



Education Leadership Data Analytics: Using Big Data Visual and Education Analytics to Inform Evidence-Based Decision Making in Schools

Alex J. Bowers

Associate Professor of Education Leadership, Teachers College
Columbia University, New York

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12:45 - 14:00

Room 408-410, Meng Wah Complex, HKU

(Chair: Dr CY Tan)



Abstract:

Education data analytics is an emerging domain that merges data science, education statistics and data mining, with data visualization to help school and district leaders, teachers and policymakers make better use of the data that we already collect in schools. These types of data include traditional types of school data such as grades, test scores, discipline reports and attendance, as well as more recent innovations in personalized learning and learning management systems. Yet there are few analytics and tools that help to directly inform school and system leader decision making through leveraging these recent innovations. In this presentation, Alex J. Bowers will discuss the emerging domain of what he terms "Education Leadership Data Analytics", in which data science and big data analytic strategies can help inform organization and leadership decision making through evidence-based improvement cycles and early warning systems. This presentation will focus on determining empirically similar longitudinal and cross-sectional patterns of districts, schools and students, through applying time-nested mixture modeling, latent class analysis and visual data analytics to issues of K-12 school pattern identification and improvement.

About the speaker

Alex J. Bowers is an Associate Professor of Education Leadership at Teachers College, Columbia University, in New York City USA, 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 human capital resources, 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. Dr. Bowers studies these domains through the application of Intensive Longitudinal Data analysis (ILD), 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.

Twitter: @Alex_J_Bowers

Website: <http://www.tc.columbia.edu/faculty/ab3764/>

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