ALEX J. BOWERS

Contact Information:

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	Department of Organization and Leadership
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Email:	Bowers@tc.edu Website: http://www.tc.columbia.edu/faculty/ab3764/

Education:

2007   <u>Doctor of Philosophy</u>
     K-12 Educational Administration**,** Michigan State University
     Dissertation Title: *Grades and Data Driven Decision Making: Issues of Variance and Student Patterns*. Chair: Susan Printy http://eric.ed.gov/?id=ED538574

1997   <u>Master of Science</u>
     Molecular Biology, Biochemistry & Microbiology
     The Pennsylvania State University

1994   <u>Bachelor of Science</u>
     Biochemistry; Secondary Major: Chemistry**,** Michigan State University

Bio:

Alex J. Bowers is a Professor of Education Leadership at Teachers College, Columbia University, where he works to help school leaders use the data that they already collect in schools in more effective ways to help direct the limited resources of schools and districts to specific student needs. His research focuses on the intersection of effective school and district leadership, organization and HR, data driven decision making, student grades and test scores, student persistence and dropouts. His work also considers the influence of school finance, facilities, and technology on student achievement. Professor Bowers studies these domains through the application of data science, and big data analytics, such as data visualization analytics, multilevel and growth mixture modeling, and cluster analysis heatmap data dashboards. He earned his Ph.D. in K12 Educational Administration from Michigan State University, and previous to teaching and education research, spent a decade as a cancer researcher in the biotechnology industry, with a M.S. in Biochemistry, Microbiology and Molecular Biology, and a B.S. in Biochemistry. Professor Bowers is the recipient of multiple awards, including being the first person to win both the AERA Emerging Scholar Award for Division A (Administration, Organization and Leadership), and the UCEA Jack A. Culbertson Award for outstanding early faculty research, both in 2012. He was named an Outstanding Reviewer of the Year for the journals *American Educational Research Journal* (2009), *Educational Administration Quarterly* (2012 & 2016) and the *Journal of Educational Administration* (2018). Professor Bowers is an affiliate of the Data Science Institute (DSI) at Columbia University, launched the first course offered in applied data science at Teachers College, is a faculty advisor to the Harvard Strategic Data Project, an Associate Editor of the journal *Educational Administration Quarterly,* and currently serves on the editorial boards of the journals *American Educational Research Journal* and the *Journal of Educational Administration.* His research has been funded through multiple funders, including the National Science Foundation (NSF), the Wallace Foundation, the Spencer Foundation, and the Robertson Foundation. In 2019, Professor Bowers served as a Thomas J. Alexander Fellow at the OECD headquarters (Organisation for Economic Co-operation and Development) in Paris, France.

Experience:

2021-present   Professor of Education Leadership
Teachers College, Columbia University, Department of Organization and
Leadership, Program in Education Leadership: New York, New York.

Faculty Affiliate, Data Science Institute (DSI), Columbia University
https://datascience.columbia.edu/people/alex-bowers/

Courses Taught:
ORL 5521 Introduction to Research Methods in Education
ORLA 5025 Ecology of Data Driven Leadership
ORLA 5331 Urban Education Leadership Research Practicum
ORLA 5530 Doctoral Action Research in Organizational Behavior
ORLA 5689 Independent School Heads Colloquium
ORLA 6525 Using Evidence, Data and Research Methods in Education Leadership
ORLA 6541 Applied Data Science in Organizations and Leadership
ORLA 6552 Research, Theory and Practice in Education Leadership
ORLA 6641 Advanced Topics in Research Methods and Design
ORLA 7500 Dissertation Seminar in Education Leadership
ORLA 7503 Doctoral Research Methods Seminar
Online non-credit Continuing Education Unit (CEU)/CTLE course:
Leading with Evidence in Schools: Data and Research Literacy
http://tc.columbia.edu/cps/evidence

2012-2021   Associate Professor of Education Leadership
Teachers College, Columbia University, Department of Organization and
Leadership, Program in Education Leadership: New York, New York.

2007-2012   Assistant Professor
The University of Texas at San Antonio (UTSA), Department of Educational
Leadership and Policy Studies, College of Education and Human Development:
San Antonio, Texas.
Courses Taught:
EDU 5003 Masters Introduction to Research Methods in Education
EDU 7043 Doctoral Descriptive Statistics
LDR 7303 Doctoral Organizational Theory
EDL 7783 Doctoral Advanced Quantitative Multivariate Methods

2006-2007   Graduate Teaching Assistant
Michigan State University, Department of Educational Administration, College of
Education: East Lansing, Michigan.
Courses Taught:
EAD 854 Introduction to Inquiry for Educational Leaders
EAD 855 Research in Educational Administration (Masters thesis project)

2003-2006   Graduate Research Assistant
              Michigan State University, Department of Educational Administration, College of
              Education: East Lansing, Michigan.
              • Study of transformational and transactional leadership in restructured schools.
                Advisor: Susan Printy.
              • Study of effective and equitable school districts: Advisor: Gary Sykes.

2002-2003   Adjunct Professor of Biological Sciences
              Oxnard College, Department of Mathematics, Science and Literature: Oxnard,
              California.
              Courses Taught:
              Biology 101

2000-2003   Research Associate III
              Amgen Inc., Department of Cancer Biology Research: Thousand Oaks,
              California. Team leader of the Celera genomic novel kinase project.

1999-2000   Research Associate II
              Amgen Inc., Department of Cancer Biology Research: Thousand Oaks,
              California. Research scientist on novel cancer gene discovery project.

1997-1999   Staff Scientist
              DuPont Merck / DuPont Pharmaceuticals, Department of Genetics R&D:
              Wilmington, Delaware. Research scientist on small molecule discovery and
              identification project for cancer inhibition.

1995-1996   Graduate Teaching Assistant
              The Pennsylvania State University, Department of Biochemistry, Molecular
              Biology, Microbiology: University Park, Pennsylvania.
              Courses Taught:
              Biochemistry 104
              Biochemistry 404

1994-1996   Graduate Research Assistant
              The Pennsylvania State University, Department of Biochemistry, Molecular
              Biology, Microbiology: University Park, Pennsylvania. Researched the effects of
              human Erythropoietin (EPO) protein receptor on intracellular signaling.

1991-1994   Undergraduate Laboratory Assistant
              Michigan State University, Postharvest Laboratory, Department of Horticulture:
              East Lansing, Michigan. Researched the effects of the enzyme ACC oxidase in
              fruit ripening.

1990-1997   Pyrotechnic Display Technician
              Melrose Pyrotechnics: Belding Michigan. Large-scale fireworks display
              technician for metropolitan and commercial fireworks displays.

Peer-Reviewed Refereed Publications:

Scholarship Profiles and Unique Researcher Identifiers:
Google Scholar: http://scholar.google.com/citations?user=aniaFJ4AAAAJ
ORCID: 0000-0002-5140-6428
*Note: * indicates graduate student co-author*

Ahn, J., **Bowers, A.J.**, Welton, A.J. (in press) Leadership for Learning as an Organization-Wide Practice: Evidence on Its Multilevel Structure and Implications for Educational Leadership Practice and Research. *International Journal of Leadership in Education*. https://doi.org/10.1080/13603124.2021.1972162

Choi, H.*, Drago-Severson, E., **Bowers, A.J.** (in press) What Leadership Distribution Patterns were Associated with Teacher PLCs and Work Satisfaction? *Educational Management Administration & Leadership*. https://doi.org/10.1177/17411432231222720

Soncin, M., **Bowers, A.J.**, Agasisti, T. (in press). A Global Perspective on School Leadership: Evidence from a Latent Class Analysis on OECD TALIS Data. *Educational Management, Administration and Leadership*. https://doi.org/10.1177/17411432241231902

Zhang, S., Long, R., & **Bowers, A. J.** (in press). Supporting Teacher Knowledge Sharing in China: The Effect of Principal Authentic Leadership, Teacher Psychological Empowerment and Interactional Justice. *Educational Management Administration & Leadership*. https://doi.org/10.1177/17411432221120330

Zhang, W.*, **Bowers, A.J.**, Shilong, P. (in press) Promoting Teacher Knowledge Sharing in China: The Fostering Roles of Authentic Leadership, Reciprocity Norms, and Organizational Trust. *Educational Management Administration & Leadership*. https://doi.org/10.1177/17411432231199573

Ahn, J., **Bowers, A.J.** (2024) Do Teacher Beliefs Mediate Leadership and Teacher Behaviors?: Testing Teacher Self-Efficacy's Mediation Role Between Leadership for Learning and Teacher Outcomes. *Journal of Educational Administration*, 62(2), p. 197-222. https://doi.org/10.1108/JEA-12-2022-0227 (Preprint available)

Choi, Y.*, **Bowers, A.J.** (2024). How teachers perceive the impact of teacher feedback: A latent class analysis. *Education Policy Analysis Archives*, 32. https://doi.org/10.14507/epaa.32.8464

Bowers, A.J., Choi, Y.* (2023) Building School Data Equity, Infrastructure, and Capacity Through FAIR Data Standards: Findable, Accessible, Interoperable, Reusable. *Educational Researcher*, 52(7), p. 450-458. https://doi.org/10.3102/0013189X231181103

Bowers, A.J., Monroe, E.C.* (2023) Using Hierarchical Linear Growth Modeling to Identify Longitudinally Outperforming School Districts in the United States, 2009-2013.

Leadership and Policy in Schools, 22(2), p.438-462. https://doi.org/10.1080/15700763.2021.1977330

Bowers, A.J., Zhao, Y.*, & Ho, E.* (2022). Towards Hierarchical Cluster Analysis Heatmaps as Visual Data Analysis of Entire Student Cohort Longitudinal Trajectories and Outcomes from Grade 9 through College. *The High School Journal*, 106(1), 5-36. https://doi.org/10.1353/hsj.2022.a906700 (Preprint available)
HCA Heatmap Shiny R web application: https://ohrice.shinyapps.io/Heatmap/
HCA Heatmap open access Shiny R application code: https://doi.org/10.7916/cqvn-9t71
HCA Heatmap open access R code tutorial: https://doi.org/10.7916/r1mg-yn37

Duff, M.*, **Bowers, A.J.** (2022) Identifying a Typology of New York City Schools Through Teacher Perceptions of Organizational Capacity: A Latent Class Analysis. *Leadership and Policy in Schools*, 21(4), p.791-815. https://doi.org/10.1080/15700763.2020.1854789

Nitkin, D.*, Ready, D., **Bowers, A.J.** (2022) Utilizing Hierarchical Cluster Analysis and Heatmaps to Explore and Visualize Data Generated by a Technology-Based, Personalized Instructional Model. *Frontiers in Education*, 7:646471. https://doi.org/10.3389/feduc.2022.646471

Bowers, A.J., Krumm, A.E. (2021) Supporting Evidence-Based Improvement Cycles Through a Data-Intensive Partnership. *Information and Learning Sciences*, 122(9/10), p. 629-650. https://doi.org/10.1108/ILS-09-2020-0212 (Preprint available)

Zhang, S.*, **Bowers, A.J.**, Mao, Y. (2021) Authentic Leadership and Teachers' Voice Behavior: The Mediating Role of Psychological Empowerment and Moderating Role of Interpersonal Trust. *Educational Management Administration & Leadership*, 49(5), p. 768-785. https://doi.org/10.1177/1741143220915925

Jorion, N., Roberts, J., **Bowers, A.J.**, Tissenbaum, M., Lyons, L., Kuma, V., Berland, M. (2020) Uncovering Patterns in Constructionist Collaborative Learning Activities via Cluster Analysis of Museum Exhibit Log Files. *Frontline Learning Research*, 8(6), p.77-87. https://doi.org/10.14786/flr.v8i6.597

Snodgrass Rangel, V., Vaval, L.*, **Bowers, A.J.** (2020) Investigating Underrepresented and First-Generation College Students' Science and Math Motivational Beliefs: A Nationally-Representative Study Using Latent Profile Analysis. *Science Education*, 104(6), p. 1041-1070. https://doi.org/10.1002/sce.21593

Zhou, X.*, **Bowers, A.J.** (2020) A Typology of Parental Involvement in Student Experience: A Latent Class Analysis. *The High School Journal*, 103(2), p.99-131. https://doi.org/10.1353/hsj.2020.0005 (Preprint available)

Bowers, A.J., Zhou, X.* (2019) Receiver Operating Characteristic (ROC) Area Under the Curve (AUC): A Diagnostic Measure for Evaluating the Accuracy of Predictors of Education Outcomes. *Journal of Education for Students Placed at Risk*, 24(1) p. 20-46

https://doi.org/10.1080/10824669.2018.1523734 (Preprint available) (Online Appendix R Markdown)

Agasisti, T., **Bowers, A.J.**, Soncin, M.* (2019) School Principals' Leadership Styles and Students' Achievement in the Italian Context: Empirical Results from a Three-Step Latent Class Analysis. *Educational Management Administration & Leadership*, 47(6) p. 860-886. https://doi.org/10.1177/1741143218768577

Davis, B., **Bowers, A.J.** (2019) Examining the Career Pathways of Educators with Superintendent Certification. *Educational Administration Quarterly*, 55(1) p. 3-41 https://doi.org/10.1177/0013161X18785872 (Preprint available)

Urick, A., **Bowers, A.J.** (2019) How Teacher and Principal Perceptions Influence Instructional Leadership Internationally: A Multilevel Factor Analysis of TALIS 2008. *Leadership and Policy in Schools*, 18(3) p. 249-269 https://doi.org/10.1080/15700763.2017.1384499

Vaval, L.*, **Bowers, A.J.**, Snodgrass Rangel, V. (2019) Identifying a Typology of High Schools Based on Their Orientation Toward STEM: A Latent Class Analysis of HSLS:09. *Science Education*, 103(5) p. 1151-1175 http://doi.org/10.1002/sce.21534 (Preprint available)

Boyce, J.*, **Bowers, A.J.** (2018) Towards an Evolving Conceptualization of Instructional Leadership as Leadership for Learning: Meta-Narrative Review of 109 Quantitative Studies Across 25 Years. *Journal of Educational Administration*, 56(2), p.161-182 https://doi.org/10.1108/JEA-06-2016-0064 (Preprint available)
- Highly Commended Paper Award 2018, *Journal of Educational Administration*, Emerald Publishing

Boyce, J.*, **Bowers, A.J.** (2018) Different Levels of Leadership for Learning: Investigating Differences Between Teachers Individually and Collectively Using Multilevel Factor Analysis of the 2011-12 Schools and Staffing Survey. *International Journal of Leadership in Education,* 21(2), p.197-225. http://doi.org/10.1080/13603124.2016.1139187 (Preprint available)

Graves, K.E.*, **Bowers, A.J.** (2018) Toward a Typology of Technology-Using Teachers in the "New Digital Divide": A Latent Class Analysis (LCA) of the NCES Teachers' Use of Educational Technology in U.S. Public Schools, 2009 (FRSS 95). *Teachers College Record*, 120(8), p.1-42. https://doi.org/10.1177/016146811812000808 (Preprint available)

Bowers, A.J. (2017) Quantitative Research Methods Training in Education Leadership and Administration Preparation Programs as Disciplined Inquiry for Building School Improvement Capacity. *Journal of Research on Leadership Education*, 12(1), p.72-96. http://doi.org/10.1177/1942775116659462 (Preprint available)

Bowers, A.J., Blitz, M., Modeste, M., Salisbury, J., Halverson, R. (2017) Is There a Typology of Teacher and Leader Responders to CALL, and Do They Cluster in Different Types of Schools? A Two-Level Latent Class Analysis of CALL Survey Data. *Teachers College*

Record, 119(4) p.1-66. https://doi.org/10.1177/016146811711900408 (Preprint available)

Davis, B.W., Gooden, M.A., **Bowers, A.J.** (2017) Pathways to the Principalship: An Event History Analysis of the Careers of Teachers with Administrator Certification. *American Educational Research Journal*, 54(2), p.207-240. http://journals.sagepub.com/doi/abs/10.3102/0002831216687530 (Preprint available)

Wang, Y., **Bowers, A.J.,** Fikis, D.* (2017) Automated Text Data Mining Analysis of Five Decades of Educational Leadership Research Literature: Probabilistic Topic Modeling of EAQ Articles from 1965 to 2014. *Educational Administration Quarterly*, 53(2), p. 289-323 http://doi.org/10.1177/0013161X16660585 (Preprint available)

Brookhart, S., Guskey, T., **Bowers, A.J.**, McMillan, J. Smith, L. Smith, J., Welsh, M. (2016) A Century of Grading Research: Meaning and Value in the Most Common Educational Measure. *Review of Educational Research*, 86(4), p. 803-848 http://doi.org/10.3102/0034654316672069 (Preprint available)

Boyce, J.*, **Bowers, A.J.** (2016) Principal Turnover: Are there Different Types of Principals Who Move From or Leave Their Schools? A Latent Class Analysis of the 2007-08 Schools and Staffing Survey and the 2008-09 Principal Follow-up Survey. *Leadership and Policy in Schools*, 15(3), p. 237-272. http://dx.doi.org/10.1080/15700763.2015.1047033 (Preprint available)

Wang, Y., **Bowers, A.J.** (2016) Mapping the Field of Educational Administration Research: A Journal Citation Network Analysis of the Discipline. *Journal of Educational Administration*, 54(3), p. 242-269. http://dx.doi.org/10.1108/JEA-02-2015-0013 (Preprint available)

Bowers, A.J., Chen, J.* (2015) Ask and Ye Shall Receive? Automated Text Mining of Michigan Capital Facility Finance Bond Election Proposals to Identify which Topics are Associated with Bond Passage and Voter Turnout. *Journal of Education Finance*, *41*(2), p.164-196. (Preprint available)

Bowers, A.J. (2015). Site Selection in School District Research: A Measure of Effectiveness Using Hierarchical Longitudinal Growth Models of Performance. *School Leadership & Management*, 35(1) p. 39-61. http://dx.doi.org/10.1080/13632434.2014.962500 (Preprint available)

Bowers, A. J., & White, B. R. (2014). Do Principal Preparation and Teacher Qualifications Influence Different Types of School Growth Trajectories in Illinois? A Growth Mixture Model Analysis. *Journal of Educational Administration, 52*(5), 705-736. doi: 10.1108/JEA-12-2012-0134 (Preprint available)

Ingle, W.K., **Bowers, A.J.**, Davis, T. (2014) Which School Districts Qualified for Federal School Facility Funding Under ARRA? Evidence from Ohio. *Journal of Education Finance,*

40(1), p.17-37. http://www.efc.gwu.edu/wp-content/uploads/2014/07/JEF_article_40-1_Ingle.pdf

Urick, A., **Bowers, A.J.** (2014) The Impact of Principal Perception on Student Academic Climate and Achievement in High School: How Does it Measure Up? *Journal of School Leadership, 24*(2), 386-414. doi: 10.1177/105268461402400207

Urick, A., **Bowers, A.J.** (2014) What are the Different Types of Principals Across the U.S.? A Latent Class Analysis of Principal Perception of Leadership. *Educational Administration Quarterly, 50*(1), 96-134. doi:10.1177/0013161X13489019 (Preprint available)

Bowers, A.J., Lee, J.* (2013) Carried or Defeated? Examining the Factors that Predict School District Bond Elections in Texas, 1998-2009. *Educational Administration Quarterly*, *49*(5), 732-767. doi: 10.1177/0013161X13486278 (Preprint available)

Bowers, A.J., Sprott, R.*, Taff, S.A.* (2013) Do we Know Who Will Drop Out? A Review of the Predictors of Dropping out of High School: Precision, Sensitivity and Specificity. *The High School Journal, 96*(2), 77-100. doi:10.1353/hsj.2013.0000 (Preprint available)

Bowers, A.J., Berland, M. (2013) Does Recreational Computer Use Affect High School Achievement? *Educational Technology Research & Development,* 61(1), 51-69. doi:10.1007/s11423-012-9274-1 (Preprint available)

Bowers, A.J., Sprott, R.* (2012) Why Tenth Graders Fail to Finish High School: A Dropout Typology Latent Class Analysis. The *Journal of Education for Students Placed at Risk (JESPAR), 17*(3), 129-148. doi:10.1080/10824669.2012.692071 (Preprint Available)

Bowers, A.J., Sprott, R.* (2012) Examining the Multiple Trajectories Associated with Dropping Out of High School: A Growth Mixture Model Analysis. *The Journal of Educational Research, 105*(3), 176-195. doi:10.1080/00220671.2011.552075 (Preprint Available)

Nuñez, A.M., **Bowers, A.J.** (2011) Exploring What Leads High School Students to Enroll in Hispanic-Serving Institutions: A multilevel analysis. *American Educational Research Journal*, 48(6), 1286-1313. doi: 10.3102/0002831211408061 (Preprint available)

Bowers, A.J., Urick, A.* (2011) Does High School Facility Quality Affect Student Achievement? A 2-Level Hierarchical Linear Model. *Journal of Education Finance*, 37(1), 72-94. (weblink) (Preprint Available)

Urick, A.*, **Bowers, A.J.** (2011) What Influences Principal Perception of Academic Climate? A Nationally Representative Study of the Direct Effects of Perception on Climate. *Leadership and Policy in Schools*, 10(3), 322-348. doi:10.1080/15700763.2011.57792 (Preprint Available)

Bowers, A.J. (2011) What's in a Grade? The Multidimensional Nature of What Teacher Assigned Grades Assess in High School. *Educational Research & Evaluation*, 17(3), 141-159. doi: 10.1080/13803611.2011.597112 (Preprint available)

Bowers, A.J. (2010) Toward Addressing the Issues of Site Selection in District Effectiveness Research: A 2-Level Hierarchical Linear Growth Model. *Educational Administration Quarterly,* 46(3), 395-425. doi:10.1177/0013161X10375271. (Preprint available)

Bowers, A.J. (2010) Analyzing the Longitudinal K-12 Grading Histories of Entire Cohorts of Students: Grades, Data Driven Decision Making, Dropping Out and Hierarchical Cluster Analysis. *Practical Assessment, Research & Evaluation (PARE),* 15(7), 1-18. https://doi.org/10.7275/r4zq-9c31 (Preprint available)

Bowers, A.J. (2010) Grades and Graduation: A Longitudinal Risk Perspective to Identify Student Dropouts. *The Journal of Educational Research*, 103(3), 191-207. doi:10.1080/00220670903382970 (Preprint available)

Bowers, A.J., Murakami-Ramalho, E. (2010) The Research Journal Club: Pedagogy of Research in the Preparation of Students in Educational Leadership. *Journal of Research on Leadership Education, 5*(10), 335-356. doi:10.1177/194277511000501001 (Preprint available)

Bowers, A.J., Metzger, S.A., Militello, M. (2010) Knowing What Matters: An Expanded Study of School Bond Elections in Michigan, 1998-2006. *Journal of Education Finance*, 35(4), 374-396. doi:10.1353/jef.0.0024 (Preprint available)

Bowers, A.J., Metzger, S.A., Militello, M. (2010) Knowing the Odds: Parameters that Predict Passing or Failing School District Bonds. *Educational Policy,* 24(2), 398-420. doi: 10.1177/0895904808330169

Militello, M., Gajda, R.H., **Bowers, A.J.** (2009) The Role of Accountability Policies and Alternative Certification on Principals' Perceptions of Leadership Preparation. *Journal of Research on Leadership Education,* 4(2), 30-66. doi:10.1177/194277510900400301

Printy, S., Marks, H.M., **Bowers, A.J.** (2009) Integrated Leadership: How Principals and Teachers Share Instructional Influence. *Journal of School Leadership,* 19(5), 504-532. doi:10.1177/105268460901900501

Bowers, A.J. (2009) Reconsidering Grades as Data for Decision Making: More than Just Academic Knowledge. *Journal of Educational Administration*, 47(5), 609-629. doi:10.1108/09578230910981080

Militello, M., Metzger S., **Bowers, A.J.** (2008) The High School "Space Race": Implications of a Market-Choice Policy Environment for a Michigan Metropolitan region. *Education and Urban Society*, 41(1), 26-54. doi:10.1177/0013124508321358

Bowers, A.J. (2008) Promoting Excellence: Good to Great, NYC's District 2, and the Case of a High Performing School District, *Leadership and Policy in Schools*, 7(2), 154-177. doi:10.1080/15700760701681108 (Preprint available)

Molecular Biology (prior to 2005):
Bowers, A.J., Boylan, J.F. (2004). Nek8, a NIMA Family Kinase Member is Overexpressed in Primary Human Breast Tumors. Gene 328, 134-142. doi:10.1016/j.gene.2003.12.002

Bowers, A.J., Scully, S., Boylan, J.F. (2003). SKIP3, a Novel Drosophila Tribbles Ortholog, is Overexpressed in Human Tumors and is Regulated by Hypoxia. Oncogene 22(18), 2823-35. doi:10.1038/sj.onc.1206367

Boylan, J.F., Sharp, D.M., Leffet, L., Pan, W., **Bowers, A.** (1999). Analysis of Site-Specific Phosphorylation of the Retinoblastoma Protein during Cell Cycle Progression. Experimental Cell Research 248, 110-114. doi:10.1006/excr.1999.4389

Pekker, Y., Beaudry, R.M., Wilson, I.D., Zhu, Y., Burmeister, D.M., Jianping, K., Poneleit, L., Walker, J., Gran, C.D., Miller, B., Dixon-Holland, D., **Bowers, A.**, Dilley, D.R. (1993). Development of ELISA for 1-Aminocyclopropane-1-Carboxylate Oxidase. Proceedings from the Sixth International Controlled Atmosphere Research Conference, NRAES-71 Vol. 2, 564-569.

Dilley, D.R., Jianping, K., Poneleit, L., Zhu, Y., Pekker, Y., Wilson, I.D., Burmeister, D.M., Gran, C., **Bowers, A.** (1993). Purification and Characterization of ACC Oxidase and Its Expression During Ripening in Apple Fruit. Cellular and Molecular Aspects of the Plant Hormone Ethylene: 46-52.

Manuscripts Submitted for Peer-Reviewed Refereed Publication:
*Note: * indicates graduate student co-author*

Grant, J.*, **Bowers, A.J.** No Time for Why: Examining How School Leaders Can Support Teacher Data Use Given the Realities of Schools. Submitted to the *Journal of Educational Administration*.

Zhang, J.*, **Bowers, A.J.** Linking Satisfaction Typology to Student Experience and Career Development in International Doctoral Students: A Latent Profile Analysis. Submitted to the *Journal of Further and Higher Education*.

Edited Books:

Bowers, A.J. (Editor) (2021) *Data Visualization, Dashboards, and Evidence Use in Schools: Data Collaborative Workshop Perspectives of Educators, Researchers, and Data Scientists*. Teachers College, Columbia University. https://doi.org/10.7916/d8-jj2g-e225

Bowers, A.J., Shoho, A.R., Barnett, B.G. (Editors) (2015) *Challenges and Opportunities of Educational Leadership Research and Practice: The State of the Field and Its Multiple Futures – International Research on School Leadership Volume 6*. Charlotte, NC: Information Age Publishing Inc. ISBN: 9781681232744 (Amazon.com)

Bowers, A.J., Shoho, A.R., Barnett, B.G. (Editors). (2014). *Using Data in Schools to Inform Leadership and Decision Making – International Research on School Leadership Volume 5*. Charlotte, NC: Information Age Publishing Inc. ISBN: 978-1623967864 (Amazon.com)

Barnett, B.G., Shoho, A.R., **Bowers, A.J.** (Editors) (2013). *School and District Leadership in an Era of Accountability – International Research on School Leadership Volume 4*. Charlotte, NC: Information Age Publishing Inc. ISBN: 9781623963828 (Amazon.com)

Invited Papers, Book Chapters and Research Reports:

Bowers, A.J. (in press) Data Science in Education Administration, Policy, and Practice. In *AERA Handbook of Education Policy Research*, 2nd Volume. Cohen-Vogel, L., Scott, J., Youngs, P. (Eds.). American Educational Research Association.

Bowers, A.J., Molle, D., Choi, Y., Halverson, H. (2024) Tracking the Indicators of Opportunity. *Principal Magazine*, NAESP, Vol 103(3) Jan/Feb, p.38-39. https://www.naesp.org/resource/tracking-the-indicators-of-opportunity/

Baker, R.S, Bosch, N., Hutt, S., Zambrano, A.F., **Bowers, A.J.** (2024) On Fixing the Right Problems in Predictive Analytics: AUC Is Not the Problem. Penn Center for Learning Analytics, University of Pennsylvania. https://doi.org/10.48550/arXiv.2404.06989

Bowers, A.J. (Ed.) (2023) Education Leadership Data Analytics (ELDA) 2023 Conference Program. Teachers College, Columbia University. New York, NY. June 2023. https://doi.org/10.7916/prwv-hf12

Bowers, A.J., Choi, Y., Shi, H., Sun, F., Sun, H., Williams, J., Weeks, S. (2022). Mapping 16 Equity Indicators to the New York City Schools Public Datasets: Access, Opportunity, and Outcomes. Teachers College, Columbia University. New York, NY. Full open access Report: https://doi.org/10.7916/a143-aq05.
Open access R Markdown code for all figures: https://doi.org/10.7916/q2zr-qd07

Krumm, A., **Bowers, A.J.** (2022) Data Intensive Improvement. In *The Foundational Handbook on Improvement Research in Education*. Peurach, D. J., Russell, J. L., Cohen-Vogel, L., & Penuel, W. R. (Eds.). Chapter 20, p.465-483. Lanham, MD: Rowman & Littlefield.

San Pedro, M. O. Z., Baker, R. S., **Bowers, A. J.,** & Heffernan, N. T. (2022). Exploring Selective College Attendance and Middle School Cognitive and Non-cognitive Factors Within Computer-Based Math Learning. In *Social and Emotional Learning and Complex Skills*

Assessment (pp. 217-247). Springer, Cham. Preprint: https://learninganalytics.upenn.edu/ryanbaker/College-Selectivity-Chapter-v6.pdf

Bowers, A.J. (2021) Dashboards, Data Use, and Decision-making: A Data Collaborative Workshop Bringing Together Educators and Data Scientists. In Bowers, A.J. (Ed.) *Data Visualization, Dashboards, and Evidence Use in Schools: Data Collaborative Workshop Perspectives of Educators, Researchers, and Data Scientists*, Chapter 1 (p. 1-36). Teachers College, Columbia University. https://doi.org/10.7916/d8-jj2g-e225

Bowers, A.J. (2021) Planning, Organizing, and Orchestrating the Education Data Collaborative Workshop. In Bowers, A.J. (Ed.) *Data Visualization, Dashboards, and Evidence Use in Schools: Data Collaborative Workshop Perspectives of Educators, Researchers, and Data Scientists*, Chapter 2 (p. 37-67). Teachers College, Columbia University. https://doi.org/10.7916/d8-jj2g-e225

Kang, S.*, **Bowers, A.J.** (2021) Education Data Analytics Collaborative Workshop: How Educators and Data Scientists Meet and Create Data Visualizations. In Bowers, A.J. (Ed.) *Data Visualization, Dashboards, and Evidence Use in Schools: Data Collaborative Workshop Perspectives of Educators, Researchers, and Data Scientists*, Chapter 3 (p. 68-84). Teachers College, Columbia University. Link to full book: https://doi.org/10.7916/d8-jj2g-e225

Bowers, A.J. (2021) Early Warning Systems and Indicators of Dropping Out of Upper Secondary School: The Emerging Role of Digital Technologies. *OECD Digital Education Outlook 2021: Pushing the Frontiers with Artificial Intelligence, Blockchain and Robots*, Chapter 9, p.173-194. Organisation for Economic Co-Operation and Development (OECD) Publishing, Paris. https://doi.org/10.1787/589b283f-en Link to individual chapter: https://www.oecd-ilibrary.org/sites/c8e57e15-en/index.html?itemId=/content/component/c8e57e15-en

Bowers, A.J. (2020) Examining a Congruency-Typology Model of Leadership for Learning using Two-Level Latent Class Analysis with TALIS 2018. Organisation for Economic Co-Operation and Development (OECD) Publishing: Paris, France. https://doi.org/10.1787/c963073b-en

Bowers. A.J. (2020) Teaching in Focus #31: How teachers differ in their perceptions of leadership for learning: Clustering teacher data from TALIS 2018. Organisation for Economic Co-Operation and Development (OECD) Publishing: Paris, France. https://doi.org/10.1787/83880b97-en

Bowers, A.J., Bang, A.*, Pan, Y., Graves, K.E.* (2019) Education Leadership Data Analytics (ELDA): A White Paper Report on the 2018 ELDA Summit. Teachers College, Columbia University: New York, NY. https://doi.org/10.7916/d8-31a0-pt97

Bowers, A.J. (2019) Towards Measures of Different and Useful Aspects of Schooling: Why Schools Need Both Teacher Assigned Grades and Standardized Assessments. In

Brookhart, S., McMillian, T. (Eds.) *Classroom Assessment as Educational Measurement.* National Council on Measurement in Education (NCME) Book Series (p.209-223)*.* New York: Routledge. (Preprint available)

Bowers, A.J. (2019) Report Card Grades and Educational Outcomes. In Guskey, T., Brookhart, S. (Eds.) *What We Know About Grading: What Works, What Doesn't, and What's Next,* (p.32-56). Alexandria, VA: Association for Supervision and Curriculum Development. (Preprint available)

Singh, L., Deshpande, A., Zhou, W., Banerjee, A., **Bowers, A.J.,** Friedler, S., Jagadish, H.V., Karypis, G., Obradovic, Z., Vullikanti, A., Zuo, W. (2019) NSF BIGDATA PI Meeting - Domain-Specific Research Directions and Data Sets. *Association for Computing Machinery (ACM) SIGMOD Record*, 47(3), 32-35. http://doi.org/10.1145/3316416.3316425

Bowers, A.J., Ni, X.*, Esswein, J. (2018) Using Hierarchical Growth Modeling to Promote District Systematic Improvement in Ohio and Texas. In Shaked, H., Schechter, C., Daly, A. (Eds.) *Leading Holistically: How Schools, Districts, and States Improve Systemically* (p.77-100). New York: Routledge. https://www.taylorfrancis.com/books/e/9781351362191/chapters/10.4324%2F978020371 2184-5. (Preprint Available)

Bowers, A.J. (2018) Dropouts. In Frey, B. (Ed.), *The SAGE Encyclopedia of Educational Research, Measurement, and Evaluation* (p.549-550). Thousand Oaks, CA: SAGE Publications. https://us.sagepub.com/en-us/nam/the-sage-encyclopedia-of-educational-research-measurement-and-evaluation/book245469

Agasisti, T., **Bowers, A.J.** (2017) Data Analytics and Decision-Making in Education: Towards the Educational Data Scientist as a Key Actor in Schools and Higher Education Institutions. In Johnes, G., Johnes, J., Agasisti, T., López-Torres, L. (Eds.) *Handbook of Contemporary Education Economics* (p.184-210). Cheltenham, UK: Edward Elgar Publishing. http://www.e-elgar.com/shop/handbook-of-contemporary-education-economics. (Preprint Available)

Ni, X.*, **Bowers, A.J.**, Esswein, J. (2016) What Counts in Calculating School and District Level Performance Index Scores: A Summary and Analysis of Academic Performance Index Metrics across the 50 States. Teachers College, Columbia University. http://dx.doi.org/10.7916/D86973RR

Bowers, A.J. (2016) What do Teacher Assigned Grades Measure? A One Page Research Summary. Teachers College, Columbia University. http://dx.doi.org/10.7916/D8JM29PN

Bowers, A.J., Shoho, A.R., Barnett, B.G (2015) The Multiple Futures of the Field of Educational Leadership Research and Practice – An Introduction. In A.J. Bowers, A.R. Shoho, B. G. Barnett (Eds.) *Challenges and Opportunities of Educational Leadership Research and*

Practice: The State of the Field and Its Multiple Futures (p.1-14). Charlotte, NC: Information Age Publishing Inc. http://dx.doi.org/10.7916/D8JW8D90

Bowers, A. J. (2015). Voter's Role in Deciding School Facility Issues. *UCEA Review, 56*(1) 20-21. http://3fl71l2qoj4l3y6ep2tqpwra.wpengine.netdna-cdn.com/wp-content/uploads/2013/11/UCEAReviewWinter_Web011615.pdf

Bowers, A. J., Shoho, A. R., & Barnett, B. G. (2014). Considering the Use of Data by School Leaders for Decision Making. In A. J. Bowers, A. R. Shoho & B. G. Barnett (Eds.), *Using Data in Schools to Inform Leadership and Decision Making* (p.1-16). Charlotte, NC: Information Age Publishing. http://dx.doi.org/10.7916/D8862F32

Bowers, A.J. (2014). Bonds in School Financing. In Brewer, D.J., Picus, L.O. (Eds.), *Encyclopedia of Education Economics and Finance* (pp.83-86). Thousand Oaks, CA: Sage Publications.

Bowers, A.J. (2014). Student Risk Factors. In Brewer, D.J., Picus, L.O. (Eds.), *Encyclopedia of Education Economics and Finance* (pp. 624-627). Thousand Oaks, CA: Sage Publications.

Barnett, B. G., Shoho, A. R., & **Bowers, A. J.** (2013). Introduction to Volume 4 of the International Research on School Leadership Book Series. In B. G. Barnett, A. R. Shoho & A. J. Bowers (Eds.), *School and District Leadership in an Era of Accountability* (p. 1-12). Charlotte, NC: Information Age Publishing Inc. http://dx.doi.org/10.7916/D8HQ3XJD

White, B., **Bowers, A.J.** (2011) Principal Effects in Illinois: A Research Brief (IERC 2011-3). Edwardsville, IL: The Illinois Education Research Council, Southern Illinois University Edwardsville. https://eric.ed.gov/?id=ED531252

Video Textbook Chapters:

Bowers, A.J. (2024) Data Science Methods for Digital Learning Platforms Training Program Module 11: Cluster Analysis. Institute for Education Sciences (IES) funded partnership with the University of Pennsylvania: https://www.gse.upenn.edu/academics/center-professional-learning/data-science-methods-digital-learning-platforms
    Part 1: https://www.youtube.com/watch?v=4L7P4CFXbDE
    Part 2: https://www.youtube.com/watch?v=DFqQPUPdlrA
    Part 3: https://www.youtube.com/watch?v=X-JwSfwNitM
    Part 4: https://www.youtube.com/watch?v=h1gkRnbaSoA

Bowers, A.J. (2020) Introduction to Leading with Evidence in Schools: Data and Research Literacy. Teachers College, Columbia University. https://www.youtube.com/watch?v=m4AR9aOE8JA

Bowers, A. J. (2015). Students at Risk. SAGE Video Tutorials, SAGE Publications, Thousand Oaks, CA. http://dx.doi.org/10.4135/9781473941069 (link to full video)

Bowers, A. J. (2015). Data-Driven Decision Making. SAGE Video Tutorials, SAGE Publications, Thousand Oaks, CA. http://dx.doi.org/10.4135/9781473930841 (link to full video)

Honors & Awards:

2019   Thomas J. Alexander Fellowship OECD (Organisation for Economic Co-operation and Development), Paris France. http://www.oecd.org/education/thomasjalexanderfellows.htm#AlexBowers

2019   Highly Commended Paper Award *Journal of Educational Administration*, Emerald Publishing Boyce, J., Bowers, A.J. (2018) Toward an evolving conceptualization of instructional leadership as leadership for learning: Meta-narrative review of 109 quantitative studies across 25 years https://doi.org/10.1108/JEA-06-2016-0064

2018   Jeannine Rainbolt College of Education Endowed Lectureship, The University of Oklahoma.

2018   *Journal of Educational Administration* Outstanding Reviewer of the Year, Emerald Publishing. http://emeraldgrouppublishing.com/authors/literati/awards.htm?year=2018&journal=jea

2017   Faculty Visitor Lectureship, The University of Hong Kong.

2016   *Educational Administration Quarterly* Outstanding Reviewer of the Year.

2012   UCEA 2012 Jack A. Culbertson Award – Awarded to an outstanding junior professor of educational administration in recognition of significant contributions to the field. http://www.ucea.org/opportunities/jack-culbertson-award/

2012   AERA Division A (Administration, Organization and Leadership) 2012 Emerging Scholar Award – Awarded for outstanding pre-tenure contributions to the field of leadership, administration or organizational theory. http://www.aera.net/DivisionA/Awards/tabid/11075/Default.aspx

2012   *Educational Administration Quarterly* journal Outstanding Reviewer of the Year.

2011   University of Texas at San Antonio College of Education and Human Development Distinguished Achievement Award Tenure-Track Research.

2009   AERA 2008 Outstanding Reviewer of the Year – *American Educational Research Journal* (AERJ).

2008   AERA Division A 2007 Outstanding Dissertation Competition Finalist.

Graduate School Awards:
2007   Michigan State University College of Education Research Presentation Travel Scholarship.

2006   David L. Clark National Graduate Student Research Seminar in Educational Administration and Policy, Graduate Presenter, University Council for Educational Administration (UCEA). http://www.ucea.org/graduate-student-opportunities/david-clark-seminar/

2006   Michigan State University Graduate School Research Presentation Travel Fellowship.

2006   Michigan State University College of Education Research Presentation Travel Scholarship.

2003   Graduate Recruiting Scholarship, College of Education, Michigan State University.

Industry Awards:
2002   Amgen Special Recognition Award.
2000   Amgen Special Achievement Award.

Research Support & Grant Activity:

External Grants – Funded:

2021-2027   Halverson, R., Diamond, J., Clifford, M, Gomez, L., **Bowers, A.J.**, Causey-Konaté, T., Welton, A., Kelley, C. A CALL for Equity-Centered Leadership (CALL-ECL). The Wallace Foundation. (Co-PI: $2,000,000 to TC; $10,000,000 total with University of Wisconsin-Madison, UCLA, Brown University, AIR, WestEd, PI: Richard Halverson). https://call-ecl.wceruw.org/

2024-2025   Davis, K., Cho, V., Yip, J.C., **Bowers, A.J.**, Suleman, S. Developing a Community-Based Model for Equitable AI Practices in Education Settings. Spencer Foundation. (Co-PI: $10,750 to TC; $75,000 total with University of Washington, Boston College, Lahore University of Management Sciences: PI: Katie Davis).

2022   **Bowers, A.J.** Education Equity Action Plan of New York City, Black Education Research Collective (BERC), Teachers College, Columbia University. (PI: $99,329).

2016-2021   **Bowers, A.J.** Building Community and Capacity for Data-Intensive Evidence-Based Decision Making in Schools and Districts. National Science Foundation, Directorate for Education and Human Resources (EHR), Division of Graduate Education (DGE) (PI: $499,642, NSF DGE-1560720) https://www.nsf.gov/awardsearch/showAward?AWD_ID=1560720

2019   **Bowers, A.J.** To What Extent is a Congruency-Typology Model of Leadership for Learning Distributed Across Countries using the OECD TALIS School Leadership Survey? OECD (Organisation for Economic Co-operation and Development) Thomas J. Alexander Fellowship. A residency fellowship at the OECD headquarters in Paris, France. (PI: €40,000). http://www.oecd.org/education/thomasjalexanderfellows.htm#AlexBowers

2018   **Bowers, A.J.** Education Leadership Data Analytics (ELDA) Summit at Teachers College, Columbia University. https://doi.org/10.7916/d8-31a0-pt97
• Robertson Foundation: $5,000
• NSF Northeast Big Data Hub: Big Data for Education Spoke: $3,500

2015-2018   **Bowers, A.J.** Using Big Data to Investigate Longitudinal Education Outcomes through Visual Analytics. National Science Foundation, Directorate for Computer & Information Science & Engineering (CISE), Division of Information & Intelligent Systems, (PI: $299,680, NSF IIS-1546653) http://www.nsf.gov/awardsearch/showAward?AWD_ID=1546653

2015-2016   **Bowers, A.J.** Developing a Longitudinal School District Effectiveness Identification System in Idaho, Oregon and Alaska. Education Northwest. (PI: $106,473)

2014-2016	Krumm, A., Feng, M., **Bowers, A.J.** (Co-PIs) (2014-2016) Elaborating Data Intensive Research Methods through Researcher-Practitioner Partnerships. Awarded in collaboration with SRI International. National Science Foundation (NSF), Directorate for Education and Human Resources (EHR), Division of Research on Learning (DRL), (Co-PI: $80,000 to TC, $278,808 total with SRI International, PI: Andrew Krumm, NSF DRL-1444621). http://www.nsf.gov/awardsearch/showAward?AWD_ID=1444621
2014-2016	Gassman-Pines, A., Krumm, A., **Bowers, A.J.**, Hyunh, N. (Co-PIs) (2014-2016) A Data-Intensive Exploration of the Links between SES and STEM Learning. Awarded in collaboration with Duke University and SRI International. National Science Foundation (NSF), Directorate for Education and Human Resources (EHR), Division of Research on Learning (DRL), Data-Intensive Research to Improve Teaching and Learning, (Co-PI: $25,162 to TC, $508,273 total with Duke University and SRI International, PI: Anna Gassman-Pines, NSF DRL-1418333). http://www.nsf.gov/awardsearch/showAward?AWD_ID=1418333 http://www.nsf.gov/awardsearch/showAward?AWD_ID=1418332
2015	**Bowers, A.J.** (Participant) Multimodal Data Jam, a pre-AERA Workshop - panel expert and data analyst. Analytics for Learning project, National Science Foundation. Travel and meeting attendance. https://sites.google.com/site/pd4laera/
2013	**Bowers, A.J.** (Participant) Data Intensive Research to Improve Teaching and Learning – An Ideas Lab to Foster Transformative Approaches to Teaching and Learning. National Science Foundation. (NSF # 1357658) Travel and ideas lab attendance $2,500.
2012-2013	**Bowers, A.J.** (Researcher) A Typology of Leadership in C.A.L.L. Data. Research collaborative in partnership with the University of Wisconsin-Madison. $4,999.
2009-2010	**Bowers, A.J.** What do Teacher Assigned Grades Actually Assess? Analyzing Grades as Informative Academic and Non-Academic Data for Policy and School-Level Decision Making. Jointly funded by the AERA Research Grants Program through the National Science Foundation (NSF) and the National Center for Education Statistics (NCES), (PI: $20,000.) http://www.aera.net/Portals/38/docs/Professional_Development/Res_and_Dis_Grants_abstracts/Abs-RG-00033627.html
2007-2008	Rodriguez, M. (PI), **Bowers, A.J.** (Researcher) Examining the Relationship Among Principal Attributes, Teacher Quality, and Student Achievement in Texas. The University of Texas Center for Collaborative Educational Research and Policy (UTCCERP), (Co-PI: $28,000).

<u>Internal Grants:</u>

2023-2024	Holbert, N., **Bowers, A.J.**, Vasudevan, L., Yoon, H., Templeton, T. Technology Supported Learning Through Immersive Social Role-Play (LearningLARP). Collaboration Project Grant, Teachers College, Columbia University: (Co-PI: $20,000)
2017-2018	**Bowers, A.J.** Building Capacity for Education Leadership Data Analytics (ELDA). Provost Investment Fund, Teachers College, Columbia University: (PI: $20,000) https://doi.org/10.7916/d8-31a0-pt97

2018	**Bowers, A.J.** Leading with Evidence in Schools. Rapid Prototyping Digital Learning Grant, Teachers College, Columbia University: (PI: $6,000) https://www.tc.columbia.edu/continuing-professional-studies/programs/all-offerings/leading-with-evidence-in-schools/
2016	Graves, K.E., **Bowers, A.J.** (Advisor) Pattern-Analyzing Big Data from the Pilot Year of the Computer Science for All (CS4All) Initiative in NYC Public Schools through Leveraging Recent Innovations in Data Mining and Visual Data Analytics. Northeast Big Data Innovation Hub in the Data Science Institute at Columbia University: (Advisor: $7,500). http://nebigdatahub.org/telling-a-story-with-data-young-innovator-kenneth-graves/
2014	**Bowers, A.J.** (2014) Building Education Leadership Data Analytics Data Mining Hardware and Research Capacity. Department of Organization and Leadership mini-grant award, Teachers College, Columbia University: (PI: $2,000).
2014	Boyce, J., **Bowers, A.J.** (Advisor) Principal Turnover: Are there Different Types of Principals who Move from or Leave Schools? Dean's Grant for Student Research, Teachers College, Columbia University: (Advisor: $510).
2011	Urick, A., **Bowers, A.J.** (Co-Investigator) Modeling the Interaction Between Principals and Teachers Within School Leadership, The Academy for Teacher Excellence (ATE), College of Education and Human Development mini-grant award, UTSA, (Co-PI: $5,000).
2009-2010	**Bowers, A.J.**, Murakami, E. Educational Leadership & Policy Studies Journal Club. UTSA Core Values Initiative, Office of the Provost, mini-grant award, UTSA, (Co-PI: $400).
2008	**Bowers, A.J.** The Research Journal Club: Pedagogy of Research in the Preparation of Doctoral Students in Educational Leadership and Policy Studies. College of Education and Human Development mini-grant award, UTSA, (PI: $1,190).
2007	**Bowers, A.J.** (2007) Grades and Data Driven Decision Making: Issues of Variance and Student Patterns. Michigan State University Dissertation Completion Fellowship, Michigan State University Graduate School, (PI: $6,000).

Patents:

Boylan, J.F., **Bowers, A.J.** (2006). Novel Serine Threonine Kinase Member Polypeptide Sequence, 2520-59. Patent number: 7029892B1, United States Patent and Trademark Office. Filed 2002, approved 2006. (weblink)

Boylan, J.F., **Bowers, A.J.** (2005). Novel Serine Threonine Kinase Member Nucleic Acid Sequence, 2520-59. Patent number: 6881542B1, United States Patent and Trademark Office. Filed 2001, approved 2005. (weblink)

Refereed Conference Presentations & Papers:

*Note: * indicates graduate student co-author*

Choi, Y.*, **Bowers, A.J.** (2024) Mapping 16 Equity Indicators Across Public Data From Multiple States and New York City: Metadata and Interoperability. A paper presented at the annual meeting of the American Educational Research Association (AERA), Philadelphia PA

Grant, J.*, **Bowers, A.J.** (2024) Examining How School Leaders Can Support Teacher Data Use Given the Realities of Schools. A paper presented at the annual meeting of the American Educational Research Association (AERA), Philadelphia PA.

Delcourt, C.*, **Bowers, A.J.** (2024) Predicting Teacher Turnover: The Role of Classroom Autonomy. A poster presented at the annual conference of the Association for Education Finance and Policy (AEFP): Baltimore, MD.

Bowers, A.J., Choi, Y.*, Weeks, S*. (2023) Building School Data Equity, Infrastructure, and Capacity Through FAIR Data Standards: Findable, Accessible, Interoperable, Reusable. A paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago IL.

Choi, Y.*, **Bowers, A.J.** (2023) How Teachers Understand the Impact of Teacher Feedback: A Latent Class Analysis. A paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago IL.

Shi, H.*, **Bowers, A.J.** (2023) What We Should Know about Principal Turnover: The Need for A Machine Learning Approach. A paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago IL.

Bowers, A.J., Choi, Y.*, Shi, H.*, Sun, F.*, Sun, H.*, Williams, J.*, Weeks, S.* (2022). Mapping 16 Equity Indicators to the New York City Schools Public Datasets: Access, Opportunity, and Outcomes. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA): Seattle, WA.

Bowers, A.J., Kang, S.* (2022) Visualization, Dashboards, and School Evidence Use: Data Workshop Perspectives of Educators, Researchers, and Data Scientists. A paper presented the annual meeting of the American Educational Research Association (AERA), San Diego, CA.

Bowers, A.J., Zhao, Y.*, Ho, E.* (2022) Towards Hierarchical Cluster Analysis Heatmaps as Visual Data Analysis of Entire Student Cohort Longitudinal Trajectories. A paper presented at the annual meeting of the American Educational Research Association (AERA), San Diego, CA.

Bowers, A.J. (2021) Early Warning Indicators of Dropping Out of High School: Emerging Roles of Digital Technologies. A paper presented at the University Council for Educational Administration (UCEA) annual meeting, Columbus OH.

Bowers, A.J. Pekcan, B.*, Pan, Y. (2021) Grouping Online Education Leadership Professional Development Discussion Board Participants using Automated Text Data Mining. A paper presented at the University Council for Educational Administration (UCEA) annual meeting, Columbus OH.

Bowers.A.J., Brown, C., (2021) School Leadership of Teacher Professional Development as Contested Practice Globally: Roles of Professional Learning Networks. A symposium presentation presented at the annual meeting of the American Educational Research Association (AERA), Online.

Duff, M.*, **Bowers, A.J.** (2021) Stability and Change in School Improvement Capacity in New York City: A Latent Transition Analysis. A paper presented at the annual meeting of the American Educational Research Association (AERA), Online.

Zhang, J.*, **Bowers, A.J.** (2021) Identifying a Typology of International Doctoral Students Based on Their Satisfaction. A paper presented at the annual meeting of the American Educational Research Association (AERA), Online.

Topas, B.*, Spiele, S.*, Schildkamp, K., **Bowers, A.J.** (2021) From Data Science to Data use: From High Tech to Human Touch. A paper presented at the annual meeting of the Internal Congress for School Effectiveness and Improvement (ICSEI). (online conference)

Bowers, A.J., Monroe, E.C. (2021) Using Hierarchical Linear Growth Modeling to Identify Longitudinally Outperforming School Districts in the United States, 2009-2013. A paper presented at the annual meeting of the Association for Education Finance and Policy (AEFP). Online.

Bowers, A.J. (2020) Identifying a Three Group Congruency-Typology Model of Leadership for Learning Globally using TALIS 2018. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Online.

Bowers, A.J., Poquette, H., Weeks, S.* (2020) Clustering Kentucky Schools for Professional Development through the Application of Automated Text Mining of School Improvement Plans. A poster accepted for presentation at the annual meeting of the Association of Education Finance and Policy (AEFP), Fort Worth, TX: 2020.

Bowers, A.J. (2019) Education Leadership Data Analytics (ELDA): The Intersection of Education Leadership, Evidence-Based Improvement Cycles, and Data Science. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), New Orleans, LA: 2019.

Bowers, A.J., Graves, K.*, Weeks, S.* (2019) How Teachers and Leaders Use the District Instructional Data Warehouse (IDW) to Inform Decisions. A paper presented at the annual meeting of the American Educational Research Association (AERA), Toronto, CA: April 2019.

Bowers, A.J., Zhou, X* (2019) Evaluating the Accuracy of Predictors in Early Warning Indicator Research: Receiver Operating Characteristic (ROC AUC). A poster presented at the annual meeting of the American Educational Research Association (AERA), Toronto, CA: April 2019.

Snodgrass Rangel, V., Vaval, L.*, **Bowers, A.J.** (2019) A Typology of Student Dispositions in Science and Math. A poster presented at the annual meeting of the American Educational Research Association (AERA), Toronto, CA: April 2019.

Elmore, J.*, Block, C.J., **Bowers, A.J.**, Dutt, K. (2019) It's Not Just the Words, but How You Use Them: A Structural Topic Model Approach to Exploring Gender Bias in Letters of Recommendation. A paper presented at the annual meeting of the Society for Industrial and Organizational Psychology. Washington, D.C.: 2019

Bowers, A.J., Ni, X., Esswein, J. (2018) Using Hierarchical Growth Modeling to Promote District Systematic Improvement in Ohio and Texas. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Houston, TX: 2018.

Graves, K.*, **Bowers, A.J.** (2018) School Technology Leadership for Social Justice in Texas: A Three-Step Latent Class Analysis. A paper presented at the annual meeting of the American Educational Research Association (AERA), New York, NY: April 2018.

Vaval, L.*, **Bowers, A.J.** (2018) Identifying a Typology of STEM-Focused High Schools: A Latent Class Analysis of HSLS:2009. A paper presented at the American Educational Research Association (AERA), New York, NY: April 2018.

Zhou, X.*, **Bowers, A.J.** (2018) A Typology of Parental Involvement in High School Education and STEM: A Latent Class Analysis. A paper presented at the American Educational Research Association (AERA), New York, NY: April 2018.

Jorion, N., Roberts, J., **Bowers, A.J.**, Tissenbaum, M., Lyons, L., Kuma, V., Berland, M. (2018) Uncovering Patterns in Constructionist Collaborative Learning Activities via Cluster Analysis of Museum Exhibit Log Files. A paper presented at the annual meeting of the American Educational Research Association (AERA), New York, NY: April 2018.

Duff, M.*, **Bowers, A.J.** (2018) Identifying a Typology of New York City Schools through Teacher Perceptions of Organizational Context: A Latent Class Analysis. A paper presented at the annual meeting of the Association of Education Finance and Policy (AEFP), Portland, OR: March 2018.

Soncin, M.*, **Bowers, A.J.**, Agasisti, T. (2018) Investigating School Leadership Types in a Global Perspective: International Evidence from a Latent Class Analysis on OECD TALIS Data. A paper presented at the annual meeting of the Association of Education Finance and Policy (AEFP), Portland, OR: March 2018.

Bowers, A.J., Zhang, Y.* (2017) Examining a Teacher Data Use Typology: Latent Class Analysis of the Teacher Data Use Survey. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Denver, CO: 2017.

Fox, L.*, **Bowers, A.J.** (2017) Self-Fulfilling prophecy of STEM: How High School Leadership Predicts student STEM Occupations. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Denver, CO: 2017.

Slater, S.*, **Bowers, A.J.**, Kai, S., Shute, V. (2017) A Typology of Players in the Game Physics Playground. A paper presented at the Digital Games Research Association (DiGRA) annual meeting, Melbourne, Australia: July 2017. Paper: http://digra2017.com/static/Full%20Papers/78_DIGRA_2017_FP_Slater_Physics_Playground.pdf

Bowers, A.J., Ni, X.*, Pan, Y. (2017) Forecasting Potential School District Effectiveness Trends in Ohio State: Using Bayesian Hierarchical Longitudinal Model to Inform Policy Decision-Making. A poster presented at the Modern Modeling Methods Conference, Storrs, CT: May 2017.

Urick, A., **Bowers, A.J.**, Boyce, B. (2017) The Application of Multilevel Models with Latent Variables to K-12 Educational Leadership and Policy Research: Multilevel Factor Analysis, Growth Models and Structural Equation Models. A symposium presented at the Modern Modeling Methods Conference, Storrs, CT: May 2017.

Zhao, Y*, **Bowers, A.J.**, (2017) Analyzing Student High School Mathematics among STEM College Graduates: Hierarchical Cluster Analysis Heatmap and Latent Class Analysis. A poster presented at the Modern Modeling Methods Conference, Storrs, CT: May 2017.

Duff, M.*, **Bowers, A.J.**, (2017) Beyond Two Dimensions of Effectiveness: A Three-Step Latent Profile Analysis of New York City Schools. A poster presented at the Modern Modeling Methods Conference, Storrs, CT: May 2017.

Monroe, E.*, **Bowers, A.J.**, (2017) Using Hierarchical Linear Growth Modeling to Identify Longitudinally Outperforming School Districts from the United States District

Population, 2009-2013. A poster presented at the Modern Modeling Methods Conference, Storrs, CT: May 2017.

Graves, K.E.*, **Bowers, A.J.** (2017) Examining CS4All principals and their visions for content-specific leadership for computer science (CS) education: A phenomenological case study. A poster presented at the annual meeting of the American Education Research Association (AERA), San Antonio TX: April 2017.

Saunders, C.*, Drago-Severson, E., **Bowers, A.J.** (2017) Examining Teacher and Principal Influence on Teacher Job Satisfaction: A Hierarchical Linear Model Analysis. A paper presented at the annual meeting of the American Education Research Association (AERA), San Antonio TX: April 2017.

Wang, Y., **Bowers, A.J.,** Chae, H., Fikis, D.*, Natriello, G. (2017) Probabilistic Topic Modeling of 116 Years of Literature of Teachers College Record (1900-2015). A paper presented at the annual meeting of the American Education Research Association (AERA), San Antonio TX: April 2017.

Zhao, Y.*, **Bowers, A.J.** (2017) Unpacking the M in STEM: An LCA of STEM graduates on high school mathematics attitudes. A paper presented at the annual meeting of the American Education Research Association (AERA), San Antonio TX: April 2017.

Agasisti, T., **Bowers, A.J.,** Soncin, M. (2017) School Principals' Leadership Styles and Students' Achievement: Empirical Results from a Three-step Latent Class Analysis. A poster presented at the annual meeting of the Association for Education Finance and Policy (AEFP), Washington DC: March 2017.

Slater, S.*, Baker, R., Almeda, V., **Bowers, A.J.,** Heffernan, N. (2017) Using Correlational Topic Modeling for Automated Topic Identification in Intelligent Tutoring Systems. A paper presented at the annual Learning Analytics and Knowledge conference, Vancouver, BC: March 2017. https://doi.org/10.1145/3027385.3027438

Bowers, A.J. (2016) Quantitative Research Methods Training in Education Leadership Programs as Disciplined Inquiry for Building School Improvement Capacity. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Detroit MI: Nov 2016.

Graves, K.E.*, **Bowers, A.J.** (2016) A Conceptual Framework of Leadership in Technology for Social Justice: A Meta-Narrative Review. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Detroit MI: Nov 2016.

Davis, B.W., **Bowers, A.J.** (2016). Towards a Model of Pathways to the School District Superintendency: An Event History Analysis of all Texas Districts 2000-01 - 2014-15. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Detroit MI: Nov 2016.

Goff, P.T., **Bowers, A.J.** (2016). Leaders on the Job Market: An Analysis of Application Patterns & Preferences. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Detroit MI: Nov 2016.

Lee, J.*, Recker, M., **Bowers, A.J.,** Yuan, M.* (2016). Hierarchical Cluster Analysis Heatmaps and Pattern Analysis: An Approach for Visualizing Learning Management System Interaction Data. A poster presented at the annual International Conference on Educational Data Mining (EDM), Raleigh, NC: June 2016. http://www.educationaldatamining.org/EDM2016/proceedings/paper_34.pdf

Snow, E., Krumm, A., Podkul, T., Feng, M., **Bowers, A.J.** (2016). Quantifying How Students Use an Online Learning System: A Focus on Transitions and Performance. A poster

presented at the annual International Conference on Educational Data Mining (EDM), Raleigh, NC: June 2016.
http://www.educationaldatamining.org/EDM2016/proceedings/paper_190.pdf

Bowers, A.J., Urick, A., Boyce, J. (2016). Identifying Informative Subgroup Typologies in K-12 Education Leadership Data through the Application of Latent Class Analysis (LCA) and Multilevel LCA. A symposium presented at the annual Modern Modeling Methods (MMM) conference, University of Connecticut, Storrs, CT: May 2016.

Ni, X.*, **Bowers, A.J.,** Esswein, J. (2016). Longitudinal School District Effectiveness Identification in Ohio and Texas: Using Hierarchical Growth Model Comparisons to Promote Cross-District Improvement. A poster presented at the annual Modern Modeling Methods (MMM) conference, University of Connecticut, Storrs, CT: May 2016.

Bowers, A.J., Krumm, A.E., Feng, M., Podkul, T. (2016). Building a Data Analytics Partnership to Inform School Leadership Evidence-Based Improvement Cycles. A paper presented at the annual meeting of the American Educational Research Association (AERA), Washington, DC: April 2016.

Bowers, A.J. (2016). Quantitative Studies of K-12 Report Card Grades and Related Educational Outcomes. A paper presented at the annual meeting of the American Educational Research Association (AERA), Washington, DC: April 2016.

Goff, P.T., **Bowers, A.J.** (2016). Examining How Personal Statements in Principal Job Applications Predict Applicant Sorting and Matching in Schools: Automated Text Mining of Wisconsin Principal Job Application Position Statements Linked to Training and Hiring. A paper presented at the annual meeting of the American Educational Research Association (AERA), Washington, DC: April 2016.

Graves, K.*, **Bowers, A.J.** (2016) Toward a Typology of Technology-Using Teachers: A Latent Class Analysis of NCES FRSS95. A paper presented at the annual meeting of the American Educational Research Association (AERA), Washington, DC: April 2016.

Feng, M., Krumm, A.E., **Bowers, A.J.,** Podkul, T. (2016). Elaborating Data Intensive Research Methods through Researcher-Practitioner Partnerships. A paper presented at the annual Learning Analytics and Knowledge conference, Edinburgh, Scotland, UK: April 2016.
http://dl.acm.org/citation.cfm?id=2883908

Bowers, A.J., Dbouk, Y. (2016) From High School Curriculum Tracks to Maps: Applying Big Data Visual Analytics to Describing the Entire Enacted US High School Curriculum. A paper presented at the annual meeting of the Association for Education Finance and Policy (AEFP), Denver, CO: March 2016.

Bowers, A.J., Gassman-Pines, A., Krumm, A., Huynh, N., Podkul, T. (2016) Does student achievement Go Down as Amount of Government Food Stamp Family Assistance Goes Up? Evidence from North Carolina SNAP Card and School Data. A poster presented to the annual meeting of the Association for Education Finance and Policy (AEFP), Denver, CO: March 2016.

Bowers, A.J., Barnett, B. (2015) The Challenges and Opportunities of Educational Leadership Research and Practice. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), San Diego, CA: 2015.

Wang, Y., **Bowers, A.J.**, Fikis, D. (2015) An Automated Text Data Mining Analysis of All EAQ Articles from 1965 to 2014. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), San Diego, CA: 2015.

Davis, B.W., Gooden, M. A., **Bowers, A.J.** (2015) Traversing Transcultural Spaces: An Event History Analysis of Teachers' Pathways to the Principalship. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), San Diego, CA: 2015.

Fikis, D.*, Wang, Y., **Bowers, A. J.**, (2015). An Application of Multithreaded Data Mining in Educational Leadership Research. A paper presented at the annual Scientific Computing Day Conference, Georgia State University. Atlanta, GA: 2015. http://dx.doi.org/10.6084/m9.figshare.1558319

Boyce, J.*, **Bowers, A.J.** (2015) Different Levels of Leadership for Learning: Teacher and Principal Alignment Using Multilevel Confirmatory Factor Analysis. A paper presented at the annual meeting of the American Educational Research Association (AERA), Chicago, IL: April 2015.

Bowers, A.J., Chen, J.* (2015) Ask and Ye Shall Receive? Automated Text Mining of Michigan Capital Facility Finance Bond Election Proposals to Identify which Topics are Associated with Bond Passage and Voter Turnout. A paper presented at the annual meeting of the Association for Education Finance and Policy (AEFP) Washington, DC: Feb. 2015.

Bowers, A.J., Barnett, B. (2014) Using Data in Schools to Inform Leadership and Decision Making. A symposium presented at the annual meeting of the University Council for Educational Administration (UCEA), Washington, DC: Nov. 2014.

Boyce, J.*, **Bowers, A.J.** (2014) Principal Turnover: Are There Different Types of Principals who Move From or Leave Their Schools? A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Washington, DC: Nov. 2014.

Wang, Y., **Bowers, A.J.** (2014) The Paradox of the Journal Citation Network: Citing it all in a Continually Changing Educational Leadership Discipline. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Washington, DC: Nov. 2014.

Solis, C.*, **Bowers, A.J.**, Rodriguez, M. (2014) Attrition Among Teachers of Color: How Racial Congruency is Associated with Retention. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Washington, DC: Nov. 2014.

Bowers, A.J. (2014) Site Selection in District Research: Comparing Measures of Effectiveness Using Hierarchical Longitudinal Growth Models of Performance. A paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA: April 2014.

Bowers, A.J. (2014) Towards Measures of Different and Useful Aspects of Schooling: Why Schools Need Both Teacher Assigned Grades and Standardized Assessments. A paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA: April 2014.

Urick, A., **Bowers, A.J.** (2014) How Teacher and Principal Perceptions Influence Instructional Leadership Internationally: A Multilevel Factor Analysis of TALIS 2008. A paper presented at the annual meeting of the American Educational Research Association, Philadelphia, PA: April 2014.

Pruitt, P.L*., **Bowers, A.J.** (2014) At What Point Do Schools Fail to Meet Adequate Yearly Progress and What Factors are Most Closely Associated with Their Failure? A Survival

Model Analysis. A paper presented at the annual meeting of the Association of Education Finance and Policy, San Antonio, TX: March 2014. http://dx.doi.org/10.7916/D8VQ326P

Bowers, A.J. (2013) Is There a Typology of Teacher Responders to the Comprehensive Assessment of Leadership for Learning (CALL) and Do They Cluster in Different Types of Schools? A Two-Level Latent Class Analysis of CALL Survey Data. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Indianapolis, IN: Nov 2013.

Boyce, J.*, **Bowers, A.J.** (2013) Examining the Evolving Research on Instructional Leadership from 25 years of the Schools and Staffing Survey (SASS). A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Indianapolis, IN: Nov 2013.

San Pedro, M.O., Baker, R.S.J.d, **Bowers, A.J.,** Heffernan, N.T. (2013) Predicting College Enrollment from Student Interaction with an Intelligent Tutoring System in Middle School. A paper presented at the International Conference on Educational Data Mining (EDM) Memphis, TN: July 2013. http://www.educationaldatamining.org/EDM2013/papers/rn_paper_26.pdf

Bowers, A.J., Dbouk, Y.* (2013) Redrawing the Boundaries: A New Visualization of the High School Curriculum Landscape. A paper presented at the annual meeting of the American Educational Research Association (AERA), San Francisco, CA: April 2013.

Bowers, A.J., Boyce, J.* (2013) Does Spending on Instructional Leadership Increase Student Achievement? A Hierarchical Linear Growth Model of Texas School District Spending from 2003-2011. A poster presented at the annual meeting of the Association for Education Finance and Policy (AEFP), New Orleans, LA: March 2013.

Urick, A., **Bowers, A.J.** (2012). The Influence of Typologies of School Leaders on Teacher Retention: A Multilevel Latent Class Analysis. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Denver, CO: Nov 2012.

Ingle, W.K., **Bowers, A.J.**, Davis, T. (2012). Who Qualified for Federal School Facility Funding? Evidence from Ohio. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Denver, CO: Nov 2012.

Davis, T., Ingle, W.K., **Bowers, A.J.** (2012). The Distribution of Federal Funding for School Facilities: Information for School Leaders. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Denver, CO: Nov 2012.

Bowers, A.J., Sprott, R.*, Taff, S.A.* (2012). Do we Know Who Will Drop Out? A Review of the Predictors of Dropping out of High School: Precision, Sensitivity and Specificity. A paper presented at the annual meeting of the American Educational Research Association (AERA), Vancouver, BC: April 2012.

White, B.R., **Bowers, A.J.** (2012). Principal Effects in Illinois. A paper presented at the annual meeting of the American Educational Research Association (AERA), Vancouver, BC: April 2012.

Bowers, A.J., White, B.R. (2012). Do Principal Preparation and Teacher Qualifications Influence Different Types of School Growth Trajectories in Illinois? A Growth Mixture Model Analysis. A paper presented at the annual meeting of the Association for Education Finance and Policy (AEFP) (*formerly AEFA*), Boston, MA: March 2012.

Davis, T., **Bowers, A.J.**, Ingle, W.K. (2012). The Expanded Role in School Facility Funding Under the American Recovery and Reinvestment Act: Evidence from Three States. A

poster presented at the annual meeting of the Association for Education Finance and Policy (AEFP) (*formerly AEFA*), Boston, MA: March 2012.

Urick, A.*, **Bowers, A.J.** (2011). The Influence of Principal Perceptions of Academic Climate on Student Outcomes: A 2-level Hierarchical Linear Model. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Pittsburgh, PA: Nov 2011.

Urick, A.*, **Bowers, A.J.** (2011). Do Different Types of Principals Influence Teacher Retention? A 2-level Latent Class Analysis of Principal's Perceptions of Leadership on Teachers' Decision to Stay, Move or Leave. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Pittsburgh, PA: Nov 2011.

Rodriguez, M., **Bowers, A.J.**, Ingram, W. (2011). The Future of Doctoral Program Delivery: Reflections on the First Year at Distance. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Pittsburgh, PA: Nov 2011.

Bowers, A.J., Sprott, R.A.* (2011). Why 10th Graders Drop Out of High School: A Latent Class Analysis of Dropout Typologies. A paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans, LA: April 2011.

Bowers, A.J. (2011). What's in a Grade? The Multidimensional Nature of What Teacher Assigned Grades Assess in High School. A paper presented at the annual meeting of the American Educational Research Association (AERA), New Orleans, LA: April 2011.

Bowers, A.J., Berland, M. (2011). Does Student Use of Computers for Fun Affect High School Achievement? Examining an Independent Effects Model from a Nationally Representative Sample. A poster presented at the annual meeting of the American Educational Research Association (AERA), New Orleans, LA: April 2011. http://dx.doi.org/10.6084/m9.figshare.679853

Bowers, A.J., Lee, J.* (2011) Carried or Defeated? Examining the Factors that Predict School District Bond Elections in Texas, 1998-2010. A paper presented at the annual meeting of the Association for Education Finance and Policy (AEFP) (*formerly AEFA*), Seattle, WA: March 2011.

Nuñez, A.M., **Bowers, A.J.** (2010). A Multi-level Analysis of High School Student's Enrollment in Hispanic-Serving Institutions. A paper presented at the annual meeting of the Association for the Study of Higher Education (ASHE), Indianapolis, IN: Nov 2010.

Urick, A.*, **Bowers, A.J.** (2010). What Influences Principal Perception of Academic Climate? A Nationally Representative Study of the Direct Effects of Perception on Climate. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), New Orleans, LA: Oct 2010.

Bowers, A.J., Urick, A.* (2010). Does School Facility Quality Affect Student Achievement? A 2-Level Hierarchical Linear Model. A paper presented at the American Education Finance Association (AEFA) annual meeting, Richmond, VA: March 2010.

Bowers, A.J., Sprott, R.* (2009). Discharge or Dropout? The Influence of School-Level Process, Structure and Leadership on Different Typologies of Dropouts. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Anaheim, CA: Nov 2009.

Bowers, A.J. (2009). Analyzing the Longitudinal K-12 Grading Histories of Entire Cohorts of Students for Data Driven Decision Making. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Anaheim, CA: Nov 2009.

Bowers, A.J., Metzger, S.A., Militello, M. (2009). Knowing What Matters: Factors that Predict Passing School District Bonds. A paper presented at the annual meeting of the American Education Finance Association (AEFA), Nashville, TN: March 2009.

Bowers, A.J. (2008). Identification of Effective and Equitable School Districts: Procedures and Pitfalls. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Orlando, FL: Oct 2008.

Bowers, A.J., Murakami, E. (2008). The Research Journal Club: Pedagogy of Research in the Preparation of Doctoral Students. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Orlando, FL: Oct 2008.

Militello, M., **Bowers, A.J.**, Gajda, R.H. (2008). The Impact of Accountability Policies on Principal's Pre-service Preparation and In-service Skills. A paper presented at the annual meeting of the University Council for Educational Administration (UCEA), Orlando, FL: Oct 2008.

Bowers, A.J. (2008). Grades and Data Driven Decision Making: Using Clustering and Student Patterns to Help Drive Decisions. A paper presented at the American Educational Research Association (AERA) annual meeting, New York, NY: March 2008.

Bowers, A.J. (2007). Grades and Data Driven Decision Making: Are Teacher Assigned Grades Useful for Decision Making in Schools? A paper presented at the University Council for Educational Administration (UCEA) annual convention, Washington, DC: Nov 2007.

Bowers, A.J, Metzger S., Militello, M. (2007) Passing and Failing School Bonds: The Urban-Rural Gap in Michigan. A paper presented at the University Council for Educational Administration (UCEA) annual convention, Washington, DC: Nov 2007.

Bowers, A.J. (2007). Grades and Graduation: Using K-12 Longitudinal Cohort Data to Predict On-Time Graduation. A paper presented at the American Educational Research Association (AERA) annual meeting, Chicago, IL: April 2007.

Sykes, G., **Bowers, A.J.**, Printy, S. (2007). "We are Big Red": Community Pride, Leadership and "Success for All" in a Working Class Ohio District. A paper presented at the American Educational Research Association (AERA) annual meeting, Chicago, IL: April 2007.

Bowers, A.J. (2006). District Level Predictors of Achievement: Identification of Effective and Equitable School Districts. A paper presented at the University Council for Educational Administration (UCEA) annual convention, San Antonio, TX: Nov 2006.

Bowers, A.J., Sykes, G. (2006). The Organization of Excellence: A Comparison of District 2 and Good to Great through the Case of a High Performing School District. A paper presented at the American Educational Research Association (AERA) annual meeting, San Francisco, CA: April 2006.

Sykes, G., **Bowers, A.J.** (2006). "We are Big Red": Community Pride, Leadership and "Success for All" in a Working Class Ohio District. A paper presented at the American Educational Research Association (AERA) annual meeting, San Francisco, CA: April 2006.

Militello, M., Metzger S., **Bowers, A.J.** (2006) The High School "Arms Race": Implications of a Market-Choice Policy Environment. A paper presented at the American Educational Research Association (AERA) annual meeting, San Francisco, CA: April 2006.

Bowers, A.J., Scully, S., Boylan, J.F. (2002). The Drosophila Tribbles Ortholog, SKIP3, is Overexpressed in Multiple Primary Human Tumors and is Associated with the Proteolysis of CREB2. Proceedings of the 2002 American Association of Cancer Research (AACR), San Francisco, CA.

Bush, T., **Bowers A.J.**, Boylan, J.F. (2001). Utilizing the M24met Melanoma Model to Identify Gene Expression Differences During Metastasis. Special meeting of the American Association of Cancer Research (AACR), Miami, Fl.

Bowers, A.J., Stanton R., Boylan, J.F. (2000). Identification of Differentially Expressed mRNAs in Moderately Differentiated Human Squamous Cell Carcinomas. Proceedings of the 2000 American Association of Cancer Research (AACR), San Francisco, CA

Invited Presentations, Panels, & Sessions:

2024
- Applying Visual Data Analytics with Cluster Analysis Heatmaps to Large Education Datasets. Invited speaker for the Advanced Studies of National Databases (ASOND) Special Interest Group (SIG) business meeting for the American Educational Research Association (AERA) annual meeting. Philadelphia PA: April 2024.
- Education Leadership Data Analytics (ELDA). University of Texas at Austin, Austin TX: Jan 2024.

2023
- Education Leadership Data Analytics (ELDA). University of Oregon, Eugene OR: Nov 2023.
- Education Leadership Data Analytics: How Data Visualization, AI, Pattern Analytics, and Data Science can Inform Evidence-Based Improvement Cycles. Education Leadership Data Analytics (ELDA) 2023 Conference. New York, NY: June 2023. https://doi.org/10.7916/prwv-hf12
- Education Data Science and Data Visualization in Education Leadership: Dashboards, Analytics, and Evidence-Based Improvement Cycles. Digital Society Institute, University of Twente, Enschede, The Netherlands: May 2023.
- Leading with Evidence and Data in Schools: How Data Visualization, AI, Pattern Analytics, and Data Science can Inform Evidence-Based Improvement Cycles. Digital Society Institute, University of Twente, Enschede, The Netherlands: May 2023.
- Data Visualization and Data Science in Applied Settings. The ICO International Spring School, The Interuniversity Centre for Educational Sciences in the Netherlands and Belgium, Blankenberge, Belgium: May, 2023. https://sites.google.com/view/ico-iss2023/workshops
- Unpacking the Caveats of ChatGPT in Education: Addressing Bias, Representation, Authorship, and Plagiarism. Teachers College, Columbia University Data Science and Education Association (DSEA): March 2023 https://doi.org/10.7916/6q72-hm22

2022
- AI Image Generation with Stable Diffusion. Data Science and Education Association, Teachers College, Columbia University: Oct 2022. https://doi.org/10.7916/symt-n962
- Hierarchical Cluster Analysis Heatmaps in R Application and Methods for Education Research. Learning Analytics Summer Institute (online): June 2022. https://www.solaresearch.org/events/lasi/lasi22/workshops-tutorials/

- Leading with Evidence and Data in Schools: How Data Visualization, AI, Pattern Analytics, and Data Science can Inform Resource Allocation and Evidence-Based Improvement Cycles. University of Wisconsin-Madison, Madison WI: Feb 2022.
- What kind of research questions can you ask and answer with publicly available data? Winter Workshop for Harvard Strategic Data Project (SDP) Fellows. Center for Education Policy Research (CEPR), Harvard University (online): Feb 2022.
- Leading with Evidence and Data in Schools: How Data Visualization, AI, Pattern Analytics, and Data Science can Inform Evidence-Based Improvement Cycles. Lower Hudson Regional Information Center (LHRIC) (online): Jan 2022. https://ensemble.lhric.org/hapi/v1/contents/permalinks/p5A3DdJf/view
- Early Warning Systems and Indicators of Dropping Out of Upper Secondary School: The Emerging Role of Digital Technologies. 2022 Global Human Engagement Conference, Department of Education, 중앙대학교 (Chung-Ang University), Seoul, South Korea (online): Jan 2022. https://youtu.be/eAdKQSLye6U?t=5208

2021
- Data Analytics in Education - The 4A's: Accurate, Accessible, Actionable, Accountable. Annual meeting of the League of Innovative Schools. Washington, DC: Oct 2021.
- Leading with Evidence and Data in Schools: Data and Research Evidence. BI Norwegian Business School. Oslo Norway: Oct 2021.
- Leading with Evidence and Data in Schools: How Visualization, Pattern Analytics and Data Science can Inform Organizational Improvement. Data Analysis Technical Assistance Group (DATAG). Saratoga Springs, NY: July 2021. https://datag.org/2021-conferences/summer-conference-2021
- Hierarchical Cluster Analysis Heatmap in R Tutorial. Learning Analytics Summer Institute (LASI) Society for Learning Analytics Research (SOLAR). (online). https://www.solaresearch.org/events/lasi/lasi21/workshops-tutorials/
- Early Warning Systems and Indicators of Dropping out of Upper Secondary School: The Emerging Role of Digital Technologies. Session: Improving Educational Equity and Inclusion with Technology, OECD Conference on Digital Education for a Strong Recovery. (online). https://youtu.be/EVKjXVZ4IB0?t=1198
- K-12 Early Warning Systems and Decision Making in Education: Considering Issues of Algorithmic Accuracy and Openness. Association for the Advancement of Artificial Intelligence (AAAI) Conference workshop Artificial Intelligence for Education. (online). https://youtu.be/Hj7vWt6-OeY

2020
- Education Leadership Data Analytics: Education Leadership, Data Science, and Evidence-based Improvement Cycles in Schools. Data Analysis Technical Assistance Group (DATAG). Albany, NY: March 2020. https://datag.org/images/DATAG_2020_March_Meeting_Schedule_8.5X14_official_proof.pdf
- Algorithmic Openness in Data Intensive Education Analytics: K-12 Early Warning Systems, Prediction, Accuracy, and Visual Data Analytics. Association for the Advancement of Artificial Intelligence (AAAI) Conference workshop Artificial

Intelligence for Education. New York, NY: Feb 2020.
http://www.cse.msu.edu/~wangzh65/AI4EDU/index.html

2019
- Current Issues of Research and Practice in School Leadership Preparation: A Research Memo. AERA-UCEA conference on Advancing Knowledge about University Contributions to Professional Learning in Educational Leadership. Washington, DC: November 2019.
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. Penn Center for Learning Analytics, University of Pennsylvania, Philadelphia, PA: October 2019.
- Big Data, Analytics, Gaming and Learning. A symposium presented at the Play Make Learn conference, Madison, WI: August 2019.
- Is there a Typology of Teacher and Leader Responses to TALIS 2018 for Leadership for Learning? Examining the Alignment (or Misalignment) of Educator Perceptions of School Leadership using Two-Level Latent Class Analysis. OECD, Paris France: July 2019.
- Education Leadership Data Analytics (ELDA): Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. OECD, Paris France: May 2019.
- Introduction to Latent Class Analysis and Application to the TALIS Data (Teaching and Learning International Survey). OECD, Paris France: May 2019.
- Current Research and Findings in Education Leadership. OECD, Paris France: May 2019.
- Education Leadership Data Analytics (ELDA): Application of Data Science Analytics to School Leadership Research, Policy, and Practice. University of Hong Kong, Hong Kong SAR China: Jan 2019 https://web.edu.hku.hk/event/detail-page/education-leadership-data-analytics

2018
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. University of Wisconsin-Madison, Madison WI: Oct 2018.
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. The Ohio State University, Columbus OH: Oct 2018.
- Education Leadership Data Analytics: Introducing ELDA. Education Leadership Data Analytics Summit 2018. Teachers College, Columbia University. New York, NY: June 2018. https://t.co/KKdjn8iCmV
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. Teachers College, Columbia University New Orleans Summer Principals Academy, New Orleans, LA: June 2018. http://teacherscollegecollaborative.org/2018/05/10/evening-book-talk-education-leadership-data-analytics-june-18/
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. BI Norwegian Business School, Oslo Norway: April 2018.

- Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. Jeannine Rainbolt College of Education Endowed Lectureship, The University of Oklahoma. Norman, OK: March 2018. https://youtu.be/mSufq5yhidg?t=1833
- Examining School Leadership as a Congruency – Typology to Inform Teacher and Leader Practice. Jeannine Rainbolt College of Education Endowed Lectureship, The University of Oklahoma. Norman, OK: March 2018. https://youtu.be/3dWufe85vPU?t=1705
- Data Analytics Workshop – Cluster Analysis Heatmaps and Latent Class Analysis. Jeannine Rainbolt College of Education Endowed Lectureship, The University of Oklahoma. Norman, OK: March 2018.
- Education Leadership Data Analytics: Using Data Science, Visual Data Analytics, and Evidence-Based Improvement Cycles to Inform School Improvement. Michigan State University, E. Lansing, MI, January 2018.

2017
- Education Leadership and Data Analytics: Using Big Data Education Analytics to Inform Evidence-Based School Decision Making. 中国人民大学 (Renmin University of China), Beijing China, June 2017.
- Education Leadership and Data Analytics: Using Big Data Education Analytics to Inform Evidence-Based School Decision Making. Beijing Haidian Teachers Training College, Beijing China, June 2017.
- How to Use Big Educational Data to Support Schools to Make Decisions Based on Evidence. 北京大学 (Peking University), Beijing China, June 2017.
- Examining School Leadership as a Congruency-Typology to Improve Teacher and Leader Collaboration and Practice. 北京师范大学 (Beijing Normal University), Beijing China, June 2017.
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Decision Making in Schools. University of Hong Kong, Hong Kong SAR China, June 2017. http://web.edu.hku.hk/f/event/4224/AJB%20-%2020170606.pdf
- Examining School Leadership as a Congruency-Typology to Inform Teacher and Leader Practice. University of Hong Kong, Hong Kong SAR China, June 2017.
- CSNYC Knowledge Forum Interaction - Using Logic Models and Fishbone Diagrams to Generate Next Phase CS4ALL Priorities. CSNYC, New York, NY: April 2017. In collaboration with Kenneth Graves.
- What Kind of Research Questions Can You Ask and Answer with Publically Available Data? Harvard University Center for Education Policy Research Strategic Data Project (SDP). Portland OR: February: 2017.
- Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Improvement Cycles in Schools. University of Pennsylvania, Philadelphia, PA: January 2017.

2016

- Big Data in Education Leadership with Application to HR Strategies. Caterpillar Inc., Webinar: Oct 2016.
- Organization-Level Data Analytics in Education Leadership: From the School Principal Pipeline to District Performance. Education Northwest, Portland, OR: August 2016.
- Identifying School Principal Leadership Types: Applying Latent Class Analysis (LCA) to Large Education Datasets. Politecnico di Milano (Polytechnic University of Milan), Milan, Italy: June 2016.
- Using Big Data to Investigate Longitudinal Education Outcomes through Visual Analytics. A poster presentation at the National Science Foundation (NSF) Big Data Principal Investigators meeting, Washington DC: April 2016.
- Educational Leadership and Organization-Level Data Analytics: Informing K-12 School and District Administration and Decision Making through "Big Data" Analytics. Michigan State University, East Lansing MI: February 2016.
- Organization-Level Data Analytics: How Data Science can Inform K-12 School Leadership Evidence-Based Improvement Cycles. Data X Initiative, Lehigh University, Bethlehem PA: January 2016. http://coe.lehigh.edu/events/datax-speakers-series-how-data-science-can-inform-k-12-school-leadership
- Educational Leadership and Organization-Level Data Analytics: Informing K-12 School and District Leadership Policy and Decision Making through "Big Data" Analytics. Indiana University, Bloomington IN: January 2016.

2015
- Getting Started with Cluster Analysis Heatmaps. Complex Play Lab, Play Data Consortium, Chicago IL: December, 2015.
- Applying Organization-Level Data Analytics to Inform Evidence-Based Improvement in Schools and Districts. Education-Northwest, Portland, OR: September 2015.
- Longitudinal Data Analytics for Organizational School Improvement and Evidence-Based Practice. IBM Watson Research Center, Yorktown Heights, NY: July 2015
- Preparing and Retaining Great School Leaders. Harvard University Center for Education Policy Research Strategic Data Project (SDP). A roundtable discussion presented at the SDP annual convening, Boston MA: May 2015.
- Using Predictive Analytics to Assess Data Accuracy and Improve Student Outcomes. Harvard University Center for Education Policy Research Strategic Data Project (SDP). Webinar for the Strategic Data Project, (online): April 2015.
- Honest Data Reporting and Predictor Accuracy: Refining Predictive Analytics to Improve Outcomes. Harvard University Center for Education Policy Research Strategic Data Project (SDP). Webinar for the Strategic Data Project (online): March 2015.

2014
- How Data Can Drive Decisions, Improve Student Outcomes and Reduce Dropout Rates – Keynote Address at Nassau County BOCES Inter-District Instructional Data Warehouse Superintendent Launch Conference, Garden City, NY: Nov. 2014.
- Longitudinal Data Systems for Evidence-Based Practice. A presentation for Michigan State University to a delegation of England school network heads and CEOs, New York, NY: Oct 2014.

- Informing Evidence-Based Practice in Schools through Education Leadership Data Analytics. SRI International, Menlo Park CA: Oct 2014.
- Longitudinal Data Analysis in Education Decision Making. City University of New York (CUNY) Data Mining Initiative, New York, NY: Sept 2014.
- Facilitating Evidence-Based Practice through Data Analytic Dashboards. Nassau County Board of Cooperative Educational Services, Garden City, NY: Sept 2014.
- Big Data in Education: Data Analytics for Stakeholder Empowerment. Harvard University Center for Education Policy Research Strategic Data Project (SDP). Boston, MA: April 2014.
- Intensive Longitudinal Data Analysis and Visual Data Analytics of Student, Teachers and Leader Data for Decision Making in Schools. A research seminar for the EdLab at Teachers College, Columbia University. New York, NY: Feb 2014. http://vialogues.com/vialogues/play/13673
- Using Data Visualization as a Tool for Honest Data Reporting. Strategic Data Project, Harvard University Center for Education Policy Research. Seattle, WA: Jan 2014.
- Pattern Analysis and Data Visualization of User Data to Understand Latent Grouping Structures. An invited talk presented to the meeting of the education Play Data Consortium (PDC), co-sponsored by the University of Wisconsin-Madison Games Learning and Society (GLS), and the National Science Foundation (NSF). Madison, WI. Jan 2014.

2013
- Survey Design: Challenges and Opportunities. Strategic Data Project, Harvard University Center for Education Policy Research. New York, NY: Aug 2013.
- Pattern Analysis and Data Visualization of Student Data for Decision Making. A research seminar presented for the Learning Analytics Seminars at Teachers College, Columbia University, New York, NY: Feb 2013. http://dx.doi.org/10.6084/m9.figshare.654053

2012
- Toward Effective and Efficient School Districts: Facility Finance, Resource Management, and Data Driven Decision Making. A research seminar presented for the Department of Educational Leadership and Policy Analysis at the University of Wisconsin-Madison, Madison, WI: Jan 2012. http://dx.doi.org/10.6084/m9.figshare.679400

Professional Service:

National/Global:
Panels and Committees:

2014-present	Faculty Advisor to the Harvard University Strategic Data Project (SDP) Center for Education Policy and Research (CEPR). https://cepr.harvard.edu/people/alex-j-bowers
2016-present	Board of Trustees: Community Systems Foundation (CSF) http://www.communitysystemsfoundation.org/index.html
2023-present	Spencer Foundation Transformative Research Task Force Member

2024-present	Teachers College, Columbia University Plenary Session Representative (PSR) to UCEA (University Council for Educational Administration).
2022-2025	SEERnet Advisory Board Member, Digital Promise and the Institute of Education Sciences, US Department of Education. https://seernet.org/
2017-2021	Technical Working Group (TWG) Regional Education Laboratory – Northwest (REL-NW)
2017-2019	Technical Working Group (TWG) Regional Educational Laboratory (REL) Appalachia (REL-Appalachia)
2013-2019	Founding Member and Research Advisory Board Member of the Learning Games Play Data Consortium, University of Wisconsin-Madison.
2014-2018	Analytics for Learning (A4L) Community Faculty Member.
2015-2018	Senior Faculty Advisor to the NSF Data Consortium Fellows: A Mentorship Program to Expand the Cyberlearning Data Analytics Community. http://www.nsf.gov/awardsearch/showAward?AWD_ID=1549112
2013-2017	AERA (American Educational Research Association) Districts in Research and Reform Special Interest Group (SIG) Executive Committee Member.
2015-2017	Co-Chair AERA (American Educational Research Association) Districts in Research and Reform Special Interest Group (SIG) (elected position).
2016-2017	Research Advisory Board Member: Teach For All Global School Leadership Development Initiative.
2016	Innovation and Entrepreneurship Fellow, Columbia Business School, Columbia University.
2012-2013	Annual Meeting Program Chair - AERA (American Educational Research Association) Division A (Administration, Organization and Leadership) 2013.
2010-2012	UTSA Plenary Session Representative (PSR) to UCEA (University Council for Educational Administration).
2010-2011	Annual Meeting Section Chair - AERA (American Educational Research Association) Division A (Administration, Organization and Leadership) 2011 annual meeting– Section 2, School organization and effects.

Courtesy Faculty Appointments:

2012-2018	Graduate Faculty Special Appointment – The University of Texas at San Antonio UTSA), San Antonio, TX. Courtesy faculty appointment in the Department of Educational Leadership and Policy Studies.

Research and Peer-Review Advisory:

2019	University of Hong Kong, Centre for Education Leadership
2017-2019	Frontier Signal, Inc.
2018	South Africa National Research Foundation (NRF)
2018	Consortium for Applied Studies in Jewish Education

Journal Editorship:

2020-present	Associate Editor: *Educational Administration Quarterly* (EAQ) https://journals.sagepub.com/editorial-board/EAQ

Journal Editorial Boards:
2020-present   *American Educational Research Journal* (AERJ)
2009-present   *Educational Administration Quarterly* (EAQ)
2017-2019   *Educational Evaluation and Policy Analysis* (EEPA)
2015-2017   *Education and Urban Society*
2018-present   *Journal of Educational Administration* (JEA)
2011-present   *Journal of Education Finance* (JEF)
2020-present   *Journal of Education for Students Placed at Risk* (JESPAR)
2016-2018   *Journal of Research on Organization in Education* (JROE)
2020-2023   *Leadership and Policy in Schools* (LPS)

Journal Manuscript Reviewer:
2015-2024   *AERA Open*
2023   *Annals of GIS*
2014-2017   *Asia Pacific Education Review* (APER)
2007-2024   *American Educational Research Journal* (AERJ)
2015-2020   *American Journal of Education* (AJE)
2016-2017   *British Journal of Educational Psychology* (BJEP)
2022   *Cambridge Journal of Education*
2016   *Cultura y Educación*
2009-2023   *Educational Administration Quarterly* (EAQ)
2014-2021   *Educational Assessment*
2013-2016   *Educational Assessment, Evaluation and Accountability* (EAEA)
2013-2023   *Educational Evaluation and Policy Analysis* (EEPA)
2013   *Education Finance and Policy* (EF&P)
2020   *Educational Management Administration & Leadership* (EMAL)
2008-2021   *Educational Policy*
2010,2020   *Education Policy Analysis Archives* (EPAA)
2022   *Educational and Psychological Measurement*
2015-2024   *Educational Researcher* (ER)
2021   *Educational Review*
2020   *Educational Research for Policy and Practice* (ERPP)
2013   *Equity and Excellence in Education*
2015-2016   *Education and Urban Society*
2012,2015   *The High School Journal*
2015   *IBM Journal of Research and Development*
2021   *IEEE Transactions on Artificial Intelligence*
2015-2021   *International Journal of Leadership in Education*
2020   *International Journal of Educational Technology in Higher Education* (IJETHE)
2015   *Journal of Adolescence*
2022   *Journal of Broadcasting & Electronic Media*
2012-2024   *Journal of Educational Administration* (JEA)
2016   *Journal of Educational Change*
2013-2017   *Journal of Education Data Mining* (JEDM)
2011-2024   *Journal of Education Finance* (JEF)
2020   *Journal of Education Human Resources* (JEHR)

2017	*Journal of Education Policy*
2011,2016	*Journal of Educational Psychology*
2015-2024	*Journal of Education for Students Placed At Risk* (JESPAR)
2022	*Journal of Educational Technology Systems*
2019	*Journal of Policy Analysis and Management*
2015-2018	*Journal of Public Administration and Policy*
2015-2018	*Journal of Public Administration Research and Theory* (JPART)
2024	*Journal of Research on Adolescence*
2022-2023	*Journal of Research on Educational Effectiveness* (JREE)
2017	*Journal of Research on Leadership Education* (JRLE)
2016-2017	*Journal of Research in Organization and Education* (JROE)
2021	*Journal of Research in Science Teaching* (JRST)
2010-2024	*Journal of School Leadership*
2021	*Journal of Science Education and Technology* (JOST)
2009-2023	*Leadership and Policy in Schools* (LPS)
2014	*Learning and Individual Differences*
2022	*Oxford Review of Education*
2015	*Pediatrics*
2012,2020	*Public Administration Review*
2017-2018	*Public Budgeting and Finance*
2013-2024	*Review of Educational Research* (RER)
2011-2012	*Review of Higher Education*
2014-2023	*Teachers College Record*
2018-2023	*The High School Journal*
2023	*Scandinavian Journal of Educational Research*
2015-2024	*School Effectiveness and School Improvement* (SESI)
2014-2023	*School Leadership & Management*
2019-2021	*Science Education*
2014-2015	*Social Currents*
2012-2019	*Sociology of Education*
2015	*South African Journal of Education*
2010-2014	*Urban Education*

Edited Book Manuscript Reviewer:

2011	*International Research on the Changing Nature of Instructional Leadership*
2010	*International Research on Assistant/Vice Principals*
2009	*International Research on New Principals*

Book Proposal Reviewer:

2012-2018	Routledge
2011	SAGE publications
2011	Teachers College Press

Grant Reviewer:

2022	Swiss National Science Foundation
2019	U.S. Dept of Education Institute of Education Sciences (IES) review panel member for Statewide Longitudinal Data Systems (SLDS) (CFDA 84.372)
2018	Israel Science Foundation individual grants program reviewer.
2016-2017	U.S. Dept of Education Institute of Education Sciences (IES) review panel – *Ad hoc* reviewer
2015	National Science Foundation (NSF) – *Ad hoc* reviewer.
2014-2015	U.S. Dept of Education Institute of Education Sciences (IES) review panel member for Improving Education Systems: Policies, Organization, Management, and Leadership topic, and the Postsecondary and Adult Education topic (NCER; Education Research Grants RFA, CFDA Number 84.305A)
2013	Social Sciences and Humanities Research Council of Canada, Insight Program
2010	U.S. Dept. of Education – School Leadership Program, CFDA 84.363A

Conference Proposal Reviewer:

2006-2025	AERA Division A (Administration)
2007-2008	AERA Division D (Methods)
2007-2025	AERA Division L (Policy)
2009-2023	AERA SIG: Fiscal Issues, Policy, and Education Finance
2011,2014	AERA SIG: Sociology of Education
2019-2023	AERA SIG: Data Driven Decision Making
2008-2023	AERA SIG: Districts in Research and Reform
2008	AERA SIG: Longitudinal Studies
2016-2024	International Conference on Educational Data Mining (EDM)
2006-2024	UCEA (University Council for Educational Administration)

Professional Conference Service:

2019-2024	Senior Member of the Program Committee: International Conference on Educational Data Mining (EDM). Meta-reviewer and discussion leader for conference proposal reviews.
2023	Learning Analytics and Knowledge Conference LAK. Practitioner Track Program Committee Member.
2014-2017	Chair of the Outstanding Dissertation Award Committee for the AERA Districts in Research and Reform Special Interest Group (SIG)
2015-2016	Chair of the Outstanding Book, Article or Policy Report Award Committee for the AERA Districts in Research and Reform Special Interest Group (SIG)
2014-2015	AERA Division L (Policy) Outstanding Policy Report committee member. - American Educational Research Association (AERA)
2013	UCEA 2013 Jack A. Culbertson Award selection committee member - University Council for Educational Administration (UCEA).
2013	AERA Division L (Policy) dissertation of the year award committee member. - American Educational Research Association (AERA)
2006-2016	AERA– Annual conference session chair or discussant (multiple sessions) American Educational Research Association (AERA)

2006-2015	UCEA - Annual conference session chair or discussant (multiple sessions) - University Council for Educational Administration (UCEA).
2011-2013	AEFP– Annual conference session chair or discussant - Association of Education Finance and Policy (AEFP)
2006-2007	AERA Graduate Student Council Website Secretary – American Educational Research Association (AERA) – Website secretary for the AERA graduate student council (GSC).
2007	UCEA Clark Seminar Planning Committee – University Council for Educational Administration (UCEA) – Planning committee member for the annual UCEA David L. Clark national graduation student research seminar.
2005-2006	Senior Graduate Student Council Representative – Division A (Administration), American Educational Research Association (AERA) – Lead graduate student for all Division A graduate student outreach programs.
2004-2005	Junior Graduate Student Council Representative – Division A (Administration), American Educational Research Association (AERA) – Assisted in outreach and networking programs for educational administration graduate students through AERA.

Mentoring Service:

2021-2024	UCEA Faculty Mentoring Program mentor.
2016-2023	UCEA Early Career Mentoring Seminar, speaker, panelist, mentor.
2014-2022	Faculty mentor to the David L. Clark National Graduate Student Research Seminar in Educational Leadership, AERA Division A, Division L and UCEA.
2011-2020	UCEA (University Council for Educational Administration) Barbara L. Jackson Scholars mentor.
2012-2020	William L. Boyd National Educational Politics Workshop (Boyd NEPW) mentor.
2016-2019	AERA Division A Early Career Mentoring Seminar, mentor and speaker.
2017	Faculty mentor to the Fordham University Research Fellow at Columbia University program.

University Service:

Columbia University:

2022-present	Faculty Affiliate, Data Science Institute (DSI), Columbia University. https://datascience.columbia.edu/people/alex-bowers/
2013-present	Columbia University Graduate School of Arts and Sciences (GSAS) Faculty Member at Large. http://gsas.columbia.edu/dissertation-sponsors#educ

UTSA:

2010-2012	Institutional Review Board (IRB) Member.

College Service:

Teachers College, Columbia University:

2022-present   Faculty Research Advisory Committee member.

2021-present   Faculty Advisor to the student Data Science and Education Association (DSEA).

2020-2024   Individual Faculty Pre-Tenure Mentoring Committee member. Committee Chair 2022-2023.

2017-2023   Faculty Salary Committee – Committee Chair 2022-2023; Committee member, 2017-2018 & 2019-2023.

2020-2021   Teachers College Student Program Fulbright Faculty Review Committee.

2014-2018   Library Advisory Committee – Committee member. Advisory seminar committee in conjunction with the Trustee Committee on the Library.

2013-2018   Committee on the EdD. - Committee member.

2013-2016   Institutional Review Board (IRB) Board Member. Member of Teachers College IRB committee reviewing college-wide IRB applications and attending the monthly board meetings as a voting member.

2014-2015   Dean's Dissertation Research Fellowship Review and Selection Committee.

2014-2015   Institutional Review Board (IRB) summer semester review subcommittee.

2015   Panel member on the Panel on Grant Reviews, a panel seminar discussion sponsored by the Office of the Provost and the TC Senior Advisor for Research and Development.

2015   Panel member: Demystifying the IRB: A Very Important Session for All Doctoral Candidates, a panel seminar discussion sponsored by the Office for Diversity and Community Affairs.

2014   Office of Sponsored Projects (OSP) technology review sub-committee. Reviewed OSP software vendor presentations for college-wide implementation to streamline OSP form routing and submission processes.

2013   Technology Review Panel Member for Institutional Review Board (IRB). Reviewed IRB software for college-wide implementation to streamline IRB processes.

UTSA College of Education and Human Development (COEHD):

2010-2012   COEHD ELPS College Council Representative.

2011-2012   Co-chair of the COEHD College Council subcommittee for faculty forums.

2010-2011   Parliamentarian COEHD College Council (Elected position).

2010-2011   Co-chair of the COEHD College Council subcommittee for the second annual COEHD student research colloquium.

2007-2009   COEHD Information Technology Committee Member – Liaison between the university IT department and my department, collecting, discussing and disseminating IT information about new technology and university and college-wide technology decisions.

2008-2009   Commencement Faculty Marshal – Commencement ceremony marshal during the spring 2008 university commencement.

2007   COEHD Information Technology Hiring Committee Member.

Departmental/Program Service:

Teachers College Department of Organization and Leadership (O&L):
2024-present   Program Director: PhD in Education Leadership
2013-present   Academic Review Committee (ARC) Member; Chair 2022-2024.
2013-present   Ph.D. in Education Leadership Program Committee Member.
2020-2024   Education Leadership PhD Program Faculty Committee Chair.
2015-2016   Education Leadership Faculty Hiring Committee Member.
2013-2015   Founder and Faculty Advisor - Education Leadership Research Journal Club.
2013-2015   Urban Education Leadership Program (UELP) Programs Task Force Member.
2013-2015   Education Leadership Research Journal Club Presenter.
2013-2014   Education Leadership Faculty Hiring Committee Member.

UTSA Department of Educational Leadership and Policy Studies (ELPS):
2008-2012   Chair of the ELPS Distance Instructional Tele-Presence Technology Committee.
2010-2011   Participant and Facilitator for the annual ELPS School Leadership Resume Writing/Interview workshop.
2007-2010   Co-founder and Co-Faculty Advisor of the ELPS Journal Club.
2007-2012   Masters of Education Program Committee Member.
2008-2009   ELPS Faculty Search Committee Member.
2007-2012   Masters Comprehensive Exam Scoring Committee - Participated in creating a rubric and scoring the school-community leadership section of the department's K-12 masters in Educational Leadership comprehensive examination.
2008-2009   ELPS Merit Review Committee Member – Member of the departmental merit review committee to review faculty performance across the department for the 2008 calendar year for merit review in the areas of research, teaching and service.
2007-2008   ELPS Faculty Retreat Planning Committee Member.
2008-2011   ELPS Journal Club Presenter.

Associations:

AERA (American Educational Research Association)
 Division A (Administration Organization and Leadership)
 Division D (Measurement and Research Methodology)
 Division L (Education Policy and Politics)
AERA Special Interest Groups (SIGs):
 Data Driven Decision Making
 Districts in Research and Reform
 Advanced Studies of National Databases
 Fiscal Issues, Policy and Education Finance
 Leadership for School Improvement
 Learning and Teaching in Educational Leadership
 Longitudinal Studies
 Multilevel Modeling

Research on the Superintendency
Sociology of Education
Supervision and Instructional Leadership
AEFP (Association for Education and Finance and Policy) (*formerly AEFA*)
ASCD (Association for Supervision and Curriculum Development)
ASBO (Association of School Business Officials)

Dissertation and Graduate Advising:

Primary Doctoral Student Faculty Advisor and Sponsor for Completed Dissertations:

2022   Jordan Grant (TC) EdD - *How School Leaders Support Teacher Data Use: A Case Study of How School Leaders in New York State Support Teachers' Use of State, School, and Classroom Data.* https://doi.org/10.7916/kdqv-yt96

2020   Margaret Freeman (TC) EdD - *The Difference in Distributed Principal Leadership Practices According to the Comprehensive Assessment of Leadership for Learning.* https://doi.org/10.7916/d8-h8q1-4z77

2019   Kenneth E. Graves (TC) PhD - *Disrupting the Digital Norm in the New Digital Divide: Toward a Conceptual and Empirical Framework of Technology Leadership for Social Justice Through Multilevel Latent Class Analysis.* https://doi.org/10.7916/d8-7t3y-xt66
   - AERA Dissertation Research Grant awardee (2016)
   - Awarded the 2020 AERA Advanced Studies of National Databases (ASOND) SIG Dissertation award

2019   Joyce Highhouse (TC) EdD - *Understanding the Public School District Superintendent.*

2015   Jared Boyce (TC) PhD – *Commitment and Leadership: What We Know From the Schools and Staffing Survey.* http://dx.doi.org/10.7916/D8571B0H
   - Awarded the 2016 Emerald/EFMD Outstanding Doctoral Research Award in Education and Leadership Strategy, *Journal of Educational Administration https://emeraldgrouppublishing.com/archived/research/awards/pastodras.htm*
   - Awarded the 2016 Outstanding Dissertation Award from the American Educational Research Association's (AERA) Advanced Studies of National Databases (ASOND) Special Interest Group (SIG)

2015   Justin Barbaro (TC) PhD – *Desire for a New Challenge? Developing and Testing a Model of Headship Transitions in International Schools.* http://dx.doi.org/10.7916/D8B56HSN

2012   Angela Urick (UTSA) EdD – *To What Extent Do Typologies of School Leaders Across the U.S. Predict Teacher Attrition? A Multilevel Latent Class Analysis of Principals and Teachers.* http://eric.ed.gov/?id=ED541342
   - Awarded the 2012 Emerald/EFMD International Outstanding Doctoral Research award for the *Journal of Educational Administration*
   - Awarded the 2012 American Educational Research Association (AERA) Leadership for School Improvement (LSI) Special Interest Group (SIG) dissertation of the year award.

Dissertation Committees (Non-Advisor) for Completed Dissertations:

2023   Paul Adler (TC) EdD - *Inside or Outside the Frame? White Principals: Connections Between Racial Identity & Practice* (2nd Reader).

2023   Rachel Harari (TC) PhD - *The Silent Leaders of Schools: An Exploratory Case Study of High School Department Chairs in Modern Orthodox Yeshivas* (2nd Reader) https://doi.org/10.7916/zree-ej46

2023   Mai Naji (University of Toronto) EdD - *The Role of Non-Academic (Soft) Skills in Student Transition to Postsecondary Education: A Mixed Methods Study* (External reader).

2023   Rabin Nickens (TC) EdD - *An Examination of Urban Education Leadership in the Time of COVID-19.* (2nd reader).

2022   Karin Gegenheimer (Vanderbilt University) PhD - *Identifying High-Quality Feedback Using Automated Text Classification: An Examination of Principals' Written Feedback in a Statewide Evaluation System* (External reader).

2021   Luronne Vaval (TC) PhD - *Is it as Straightforward as it Seems? Examining STEM Persistence through the Career Aspiration Histories of High School Students* (2nd Reader). https://doi.org/10.7916/d8-cf3c-hg27
- AERA Dissertation Research Grant awardee (2019)

2021   Megan Duff (TC) PhD - *A Detour in School Improvement Journeys: A Mixed Methods Analysis of School Change During the COVID-19 Pandemic* (2nd Reader) https://doi.org/10.7916/d8-9sh2-en53

2021   Joonkil Ahn (UI) PhD - *Leadership for Learning and Teacher Self-Efficacy as the Antecedents of Teacher Collaboration, Instructional Quality, Intended Turnover, and Equitable Teaching Practice. University of Illinois at Urbana-Champaign* (2nd Reader)

2021   Jihae Cha (TC) EdD - *School Persistence and Dropout Amidst Displacement: The Experiences of Children and Youth in Kakuma Refugee Camp* (4th Reader)

2021   Chad Coleman (TC) PhD - *Exploring a Generalizable Machine Learned Solution for Early Prediction of Student At-Risk Status* (2nd Reader). https://doi.org/10.7916/d8-5scb-n214

2021   Linh Doan (TC) PhD - *Understanding Academic Dishonesty as a Social Process; Understanding Cheating in Vietnamese High Schools* (4th Reader)

2021   Shu-Yi Hsu (TC) EdD - *An Experimantal Study of Self-Regulated Learning Strategies Application in MOOCs* (3rd Reader) https://doi.org/10.7916/d8-k2g6-5q04

2020   Christy Joswick-O'Connor (TC) PhD – *A Longitudinal Developmentally Intentional Leadership Institute for Teacher Leaders: A Case Study of the Experiences of 13 Teacher Leaders* (3rd Reader). https://doi.org/10.7916/d8-2rgj-py80

2020   Derek Kanarek (TC) PhD – *The Practice of Learning-Oriented Teacher Leadership: A Qualitative 360-Degree Interview Study of Teacher Leaders and Their Colleagues* (4th Reader). https://doi.org/10.7916/d8-gjy4-a755

2020   Kristen Larsen (TC) EdD – *Forming Science Teacher Identity: The Role That Identity Plays in Designing Learning Goals and Classroom-based Formative Assessments* (4th Reader).

2020   Melisa Morales (TC) PhD – *School-Entry Age Policies in Developing Countries* (5th Reader).

2019   Aaron Hawn (TC) PhD – *Data-wary, School-Driven: Exploring Attitudes, Efficacy, and Online Access for Data-Based Decision Making* (2nd Reader). https://doi.org/10.7916/d8-8yme-sb59

2018   Xinyu Ni (TC) EdD – *What Influences School District Effectiveness Growth Trajectories? A Growth Mixture Modeling (GMM) Analysis* (2nd Reader). https://doi.org/10.7916/d8-e4m9-yz57

2018   David Nitkin (TC) PhD - *Technology-Based Personalization: Instructional Reform in Five Public Schools* (2nd Reader) https://doi.org/10.7916/D8QZ3TC6

2018   Chelsey Saunders (TC) PhD - *How to Teach, Lead, and Live Well: A Qualitative In-Depth Interview Study with Eight North Carolina Teacher-Leaders Who Flourish* (3rd Reader) https://doi.org/10.7916/D8JW9X84

2018   Brian Mitra (TC) EdD - *A Case Study of Students Who Transfer from: Four-Year Institutions to Community College: Experiences and Learned Navigational* (4th reader)

2018   George Padilla (TC) EdD - *Campus Safety in Colleges and Universities in the United States* (2nd Reader)

2017   Lara Pheatt (TC) PhD – *The Pursuit of Profit or Prestige: What the Diffusion of MOOCs Can Tell Us about Disruptive Innovation in US Higher Education* (3rd Reader) https://doi.org/10.7916/D8WD4BV3

2017   Penny Pruitt (UTSA) EdD - *At What Point do Schools Fail to Meet Adequate Yearly Progress and What Factors Are Most Closely Associated with Their Failure? A Discrete-Time Hazard Model* (2nd Reader).

2016   Yilin Pan (TC) PhD – *Essays on Applying Bayesian Data Analysis to Improve Evidence-based Decision-making in Education* (4th reader) https://doi.org/10.7916/D8S46S7G

2016   Kelly Holtz (TC) EdD – *The Mental Health Literacy of High School Teachers* (4th reader)

2016   Steven R. Orozco (TC) PhD – *Aggressive Students and High School Dropout: An Event History Analysis* (2nd reader) https://doi.org/10.7916/D8MP539P

2016   Maria Ofelia Clarissa Z. San Pedro (TC) PhD – *Middle School Learning, Academic Emotions and Engagement as Precursors to College-Going Outcomes* (4th reader) https://doi.org/10.7916/D8RJ4JH7

2016   Brian Verdi (TC) EdD – *Elementary Music Teachers' Shared Experiences in Compulsory Professional Learning Communities: A Phenomenological Study* (4th reader)

2016   Youmna Dbouk (UTSA) EdD - *A Multi-level Analysis of the Extent of Undermatch for Latino Students and the Influence of the High School's Organizational Habitus on College Choice* (5th Reader)

2015   Elana Sichel (TC) EdD – *Concepts of Continuity in Calculus: A Look at How Algebra 1 and Algebra 2 Shape Students' Understanding of Continuity* (4th reader)

2015   Cristina Solis (UTSA) EdD – *Stemming the Tide of Attrition Among Our Teachers of Color: How Racial Congruency is Associated with Teacher Perceptions of Principal Effectiveness and Retention* (2nd reader)

2014   Jennie Wu (TC) EdD – *Understanding a Successful School Turnaround in Philadelphia: A Case Study of the Young Scholars Frederick Douglass Charter School* (2nd reader)

2014   Kara Faraclas (TC) EdD – *The Effect of Professional Development Training on the Instructional Behaviors of Middle and High School Co-Teachers* (4th reader)

2014   Alexander Hoffman (TC) PhD – *Missing Reciprocity: High School Principals' Leadership Capacities and Accountabilities* (2nd reader)

2014   Jessica Blum-DeStafano (TC) PhD – *Teaching and Learning with Self: Student Perspectives on Authenticity in Alternative Schools* (3rd reader) https://doi.org/10.7916/D85M63VH

2014   Rosa Delgado (TC) EdD – *Tri/Multilingual Education: A Comparative Multiple-Case Study to Understand the Effects of Leadership Practices on Multilingual Oral Language Development and Early Literacy Skills in Grades K-2* (4th reader)

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