasks – Towards a Methodological Approach for Using ML in Science Education, 1:10-2:40pm Thursday, 20 April, 2023 (with Marcus Kubsch and Christina Krist)

Make Graphs? A Survey of Teachers on How Their Students Analyze and Interpret Data Strengthening Science Teachers' NGSS-Aligned Instruction by Focusing on Students, 8:25-9:55am Wednesday, 19 April, 2023 (with Omiya Sultana, Aaron Reedy, Elizabeth Schultheis, and Melissa Kjelvik)

Graduate Programs in Learning Analytics Workshop: Core Competencies, Curriculum, and Instruction (link)

"I Love Feeling Connected Still": Educator Preparation Program Alumni Engagement Through Social Media (link)

Foundations of K-12 Data Science Education (link)

Teacher Collaboration and Professional Development on Twitter: An Epistemic Network Analysis (link)

Experience Sampling Method: Relationships Between Students' Emotional Responses, Self-Efficacy, and Interest in Programming (link)

Carpenter, J., Morrison, S., Rosenberg, J. M., & Hawthorne, K. (2022, April). *Professional learning and networking for preservice teachers on Twitter: A Social Network Analysis of #BantshireEd.* Presentation at the American Educational Research Association Annual Meeting.

Lishinski, A., Rosenberg, J. M., +Sultana, O., +Mann, M., & Dunn, J. (2021, April). *A text messaging–based experience sampling method study of students' interest in introductory computer science.* Presentation at the American Educational Research Association Annual Meeting.

Michela, E., Rosenberg, J. M., +Sultana, O., ˆBurchfield, M., ˆThomas, T., & Kimmons, R. (2021, April). *"Life will eventually get back to normal": School districts' Twitter use in response to COVID-19.* Poster presentation at the American Educational Research Association Annual Meeting.

Rosenberg, J. M., Carpenter, J., +Michela, E., +Sultana, O., McKenna, T. J., Dyer, E. D., & Reid, J. (2021, April). *"Best P.D. out there"? An exploration of the #NGSSchat network on Twitter.* Presentation at the American Educational Research Association Annual Meeting.

Rosenberg, J. M., ˆBorchers, C., Gibbons, B., Dyer, E. D., Anderson, D. A., & Fischer, C. (2021, April). Don't worry, be happy: A sentment analysis of the #NGSSchat Twitter Symposium community. In M. Rehm. (Chair), *Social opportunity spaces: How social media can inform/shape educational policy processes.* Symposium conducted at the American Educational Research Association Annual Meeting.

+Lawson, M. A., Rosenberg, J. M., & Herrick, I. (2021, April). *Better together: Supporting and understanding preservice teacher (PST) sense-making about STEM.* Presentation at the American Educational Research Association Annual Meeting.

Kellogg, S., Jiang, S., Rosenberg, J. M., & Moore, R. (2021, April). Learning Analytics in STEM Education Research (LASER) Institute. In F. J. Levine & G. L. Wimberly (Chairs), *Building capacity in STEM education research: A discussion with directors of the NSF institutes in research methods.* Symposium at the American Educational Research Association Annual Meeting.

Schmidt, J.A., Schell, M.J., Beymer, P.N., Alberts, K.M., Phun, V., Lee, M. & Rosenberg, J.M. (2020, August). *Students' momentary science engagement predicts end-of-course achievement.* Poster presented at the annual meetings of the American Psychological Association. Washington, DC. (Conference canceled)

Rosenberg, J. M., Reid, J., Dyer, E., Koehler, M. J., Fischer, C., & McKenna, T. J. (2020, April). A new context for professional networks: Understanding the social structure of #NGSSChat through social network analysis. In K. A. Frank, K., Torphy, K., Daly, A., & Greenhow, C. (Chairs), *Educators meet the fifth estate: Social media in education.* Symposium conducted at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled)

Rosenberg, J. M., Hodge, L., Bertling, J., & King, S. (2020, April). Art as a context for data science: Exploring fourth-grade students' data visualization practices. In J. M. Rosenberg & B. Chen (Chairs), *Exploring data science across the curriculum and across grade levels.* Symposium conducted at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled)

Rosenberg, J. M., Carpenter, J. P., Romero-Hall, E., & Kessler, A. (2020, April). *Teacher educators' technology competencies and the importance of context.* Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled)

Rosenberg, J. M., Beymer, P. N., Phun, V., Schmidt, J. A. (2020, April). Sources of variability for students' engagement in science: Findings from a cross-classified, multivariate modeling approach. In P. N. Beymer, D. K. Benden, & M. L. Bernacki (Chairs), *Affordances and modeling of intensive data.* Symposium conducted at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled)

Rutherford, T., Rosenberg, J. M., & Staudt Willet, K. B. (2020, April). Which birds fill the branches of the AERA Twitter tree? Twitter networks around #AERA19. In P. N. Beymer, D. K. Benden, & M. L.

Bernacki (Chairs), *Affordances and modeling of intensive data.* Symposium conducted at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled)

Jones, R. S., & Rosenberg, J. M. (2020, April). *Latent class modeling of whole-class discussions about data, statistics, and probability.* Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled).

Rutherford, T., & Rosenberg, J. M. (2020, April). *Motivational correlates of choice to persist after failure.* Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled).

Ranellucci, J. & Rosenberg, J. M. (2020, April). *Interest, engagement, and achievement in online high school science courses.* Paper presented at the American Educational Research Association Annual Meeting, San Francisco, CA. (Conference canceled).

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. N. (August, 2019). *Sources of variability in engagement: Exploring situational, personal, and classroom influences.* Poster presented at the annual meeting of the American Psychological Association, Chicago, IL.

Greenhalgh, S. P., Huang, K., & Rosenberg, J. M. (2019, October). *Understanding gaming communities and exploring learning opportunities: A computational grounded theory approach.* Paper presented at the meeting of the Association for Educational Communications and Technology International Convention, Las Vegas, NV.

Rosenberg, J. M, Beymer, P. N., Houslay, T. M., & Schmidt, J. A. (2019, April). Using a multivariate, multilevel model to understand how youths' in-the-moment engagement predicts changes in youths' interest. In M. Bernacki, A. Kaplan, and L. Linnenbrink-Garcia (Chairs), *Embracing and modeling the complex dynamics of motivation and engagement: Contextual, temporal, dynamic, and systematic.* Symposium conducted at the Annual Meeting of the American Educational Research Association, Toronto, CA.

Beymer, P. N., Schell, M. J., Alberts, K. M., Rosenberg, J. M., & Schmidt, J. A. (2019, April). *Student engagement profiles in formal and informal STEM learning settings.* Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Schell, M. J., Beymer, P. N. Albert, K. M., Rosenberg, J. M., & Schmidt, J. A. (2019, April). *Predictors of momentary student engagement profiles in high school science classrooms.* Paper presented at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Reid, J., Rosenberg, J. M., Koehler, M. J., Fischer, C., & McKenna, T. J. (2019, March). *An exploration of #NGSSchat through social network analysis.* Paper presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD.

Rosenberg, J. M., Reid, J., Koehler, M. J., Fischer, C., & McKenna, T. J. (2019, January). *The roles of the Twitter hashtag #NGSSchat in the context of science education reform efforts.* Paper presented at the Association for Science Teacher Education International Meeting, Savannah, GA. (*Note. This paper was nominated for the ASTE John C. Park National Technology Leadership Institute Fellowship*)

Akcaoglu, M., Hodges, C. B., Rosenberg, J. M., & Hilpert, J. (2018, October). *Factors impacting middle school students' interest, efficacy, and utility value of programming.* Paper presented at the Association for Educational Communications and Technology International Convention 2018. Kansas City, MO.

Staudt Willet, K. B., Greenhalgh, S. P., Rosenberg, J. M., Koehler, M. J. (2018, October). *Won't you be my neighbor? How education stakeholders use hyperlinks to build information neighborhoods on Twitter.*

Paper presented at the Association for Educational Communications and Technology International Convention 2018. Kansas City, MO.

Beymer, P. N., Rosenberg, J. M., Schmidt, J. A., Naftzger, N. J., & Shumow, L. (August, 2018). *Agency in summer STEM programs predicts interest and career aspirations.* Poster presented at the annual meeting of the American Psychological Association, San Francisco, CA.

Schmidt, J. A., Beymer, P. N., Rosenberg, J. M., Naftzger, N. J., & Shumow, L. (August, 2018). *Examining the development of interest in summer STEM programs.* Poster presented at the annual meeting of the American Psychological Association, San Francisco, CA.

Beymer, P. N., Rosenberg, J.M., & Schmidt, J. A. (2018, April). *Investigating the effects of interest and choice: An experience sampling approach.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Greenhalgh, S. P., Staudt Willet, B., Rosenberg, J. M., Akcaoglu, M., & Koehler, M. J. (2018, April). *Timing is everything: Comparing synchronous and asynchronous modes of Twitter for teacher professional learning.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Rosenberg, J. M., Beymer, P. N., & Schmidt, J. A. (2018, April). *How engagement during out-of-school time STEM programs predicts changes in motivation in STEM.* In J. M. Rosenberg (Chair), Data-intensive approaches to studying engagement in education: Exploring their current potential. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Rosenberg, J. M., Lee, Y., Robinson, K. A., Ranellucci, J., Roseth, C. J., & Linnenbrink-Garcia, L. (2018, April). *Patterns of engagement in a flipped undergraduate class: Antecedents and outcomes.* In L. Daniels & A. Frenzel (Chairs), New empirical insights on what energizes learners – A session on emotions and engagement. Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Schmidt, J. A., Rosenberg, J.M., & Beymer, P. N. (2018, April). *Experiences, activities, and personal characteristics as predictors of interest and engagement in STEM-focused summer programs.* Paper presented at the Annual Meeting of the American Educational Research Association, New York, NY.

Shwartz, Y., Bayer, I., Bielik, T., Kolonich, A., Eidelman, R., Shwartz, G., . . . Rosenberg, J. M. (2018, March). *Graduate student international collaboration for investigating science teachers' professional learning.* Paper presented at the meeting of the National Association for Research in Science Teaching, Atlanta, GA.

Yang, B. W., Blondel, D. V., Rosenberg, J. M., Sansone, A., Linennbrink-Garcia, L., Schwarz-Bloom, R. D. (2017, November). *The Rex virtual experiment platform: Design, implementation, and effects on situational interest.* Poster presented at the Annual Meeting of the Society for Neuroscience, Washington, DC.

Greenhalgh, S. P., Staudt Willet, K. B., Rosenberg, J. M., & Koehler, M. J. (2017, November). *No accounting for theory? The case for an affinity space approach to educational hashtag research.* Paper presented at the Association for Educational Communications and Technology International Convention 2017, Jacksonville, FL.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, November). *Hide and go tweet: Comparing methods for locating educational hashtag participants.* Paper presented at the Association for Educational Communications and Technology International Convention 2017, Jacksonville, FL.

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. N. (2017, August). *Stability and variation in student engagement in science classes: A person-oriented approach*. Paper presented at the Annual Meeting of the American Psychological Association, Washington, DC.

Beymer, P. N., Rosenberg, J. M., Schmidt, J. A., Naftzger, N., Sniegowski, S., Shumow, L. (August, 2017). *Examining relationships between choice, affect, and engagement in informal STEM programs*. Paper presented at the Annual Meeting of the American Psychological Association, Washington, DC.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, April). *Combining data sets and methods to explore equity in teacher professional development. In D. G. Krutka (Chair), Data, big and small*. Symposium conducted at the meeting of the American Educational Research Association, San Antonio, TX.

Schmidt, J. A., Rosenberg, J. M., & Beymer, P. N. (2017, April). *Momentary engagement profiles: A person-in-context approach to studying student engagement using experience sampling data*. Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Roseth, C. J., Linnenbrink-Garcia, L., Saltarelli, W., Lee, Y-K., Rosenberg, J. M. ... & Beymer, P. N. (2017, April). *A design-based intervention on flipped instruction: Longitudinal effects on undergraduates' engagement and achievement*. Paper presented at the Annual Meeting of the American Educational Research Association, San Antonio, TX.

Mikeska, J. N., Rosenberg, J. M., Holtzman, S., & McCaffrey, D. (2017, April). *Comparing the alignment between two observational measures of science teachers' instructional practice*. Poster presented at the National Association for Research in Science Teaching Annual International Conference, San Antonio, TX.

Greenhalgh, S. P., Rosenberg, J. M., & Koehler, M. J. (2017, March). *Avoiding madness in our methods*. Paper presented at the Society for Information Technology and Teacher Education International Conference 2017, Austin, TX.

Rosenberg, J. M., Akcaoglu, M., Staudt Willet, K. B., Greenhalgh, S. P., & Koehler, M. J. (2017, March). *A tale of two Twitters: Synchronous and asynchronous use of the same hashtag*. In P. Resta & S. Smith (Eds.), Proceedings of Society for Information Technology & Teacher Education International Conference 2017 (pp. 283-286). Waynesville, NC: Association for the Advancement of Computing in Education (AACE).

Kessler, A., & Rosenberg, J. M. (2017, March). *Considering how teachers' TPACK is leveraged during the mental engineering of instruction: A theory of action*. Paper presented at the Society for Information Technology and Teacher Education International Conference 2017, Austin, TX.

Nyland, R., Greenhalgh, S. P., Rosenberg, J. M., Koehler, M. J., Veletsianos, G., & Kimmons, R. (2016, October). *Public data mining methods, ethics, & legalities*. Panel presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Rosenberg, J. M., Greenhalgh, S. P., & Wolf, L. G. (2016, October). *Participating from near and far: Analyzing online graduate learning communities with social network analysis*. Paper presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Rosenberg, J. M. (2016, October). *Having agency in conditions that are not equitable: An examination of Donors Choose data*. Paper presented at the Association for Educational Communications and Technology International Convention 2016, Las Vegas, NV.

Phillips, M., Koehler, M. J., & Rosenberg, J. M. (2016, September). *Contextualising teachers' TPACK development and enactment.* Paper presented at the Australian Council for Computers in Education, Brisbane, Australia.

Rosenberg, J. M. & Schwarz, C. V. (2016, April). Examining fifth and sixth grade students' epistemic considerations through an automated analysis of embedded assessment items. In B. Reiser (Chair), *Longitudinal studies of elementary and middle school students' epistemic considerations through participation in scientific practice.* Related paper set presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD. (slides)

Rosenberg, J. M. & Krist, C. (2016, April). *Characterizing students' epistemic considerations: An automated computational approach for embedded assessment responses.* Poster presented at the National Association for Research in Science Teaching Annual International Conference, Baltimore, MD. (slides)

Ranellucci, J., Rosenberg, J. M., Klautke, H., Robinson, K. A., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, April). *Achievement goals, behavioral engagement, and achievement in a flipped undergraduate anatomy course.* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Lee, Y.-K., Rosenberg, J. M., Robinson, K. A., Klautke, H., Seals, C., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, April). *Comparing motivation and achievement in a flipped and traditional classroom.* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Wormington, S. V., Lee, Y.-K., Seals, C., Rosenberg, J. M., Saltarelli, W., Roseth, C. J., & Linnenbrink-Garcia, L. (2016, April). *Predicting profile permanence: When is motivation stable, why does it change, and what are the consequences?* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Ranellucci, J., Robinson, K. A., Rosenberg, J. M., Saltarelli, W., Roseth, C. J., & Linnenbrink-Garcia, L. (2016, April). *Comparing emotions in-class and during online video lectures in a flipped classroom.* Paper presented at the Annual Meeting of the American Educational Research Association, Washington, DC.

Rosenberg, J. M., Ranellucci, J., Lee, Y.-K., Robinson, K., Saltarelli, W., Linnenbrink-Garcia, L., & Roseth, C. J. (2016, March). *Patterns of engagement in a flipped undergraduate anatomy class and their relations to achievement.* Paper presented at the Society for Information Technology & Teacher Education Annual Conference, Savannah, GA.

Rosenberg, J. M. (2015, November). *Examining what teachers and researchers discuss at science education conferences through a computational analysis of Twitter data.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Rosenberg, J. M., Akcaoglu, M., Hamilton, E., Greenhalgh, S. P., & Koehler, M. J. (2015, November). *Tweeting U.S.A.: An examination of State Educational Twitter Hashtags (SETHs).* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Greenhalgh, S. P., Rosenberg, J. M., Keenan, S., & Koehler, M. J. (2015, November). *An investigation of the use of digital portfolios for understanding educators' technology knowledge.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2015, November). *Examining the Substitution Augmentation Modification Redefinition (SAMR) Model for instructional design and technology integration.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Mehta, R., Rosenberg, J. M., Russo, T., Arnold, B., Marich, H., & Bell, J. (2015, November). *A survey of social media use and the effects of a social media initiative on graduate student engagement.* Paper presented at the meeting of the Association for Educational Communications and Technology, Indianapolis, IN.

Rosenberg, J. M., & Koehler, M. J. (2015, April). Context and Technological Pedagogical Content Knowledge: A content analysis. In J. M. Rosenberg & M. J. Koehler (Chairs), *Addressing the complexity of teaching with technology: Context and Technological Pedagogical Content Knowledge.* Symposium conducted at the American Educational Research Association Annual Meeting, Chicago, IL.

Hamilton, E., Rosenberg, J. M., & Akcaoglu, M. (2015, April). *The Substitution Augmentation Modification Redefinition (SAMR) framework for technology integration: Challenges to its use for guiding K-12 teacher's pedagogy and practice.* Paper presented at the American Educational Research Association Annual Meeting, Chicago, IL.

Rosenberg, J. M., Ervin, L., Harris, J., Greenhow, C., Kessler, A., & Tai, D. (2015, March). *How should educational technology researchers consider context? An interactive discussion on context and teaching and learning with technology.* Panel presented at the meeting of the Society for Information Technology and Teacher Education International Conference, Las Vegas, NV.

Akcaoglu, M., & Rosenberg, J. M. (2015, March). *Best practices for designing synchronous and asynchronous online teaching for adult learners.* Poster presented at the meeting of the Society for Information Technology and Teacher Education, Las Vegas, NV.

Rosenberg, J. M., Schwarz, C. V., & Lee, S. W.-Y., & Akcaoglu, M. (2015, April). A comparative longitudinal case study of the use of scientific modeling in the pedagogical practice of two fifth-grade science teachers. In A. Lo (Chair), *Leveraging the epistemic dimensions of scientific practice to support students' meaningful engagement in modeling.* Related paper set presented at the National Association for Research in Science Teaching Annual International Conference, Chicago, IL.

Rosenberg, J. M., Schwarz, C.V., Akcaoglu, M., & Lee, S.W-Y. (2014, October). *Comparative longitudinal case studies of two middle school teachers' use of scientific modeling.* Poster presented at the Advances in Educational Psychology Conference. Fairfax, VA.

Lee, M., Schwarz, C. V., Ke, L., & Rosenberg, J. M. (2014, April). *Analyzing fifth-grade students' engagement in scientific modeling: Changes in students' epistemologies-in-practice over time.* Paper presented at the meeting of the National Association for Research in Science Teaching, Philadelphia, PA.

Ke, L., Schwarz, C. V., Lee, M. & Rosenberg, J. M. (2014, April). *Examining elementary students' attention to mechanism as they engage in scientific modeling across content areas.* Paper presented at the meeting of the National Association for Research in Science Teaching, Philadelphia, PA.

Koehler, M. J., Rosenberg, J. M., Greenhalgh, S., Zellner, A. L., & Mishra, P. (2014, March). Analyzing students' portfolios for the development of TPACK. In J. Voogt (Chair), *Artifacts demonstrating teachers' technology integration competencies.* Symposium presented at the meeting of the Society for Information Technology and Teacher Education, Jacksonville, FL.

Other Presentations

ˆGibbons, B., Bui, H., +Mann, M., +Longnecker, J., Dyer, E., & Rosenberg, J. M. (2021, January). *Insights on the current and preferred integration of computer science into K-8 education in Tennessee.* Presentation at the 15th Annual Tennessee STEM Education Research Conference. https://www.pechakucha.com/presentations/insights-on-the-current-and-preferred-integration-of-computer-science-into-k-8-education-in-tennessee

Rosenberg, J. M., +Sultana, O., +Mann, M., +Carter, B., +Kenner, N., & +Edwards, A. (2021, January). *How can K-12 science learners analyze data in creative and ambitious ways? Early findings from a design-based research project.* Presentation at the 15th Annual Tennessee STEM Education Research Conference.

Rosenberg, J. M., Dyer, E. B., Anderson, D. J., & Fischer, C. (September, 2020). *If you're happy and you know it, post a tweet? A study of the sentiment of posts to the #NGSSchat hashtag on Twitter.* Presentation at the AERA Satellite Conference on Educational Data Science, Stanford, CA.

Dyer, E. B., Rosenberg, J. M., Bosch, N., Krist, C., & D'Angelo, C. (September, 2020). *Better together? Initial findings and implications from combining qualitative coding and computational methods to analyze classroom audiovisual data.* Presentation at the AERA Satellite Conference on Educational Data Science, Stanford, CA.

Anderson, D., Rosenberg, J. M., Sáez, L., & Seeley, J. R. (September, 2020). *Using extreme gradient boosting to estimate community effects on school readiness.* Presentation at the AERA Satellite Conference on Educational Data Science, Stanford, CA.

Estrellado, R. A., Bovee, E. A., Mostipak, J., Rosenberg, J. M., & Velásquez, I. C. (July, 2020). *Expanding R into education.* Presentation at the useR conference, St. Louis, MO. (conference canceled)

Rosenberg, J. M., Qinyun, L., Xu, R., Maroulis, S., & Frank, K. A. (July, 2020). *The konfound R package and Shiny app for robustness analysis.* Presentation at the useR conference, St. Louis, MO.

Rosenberg, J. M.,& Lishinski, A. (January, 2020). *Measuring what matters in-the-moment: An experience sampling approach to understanding the development of interest in computer science.* Presentation at the 14th Annual Tennessee STEM Education Research Conference, Cookeville, TN.

Rosenberg, J. M., Hodge, L., Aydeniz, M., Schmidt, A. Lishinski, A., Rich, K., +Longnecker, J., +Mann. M., & Sadovnik, A. (January, 2020). *A survey of teachers and administrators regarding the implementation of new K-8 computing education standards in Tennessee.* Presentation at the 14th Annual Tennessee STEM Education Research Conference, Cookeville, TN.

Camponovo, M., +Lawson, M. A., & Rosenberg, M. J. (July, 2019). *Integrating geospatial tech with math and science pre-service teachers. 2019 Education Summit @ ESRI UC.* San Diego, CA.

Jones, R. S., & Rosenberg, J. M. (February, 2019). *Latent class modeling of whole class discussions about data, statistics, and probability. Presentation at the 13th Annual Tennessee STEM Education Research Conference*, Murfreesboro, TN.

+Lawson, M., Rosenberg, J. M., & Camponovo, M. (February, 2019). *Better together? Findings from a combined, integrated STEM unit with pre-service mathematics and science teachers.* Presentation at the 13th Annual Tennessee STEM Education Research Conference, Murfreesboro, TN.

Workshops (17)

Rosenberg, J. M. & D'Angelo, C. (2022, March). *An Introduction to Data Science in Science Education Using R.* National Association for Research in Science Teaching. *Note.* This session was sponsored by the Contemporary Methods Research Interest Group (RIG).

Kellogg, S., Jiang, S., Moore, R., & Rosenberg, J. M. (2021, August). *A LASER Focus on Understanding and Improving STEM Education.* Partnerships for Expanding STEM Education Research in STEM (AERA & ICPSR). https://github.com/laser-institute/aera-workshop

Rosenberg, J. M. (2021, July). *An Introduction to Natural Language Processing in Science Education.* Workshop carried out at the Machine Learning and Computer-Based Text Analysis conference, Kiel, Germany. https://joshuamrosenberg.com/post/2021/07/19/an-introduction-to-natural-language-processing-in-science-education/

Parr, E. D., Dyer, E. B., Rosenberg, J. M., D'Angelo, C., Lishinski, A., & Krist, C. (2021, June). Leveraging the power of visualization in the analysis of classroom audiovisual data https://tca2.education.illinois.edu/isls-2021/isls-2021-workshop

Rosenberg, J. M. (2021, June). *Data Visualization and Text Analysis Using R.* Workshop carried out at Southern Wesleyan University, https://github.com/jrosen48/data-viz-and-qual-analysis-workshop

Rosenberg, J. M. (2021, May). *An Introduction to Machine Learning Using R for Science Education Research.* Workshop carried out at the Machine Learning and Computer-Based Text Analysis conference, Kiel, Germany. https://github.com/jrosen48/ML-in-Science-Education-Workshop-Materials

Sorge, S., Kubsch, M., Rosenberg, J. M., & D'Angelo, C. (2021, April). *Rethinking how you understand your data with R.* Workshop carried out at the National Association for Research in Science Teaching.

Dyer, E. B., D'Angelo, D., Bosch, N., Krist, C., & Rosenberg, J. M. (2020, June). *Analyzing learning with speech analytics and computer vision methods: Technologies, principles, and ethics.* Workshop carried out at the International Conference of the Learning Sciences, Nashville, TN.

Staudt Willet, K. B., Rosenberg, J. M., & Greenhalgh, S. P. (2020, March). *R U ready 4 R? Introduction to Analyzing Educational Internet Data Using R.* Workshop carried out for the *Students, Social Media, and Schools Research Group* at Florida State University, Talahassee, FL.

Rosenberg, J. M. (2020, January). *An introduction to using R for data science (zero prerequisites required!).* Workshop carried out for the KnoxData group, Knoxville, TN.

Rosenberg, J. M., Staudt Willet, K. B., & Greenhalgh, S. P. (2019, October). *Online data and open source tools: Analyzing educational internet data Using R.* Workshop carried out at the Association for Educational Communications and Technology, Las Vegas, NV.

Rosenberg, J.M. (September, 2019). *An introduction to data science in education using R.* Workshop at Middle Tennessee State University. Middle Tennessee State University, Murfreesboro, TN.

Rosenberg, J. M. (2019, June). *The use of mixed effects models for analyzing complex data.* Presentation for the KnoxData group, Knoxville, TN. YouTube recording: https://www.youtube.com/watch?v=1YY2FoCFIm4

Rosenberg, J. M. (2019, May). *Won't you be my neighboR? An introduction to R for data science in education.* Workshop carried out for the Educational Psychology and Educational Technology program, Michigan State University.

Anderson, D. J., and Rosenberg, J. M. (2019, April). *Transparent and reproducible research with R.* Workshop carried out at the Annual Meeting of the American Educational Research Association, Toronto, Canada.

Rosenberg, J. M. (2017, April). *Introduction to R for Data Analysis.* Presentation at the School of Criminal Justice, Michigan State University.

Rosenberg, J. M. (March, 2016). *An introduction to R for programming and statistical analysis in education.* Georgia Southern University College of Education, Statesboro, GA.

Outreach and Community Engagement (9)

Rosenberg, J. M., & Narvaiz, S. (2022, April). *What is data science and what do data scientists do? A presentation at L&N STEM Academy* (L&N STEM Career Connections presentation and presentation to two AP Computer Science Principles courses). https://tinyurl.com/stem-data-sci

Rosenberg, J. M. (2021, November). *Analyzing and interpreting scientific data with DataClassroom.* Knox County Schools District Learning Day. https://joshuamrosenberg.com/kcs-dld-2021-11-02-analyzing-scientific-data.pdf

Rosenberg, J. M. (2021, August). *Tools and Strategies to Work with Data in the Science Classroom.* Knox County Schools District Learning Day. https://bit.ly/kcs-dld

Rosenberg, J. M. (2021, April). *Discussion of Teaching Data Science.* Presentation for the Data Science in Education Using R book club. https://github.com/r4ds/bookclub-dsieur

D'Angelo, C., & Rosenberg, J. M. (2021, April). *Analyzing Education Data with Open Science Best Practices, R, and OSF.* Webinar through the Center for Open Science. https://www.youtube.com/watch?v=WxdWzTIzYmI

Rosenberg, J. M. (2020, April). *An informal, open introduction to using R Markdown in education.* Virtual workshop. https://www.youtube.com/watch?v=BA1YFvmXCXQ&t=57s

Rosenberg, J. M. (2019, May). *Working with data in education: Using data and supporting students to use data.* Workshop carried out for teachers at Knoxville Jewish Day School. https://docs.google.com/presentation/d/1uSdRvF2GjhUpO2fCHZIUdXmf0texzczGGlbzmZBgggw/edit?usp=sharing

Trout-Fryxell, B., & Rosenberg, J. M. (2020, February). *Authentic science in the classroom with MEGA:BITESS.* Presentation at the Knox County Schools Science Department District Learning Day, Knoxville, TN.

Ranellucci, J., & Rosenberg, J. M. (2016, February). *Motivating our students: A partnership between Michigan Virtual Schools and Michigan State University.* Workshop at Michigan Virtual University, East Lansing, MI.

Crouter, S., Gibbons, M., Kim. Y.-K., Moore, T., & Rosenberg. J. M. (2022, April). *National recognition in research/scholarship.* Panel discussion in the College of Education, Heath, and Human Sciences. *Note.* I was the moderator for this panel discussion.

Rosenberg, J. M. (2022, March). *What is the role of data science in K-12 (pre-collegiate) teaching and learning?* Data Science and Statistics Seminar Series, Department of Mathematics, UTK. https://joshuamrosenberg.com/post/2022/03/24/what-is-the-role-of-data-science-in-k-12-teaching-and-learning/

Teaching

Teaching Awards

MSU-AT&T Instructional Technology Award: Best Online Course, 2014

Courses Taught

Instructor at the University of Tennessee, Knoxville:

Foundations of Educational Data Science I (TPTE 680, M.A. and Ph.D. class)
Foundations of Educational Data Science II (STEM 685, M.A. and Ph.D. class) *Visualizing Data Using R* (STEM 691, M.A. and Ph.D. class)
Capstone in Educational Data Science (STEM 695, M.A. and Ph.D. class)
STEM Education Seminar (STEM 612, Ph.D. class). *Trans-Departmental Seminar II* (TPTE 605, Ph.D. class)
Nature of Mathematics and Science Education (SCED 572, M.A. and Ph.D. class)
Teaching Science in Grades 7-12 (TPTE 495, SCED 496, & SCED 543, B.S. & M.A. class)
VolsTeach Step 1 and Step 2 (TPTE 110 & TPTE 120, undergraduate-level class)

Instructor at Michigan State University:

Psychology of Learning in School and Other Settings (CEP 800, M.A. class)
Approaches to Educational Research (CEP 822, M.A. class)
Technology and Leadership (CEP 815, M.A. class)

Service

Editorial Service

Associate Editor, *Journal of Statistics and Data Science Education*, 2023 - Present

Editorial Review Board Member, *Review of Educational Research*, 2022 - Present

Editorial Review Board Member, *Journal of Research on Technology in Education*, 2016 - Present

Editorial Review Board Member, *Contemporary Issues in Technology and Teacher Education (Science Education Section)*, 2019 - 2022

Special Section Editor, *British Journal of Educational Technology*, 2022

Editorial Review Board Member, *Journal of Research in Science Teaching*, 2019-2022

Special Issue Editor, *Australasian Journal of Educational Technology*, 2017

Service to the Profession

External Reviewer, Application for Promotion to Associate Professor, Texas Tech, 2024

Ad-Hoc Reviewer, Building Capacity in STEM Education Research (one proposal), National Science Foundation, *n.d.*

Ad-Hoc Reviewer, Discovery Research K-12 (three proposals), National Science Foundation, *n.d.*

Ad-Hoc Reviewer, Advancing Informal STEM Learning, National Science Foundation (one proposal), *n.d.*

Panelist, Innovative Technology Experiences for Students and Teachers (ITEST), National Science Foundation, *n.d.* (two panels)

Panelist, Building Capacity in STEM Education Research (BCSER), National Science Foundation, *n.d.*

Panelist, Discovery Research PreK-12 (DRK-12), National Science Foundation, *n.d.*

External Reviewer, Application for Promotion to Professor, Elon University, 2021

Member, OpenSciEd Research Agenda (Assessment) working group, 2021

Service to the Community

Mentor, TN Promise (2022-2023; mentor to 12 college-going students)

Mentor, Diversity in Learning Analytics and Leadership program, https://www.diversityindataandleadershipprogram.com/

Reviewer, Proposals from Knox County Schools students for the NASA Student Spaceflight Experiment program

Selected Ad-hoc Journal Article Reviewing

- AERA Open
- British Journal of Educational Technology
- Cognition & Instruction
- Computers & Education

- Contemporary Educational Psychology
- Educational Researcher
- Educational Psychologist
- Educational Technology Research & Development
- Journal of the Learning Sciences
- Journal of Open Source Software
- Science Education
- TechTrends
- Urban Education

University service

2023-2025, Data Science Curriculum Committee Chair, College of Emerging and Collaborative Studies, UTK

2022-2023, AI Visioning Working Group (Co-Chair, Education Committee), AI Tennessee Initiative, UTK

2021-2023, Data Science Faculty Committee member, UTK

College-related Service

2023-2024, Search Chair, Unit Head, *Department of Theory and Practice in Teacher Education*, UTK

2023-2024, Search Co-Chair, Assistant/Associate Professor of Educational Data Science, *Department of Theory and Practice in Teacher Education*, UTK,

2021-2022, Search Committee Member, Two Tenure Track positions in Learning Design and Technology and Instructional Technology, *Department of Educational Psychology and Counseling*, UTK

Departmental Service

University of Tennessee, Knoxville

2022-, STEM Education Seminar Ad-Hoc Committee Chair, TPTE, UTK

2021-, Institutional Review Board Departmental Representative (Quantitative), TPTE, UTK

Program Service and Service on Student Committees

University of Tennessee, Knoxville

Advisor for Doctoral students:

- 2023-: Cody Pritchard
- 2021-: Amanda Garner
- 2021-: Emily McDonald
- 2020-: Omiya Sultana
- 2023-: Wei Wang
- 2023-: Hanhui Bao
- 2019-2021: Jennifer Longnecker (graduated 2021)

Committee Member for Doctoral students:

- 2019-2023: Maryrose Weatherton (Department of Ecology and Evolutionary Biology, UTK)
- 2022-: Amanda Zeller (TPTE)
- 2020-2022: Anthony Schmidt (Department of Educational Psychology & Counseling, UTK)
- 2021-: Donna Wortham (Educational Leadership & Policy Studies, UTK)
- 2020-2023: Sarah Narvaiz (Department of Educational Psychology & Counseling, UTK)
- 2021-2023: Anna Sintsova Banks (Department of Educational Psychology & Counseling, UTK)
- 2021-: John Mooneyham (TPTE)
- 2019-2021: Matthew Hensley (graduated 2021)
- 2018-2020: Shande King (graduated 2020)

Miscellaneous

Software Developed

Rosenberg, J. M., van Lissa, C. J., Beymer, P. N., Anderson, D. J., Schell, M. J. & Schmidt, J. A. (2019). *tidyLPA: Easily carry out Latent Profile Analysis (LPA) using open-source or commercial software* [R package]. https://data-edu.github.io/tidyLPA/

Rosenberg, J. M., Xu, R., & Frank, K. A. (2019). *konfound: Quantify the robustness of causal inferences* [R package]. https://jrosen48.github.io/konfound/

Rosenberg, J. M., Xu, R., & Frank, K. A. (2019). *Konfound-It!: Quantify the robustness of causal inferences.* http://konfound-it.com.

Rosenberg, J. M., & Krist, C. (2019). *Generality embedded assessment classifier.* https://faast.shinyapps.io/generality-shiny

Estrellado, R. A., Bovee, E. A., Mostipak, J., Rosenberg, J. M., & Velásquez, I. C. (2019). *dataedu: Package for Data Science in Education Using R.* https://github.com/data-edu/dataedu

Rosenberg, J. M. (2020). *tidykids: State-by-State Spending on Kids Dataset.* https://jrosen48.github.io/tidykids/

Lishinski, A., & Rosenberg, J. M. (2019). *Short message survey: An open-source, text-message based application for the experience sampling method.* https://github.com/picsul/short-message-survey

Rosenberg, J. M. (2016). Diffusion & temperature. *Lab Interactive Simulation.* https://lab.concord.org/interactives.html#interactives/external-projects/msu/temperature-diffusion.json

Invited Participation in Workshops/Working Groups

Invited Participant, *Advancing Critical Social Network Analysis to Address Issues of Equity in Education Policy and Politics*, Spencer Foundation, 2023

Invited Participant, *National Academy of Science - National Science Foundation Working Group - Tools & Transfer*, Data Science for Everyone, 2023

Invited Participant, *Foundations of data science for students in grades K-12: A workshop*, National Academies of Sciences, Engineering and Medicine, 2022

Invited Participant, *Open Scholarship in Education small expert meeting*, Center for Open Science, 2022

Invited Participant, *New applications of social network analysis to education policy: Building the capacity of the field*, Spencer Foundation, 2021

Invited Participant, *Data4Kids: Virtually teaching kids about data science*, Urban Institute, 2021

Competitive Research Training

Early Career Workshop, International Conference of the Learning Sciences, 2020

New Faculty Mentoring Program, AERA Division C, 2019

Media Coverage

Outsmart ChatGPT: 8 Tips for Creating Assignments It Can't Do, *Education Week*, February 14, 2023

Can Digital Tools Detect ChatGPT-Inspired Cheating?, *Education Week*, January 27, 2023

When Does Posting Photos of Students Become a Data Privacy Problem?, *EdSurge*, January 9, 2023

How School Social Media Accounts Put Student Privacy at Risk, *Tech & Learning*, November 30, 2022

Professors publish playbook for how teachers can address parents concerned about CRT, *Fox News*, November 13, 2022

[Student data privacy compromised in UK, at risk in US](https://www.biometricupdate.com/202211/student-data-privacy-compromised-in-uk-at-risk-in-us#:~:text=The%20Information%20Commissioner's%20Office%20(ICO,of%20rough
Biometric Update, November 14, 2022

Study: School Facebook Pages May Compromise Student Privacy, *Government Technology*, November 10, 2022

Study Shows Millions of Student Privacy Breaches on Social Media THE Journal, November 7, 2022

School Facebook Pages and Privacy Concerns: What Educators Need to Know *Education Week*, November 2, 2022

Study: Schools' Facebook posts may violate student privacy *K-12 Dive*, November 2, 2022

Study: Schools' Social Media Posts May Be Compromising Student Privacy, *American Educaitonal Research Association*, November 2, 2022

The Tricky Ethics of Being a Teacher on TikTok, *Wired*, September 6, 2022

Teaching Students to Understand the Uncertainties of Science Could Help Build Public Trust, *Education Week*

School Posts on Facebook Could Threaten Student Privacy, *Tennessee News Service*

Teaching R to 7th Graders, *Flowing Data*

Podcasts

2021-, Co-host, *About Practice* podcast, https://anchor.fm/about-practice

2021, Full Stack Education podcast, https://www.fullstackeducator.com/show-notes/season-2-episode-15-ryan-estrellado-and-joshua-rosenberg-data-science-in-education

2021, Visions of Education podcast, https://visionsofed.com/2021/05/27/episode-166-data-science-in-education-with-ryan-estrellado-jesse-mostipak-and-joshua-rosenberg/

2020, Education Data Chat podcast, https://www.buzzsprout.com/1074286/4993430

2018-2019, Co-host, *Impodster Syndrome* podcast, https://drive.google.com/drive/folders/1fwSaEKt9QzJPUlf-CYVVwPgN-pKBaAkW?usp=sharing

2016, Innovative Education in VT, https://tiie.w3.uvm.edu/blog/educators-on-twitter/#.XzkFq5NKiHE

Consultant and Advisory Board Member Roles

2023-2026, Data Science Assessment Consultant, *NSF AISL: Integrating Research and Practice: Reimagining Youth Community Science through Make-and-Take Data Sensing Kits*, NSF grant no. 2314089. Blikstein, P. & Perez, S. (PIs)

2023-2025, Advisory Board Member, *Integration of Computer-Assisted Methods and Human Interactions to Understand Lesson Plan Quality and Teaching to Advance Middle-Grade Mathematics Instruction.* Min Sun (PI). NSF Grant No. 2300291.

2023-2025, Advisor, *Sloan: Aligning Graduate Education and Workforce Opportunities: A Robust, Equity-Focused Landscape Scan of Computing Terminology.* Wofford, A., Perez-Felkner, L., & Staudt Willet, K. B. (PIs). Funded by Alfred P. Sloan Foundation.

2023 - 2026, Consultant, *WTG: Diffusion of Research on Supporting Mathematics Achievement for Youth with Disabilities through Twitter Translational Visual Abstracts*, Jessica Rodrigues (PI, University of Missouri), National Science Foundation, https://www.nsf.gov/awardsearch/showAward?AWD_ID=2244734&HistoricalAwards=false

2023 - 2025, Consultant, *Forschen mit epidemischer Unsicherheit Lernen (Project FEUL)* (Learning to do investigations with epistemic uncertainty), Marcus Kubsch (PI; IPN - Leibniz Institute, Kiel, Germany), Joachim Herz Foundation

2022-2024, Participating Faculty, *Bayesian Thinking in STEM*, (NSF Grant No. 2215879), https://www.stat.uci.edu/bayes-bats/

2022-2027, Advisory Board Member, *Collaborative Research: Enhancing Data Science and Statistics Teacher Education–Transforming and Building Community*, Hollylynne Lee (PI; North Carolina State University), National Science Foundation. https://www.nsf.gov/awardsearch/showAward?AWD_ID=2141727&HistoricalAwards=false

2022-2025, Advisory Board Member, *A Learning Ecosystem for Teaching High School Students Machine Learning Concepts and Data Science Skills in Healthcare and Medicine*, Kathryn Eller (PI; East Bay Educational Collaborative), National Science Foundation. https://www.nsf.gov/awardsearch/showAward?AWD_ID=2148451&HistoricalAwards=false

2022-2025, Advisory Board Member, *Mathematizing, Visualizing, and Power (MVP): Appalachian youth becoming data artists for community learning*, Lynn Hodge (PI), National Science Foundation, https://www.nsf.gov/awardsearch/showAward?AWD_ID=2215004&HistoricalAwards=false

2021-2026, Advisory Board Member, *SEER Research Network for Digital Learning Platforms*, Jeremy Roschelle (PI; Digital Promise), Institute for Education Sciences, Digital Learning Platforms to Enable Efficient Education Research Network

2021-2022, Lead STEM Education Consultant,*Supporting Students' Meaningful Engagement With Data From Small Orbiting Satellites*, Art Palisoc (PI), STEM Ed LLC, NSF Phase I SBIR, *STEM Experiments and Games in Low Earth Orbit – Making STEM Learning Fun*

Professional Affiliations

American Educational Research Association
International Society of the Learning Sciences
Learning Analytics & Knowledge
National Association for Research in Science Teaching