Book Review

Assessing the Educational Data Movement.
Philip Piety. New York, NY: Teachers College Press, 2013. 223 pp.
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Although Philip Piety's book, *Assessing the Educational Data Movement*, is written about the educational data movement in the K–12 sector, it provides many novel ideas and cautionary tales for researchers and practitioners of higher education assessment.

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Piety frames the book by suggesting that educational data movement is a *sociotechnical revolution*. While we are all aware of the technical part of educational data, its social and revolutionary impacts are not to be discounted. Like the telegraph or the cell phone, the development of educational data has shaped our social lives, the way we think, interact and live. Thinking about educational data as a technical development with wide ranging social impacts immediately turns a narrow subject into a roaming intellectual landscape. Suddenly, we are not only examining math test scores of third graders; we are able to think about how teachers respond to pressures, how schools shift schedules to accommodate testing, how parents consume school report card data and how district budgets are rewritten to include teams of educational data scientists (Macfadyen, Dawson, Pardo, & Gasevic, 2014). It is that we now have a job title "educational data scientist." Indeed, the educational data movement has deep social impacts and naming it as a sociotechnical revolution is Piety's first intellectual gift to his readers.

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The introductory sections of the book provide a brief history of the US Department of Education's shift toward data use. Piety describes the historical context for the introduction of the Institute of Education Sciences (IES) in 2002. At the time the agency was entirely focused on randomized control trials (RCTs). In recent years we have seen IES move away from RCTs and fund projects with a range of methodologies. Another turning point in the data movement was the introduction of No Child Left Behind (NCLB). The central indicator was Adequate Yearly Progress (AYP), a school level measure that proved to have many problems, perhaps the worst of which was the assumption that the population of school did not vary much from year. Having learned from the pitfalls of AYP, the in vogue assessment strategy are Value Added Models, which focus on individual improvement from one year to the next.

Piety convincingly argues that education and business, two communities that are often painted as being culturally and substantively separate, are more conceptually linked than we might think. This of course is a minefield, where many education researchers and practitioners balk at education being viewed as a process that could be compared to automated efficiency and bottom line driven private sector. However, Piety traces how the world of business first reacted to and integrated data into its own operations. While customer service and executive resource planning were once siloed parts of the corporate enterprise, data collection and analysis connected them – requiring them to communicate with more regularity and creating less rigid boundaries between sectors. The parallel example in the education world would be how data has linked district level offices to classrooms. Where before the operation of the classroom was once a domain all but separate from the central office, now data links them.

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The next few chapters focus on the use of educational data at different levels of policy making, from the national, to the state, to the district. Piety delights organizational theorists by framing this section of the text by asking the reader to imagine the educational system as having a technical core (where the main work of the organization gets done) and peripheral components (where the managing and tending of the organization happens). Schools do the work of the technical instructional core – here Piety insists that this covers not only classroom instruction, but character building and citizenship developing and socializing that is the product of the entire school experience. The educational data movement has bloated the peripheral components so that they can measure the work of the technical core. But in the best case scenario, it is also providing timely feedback for the technical core with which to improve its practice.

Rarely are we afforded such cogent analysis of a social phenomenon that is happening to us right now. The analysis in the book helps the reader see the landmarks on the short road of the educational data movement, aiding us in understanding how the current data context came to be, and how the ways we think about using data are so dramatically different from just 15 years ago. This kind of reflective narrative history telling is usually reserved for events that are far enough in the past that we have had time and space to process them, or better yet, already seen where the events led and what consequences they had. Piety demonstrates

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On a more critical note, this book makes no appeals to people who would like to see less data collection and fewer assessments in our schools. There are a large number of stakeholders in the education world who would curtail data collection and standardized testing, if given the chance. They are parents, teachers and educational activists and they believe that children are over tested and that education should be locally controlled and not standardized. None of Piety's arguments respond to any of the anxieties of skeptics of educational data. This is a mistake, because the ideas in the book could help bridge the divide between those communities.

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There are some new ideas here that would be applied to higher education assessment. For example, Piety encourages policymakers and practitioners to value "information ecologies," that is, rather than making decisions based on a single achievement score data point, to combine performance data and other representations to allow for informed decision making for each unique context (cf. Milliron, Malcolm, & Kil). In a related point, Piety sees room for growth in the areas of collaboration technologies. In stark contrast with transactional technologies – technology that collects data or provides analysis in a one way direction – collaborative technologies create communities of practice, organizational learning and allow for the two way flow of data. In higher education assessment this would mean thinking more creatively about providing usable data analysis to professors and students to inform their decision making about the current or successive semesters.

Higher education assessment professionals have much to learn from the challenges and notable successes of personnel using big data to shape K–12 education programs. While much of the higher education assessment still uses an AYP–like model (comparing a college to itself from year to year) it is likely that we will be taking cues from the K–12 sector and moving to value–added models (measuring what individuals learn over time). Higher education assessment persons should care about big data because we are all a part this enterprise, and because unlike trends in education that raged for a decade and receded, the use of big educational data is here to stay, and is likely to get bigger.

References

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