Opening or closing doors for students? Equity and data-driven decision-making

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Abstract

Data-driven decision-making is a key pillar of educational reform initiatives in countries across the globe. While approaches to data use vary, the theory of action underlying these efforts is often similar. The common idea is that when leaders and teachers are knowledgeable about how to use data, they will become more effective in reviewing their existing capacities, identifying weaknesses, and charting plans for improvement. In the classroom, data can inform how teachers plan lessons, identify concepts for re-teaching, and differentiate instruction. For all these reasons, data use has significant implications for teaching and leadership.

Ensuring equitable opportunities and outcomes for all students is also a top priority of educators and policymakers. Data use can be an important lever for achieving equity, but how this may occur has not been well understood. Drawing on findings from in-depth qualitative research, this paper will illuminate the conditions under which data-use efforts can help to open—or close—doors for students. Through a careful examination of day-to-day practices in schools and systems, this presentation will uncover how thoughtful data-use practices can expand students' opportunities to learn, whereas misinformed use of data can limit their opportunities.

Introduction

Data-driven decision-making is a key pillar of educational reform initiatives across the globe. Data use is conceptualised as part of a cycle of instructional improvement (Goertz, Oláh, & Riggan, 2010; Mandinach & Honey, 2008). In this cycle, educators engage in a process of defining a problem and setting goals, gathering and analysing data, and then action planning and evaluating outcomes (Coburn & Turner, 2011; Schildkamp & Poortman, 2015). While useful for illuminating the process of data use, these frameworks do not explicitly call attention to equity concerns that may arise in the process. In most of the published research on data use in education, there is little or no attention to equity issues (for exceptions see Bertrand & Marsh, 2015; Skrla et al., 2004).

Data use can be an important lever for achieving equity, but how this may occur has not been well understood. Pollock (2017) defines equity as supporting the full human talent development of every student and all groups of students. In her conception, equity-oriented school talk is guided by principles of respecting all students' wellbeing; describes students accurately; pinpoints students' needs precisely, not vaguely, and regularly, not rarely; and shares opportunities to learn widely. Large-scale accountability policies, while drawing attention to systemic inequities, are often narrowly focused on highlighting student achievement gaps at the expense of understanding and mitigating the effects of unequal educational conditions and processes.

With a decade of data-use policies and practices behind us, what is the relationship between data use and equity? How might we best mobilise research knowledge to uncover the ways in which the use of data in schools can either open or close doors for students? In this paper, we reflect on what we have learned about data use and the tensions that educators face in using data and the consequences for equity. We argue that an equity agenda needs to be at the forefront of the field's understanding and study of data use in schools.

Methods

Over the past decade, my colleagues and I have conducted several qualitative research studies on data use (see Datnow & Park, 2014). In our first study, we focused on how school systems support schools to use data effectively. In our second study, we studied high schools that were engaged in data use, as most of the prior research in the field had been conducted in elementary schools. In the course of this research, questions around equity arose, especially as educators disaggregated data by student subgroups and made decisions about which students to focus their energy on or how to narrow the curriculum. However, we did not investigate these issues in depth.

Recently, we conducted a more intensive study that takes a deep dive into teachers' work with data and expands the existing research base on equity (Datnow, Choi, Park, & St. John, in press; Park & Datnow, 2017). We were motivated to find out more about how teachers actually use data, what types of data they use, and how their instruction is affected. We approached this work from a social constructivist framework, acknowledging that teachers' conceptions of data use and of their students' abilities are produced in the course of their interactions with other teachers, administrators, and students. We studied teacher teams in Grades 4 and 5 in four elementary schools. We felt this in-depth work was necessary in order to answer these important questions about teachers' use of data and examine how such efforts are impacting students' opportunities to learn. The knowledge we gained from these research projects, as well as our own reading of the literature, informs our arguments in this paper.

Equity and data use

Data do not drive decisions by themselves (Dowd, 2005). As we will explain, educators play a critical role in shaping how and why data are used, what counts as data, and so on. Data-*informed* decision-making is thus a more appropriate term for this practice, rather than data-*driven* decision-making, which is used most often in the field. We use the terms interchangeably here, along with *data use.*

In this paper, we juxtapose a set of data-use practices that either serve as obstacles or as facilitators of equity goals. These include:

- accountability-driven data use versus data use for continuous improvement
- using data to confirm assumptions versus using data to challenge beliefs
- tracking versus flexible grouping to promote student growth.

Accountability versus continuous improvement

The past decade of research distinguishes high-stakes accountability-driven data use, which emphasises complying with external pressures, from data use for continuous school improvement and organisational learning. Firestone and Gonzalez (2007) explain that an accountability-driven culture focuses on test scores, tends to have a short-term time frame, and excludes teacher and principal voices. In contrast, data use for continuous improvement focuses on student and organisational learning and instructional improvement, is long-term in scope, and includes teacher and principal voices.

While data use for continuous improvement is clearly a more productive approach, equity issues may still go unexamined in this process, unless problems are framed explicitly in terms of equity. School leaders can help frame data use among teachers, focusing them away from or towards accountability and equity concerns (Horn, Kane, & Wilson, 2015; Park, Daly, & Guerra, 2013).

Educators' and policymakers' decisions about what counts as data play an important role as well. Standardised tests have long been criticised for their orientation towards forms of knowledge that privilege white, middle-class students (Garner, Kahn, & Horn, 2017; McNeil, 2002). Educators focused on continuous improvement actively seek out a wide range of data and do not limit themselves to data linked to accountability mechanisms. As one teacher in our research shared: 'I look at [the benchmark assessment] as a snapshot on that day, but what I need to use is a range of data...' Drawing on a wide range of data allows for a fuller portrait of student learning. This allows for a greater possibility that the strengths of students who have historically been disadvantaged by standardised measures will be evident.

Achieving goals of equity requires carefully examining data on each and every student, rather than just those on the cusp of 'proficiency' on accountability measures (Halverson, Grigg, Pritchett, & Thomas, 2007). One school we studied used a process by which teams of teachers sit down with the principal, a counsellor, and two or three intervention teachers three times a year to discuss data and plan instructional interventions for every student. A notable feature of these meetings was that, while meeting participants had numeric data on student achievement in front of them, the discussion was not restricted to numbers. Educators discussed a wide range of factors that may influence students' academic and social adjustment. Examining data on all students also promoted shared responsibility, a key component of data use for equity.

Confirming assumptions versus challenging beliefs

A goal of data-informed decision-making is to bring evidence to light that will help educators think about student achievement in new ways. However, examining data does not always lead to new interpretations. Data can also be used to validate existing understandings of students' learning profiles (Oláh, Lawrence, & Riggan, 2010). When educators use student characteristics as explanations for results, they can reinforce a culture of low expectations and stereotypes (Bertrand & Marsh, 2015) and point to students' home lives as the primary explanation for high or low achievement.

Data use can be a powerful tool to push teachers to challenge existing assumptions about student learning and to reflect critically on instructional practices (Lachat & Smith, 2005). The process of closely examining data in the context of teacher team meetings can facilitate teachers' focus on student growth, thereby shaping teachers' beliefs about what they think their students are capable of. But building professional learning communities is not sufficient to bring about change. School talk must debunk myths about intelligence as easily measurable, and must explicitly challenge common comments about young people or families that are harmful (Pollock, 2017). Leaders in a school we studied redirected dialogue towards students' strengths rather than weaknesses and oriented the conversation around improving practice. It is critical that leaders frame conversations carefully and provide the opportunity for educators to bring multiple sources to bear on conversations about student achievement.

Tracking versus flexible grouping to promote growth

When we consider the ways that data use can open or close doors for students, we must examine the role of data in tracking and ability grouping. Thoughtful use of data can lead to flexible grouping and individualised learning plans that promote student achievement. Misinformed use of data can lead to increases in long-term ability grouping, which has been shown to widen the achievement gap between white students and students of colour (Oakes, 2005).

In recent years, educators have turned to benchmark assessments as a tracking placement tool, which is not their intended purpose. Instead, these assessments are designed to provide educators with interim feedback on student progress relative to curriculum standards. This has been documented in numerous studies (Davidson & Frohbieter, 2011; Heppen et al., 2012; Shepard, Davidson, & Bowman, 2011). In addition to misusing the assessments for unintended purposes, the sole use of benchmark assessments to determine tracking places too much emphasis on one form of data to make such a high-stakes decision.

Whereas the use of data for tracking purposes limits student opportunities, the use of data for flexible grouping of students can expand opportunities. As part of their comprehensive data-analysis process, educators at one elementary school we studied created language arts and spelling groups that shifted three times a year. In another school, teachers used formative assessment data daily to differentiate instruction and to place students in flexible learning groups to address particular skill areas. Closely examining student work or assessments led some teachers to move beyond categorisations of generalised ability and consequent instructional strategies, to focusing on targeting

students' skill levels in particular areas such as fluency, comprehension, or mathematical reasoning. This allowed for a more expansive, nuanced view of what students knew and were able to do.

Conclusion

In this paper, we set out to examine the relationship between data use and equity and to consider how best to mobilise research knowledge to uncover how data use can open or close doors for students. Within each of the dimensions we described, educators and policymakers are faced with a set of critical choices that can profoundly affect students' educational experiences.

One set of choices results in a school in which an accountability framework dominates teacher conversations and focuses instructional interventions on students for whom schools will get the most 'bang for the buck' on standardised measures. In this school, data are used, often unwittingly, to reinforce hierarchies among students and track them in ways that reproduce social inequalities. Educators proclaim that their improvement efforts are driven by data, but positive changes do not result, except for perhaps short-term gains in test scores.

Another set of choices guided by goals of equity and continuous improvement results in a school in which educators draw upon a wide range of data to gear instruction around students' needs. Educators share responsibility for providing an instructional program that allows all students to thrive. Data are used to actively challenge stereotypes, to examine student growth as well as weaknesses, and to differentiate instruction in dynamic ways. However, these features do not appear just with data use alone; equity needs to be an explicit goal of school improvement and data use efforts.

Just as equity needs to be an explicit goal in data use practices, research on data use also needs an equity lens. One reason why most research on data use has not uncovered equity issues is because researchers did not go looking for them. Educational improvement and policy lenses tend to prioritise organisational changes associated with reforms. Putting equity at the centre of studies of data use—and indeed all educational reforms—may involve the use of different research questions, methodologies and/or theoretical frameworks. These shifts are necessary if we are to truly transform education for all students.

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