

Data-Driven Decisions: Using Equity Theory to Highlight Implications for Underserved Students

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Abstract

By using equity theory through a social justice lens, the authors intend to highlight how data are currently being used to solve the *what* and not the *why* as it relates to achievement gaps for marginalized students in urban settings. School practitioners have been utilizing quantitative data, such as district and state achievement test scores, math and reading levels, and class assignments to determine the academic levels of students. While this information is useful, the authors will argue it does not tell the whole story. Specifically, the authors explain why these measures may not accurately reflect the knowledge level of underserved students and the areas that may be needed to create a holistic picture of the social and academic needs of individual children.

Key Words

Decision-making, equity, achievement gaps, school/teacher effectiveness

Since the rise of assessment and accountability measures, many school leaders have been actively engaged in heavy data collection and analysis in an effort to utilize it for improving academic achievement for all students. There was a clear shift in how educators were to go about the reform movement. This push was to address the need to close the achievement gap¹ and ensure that all students have access to educators committed to ensuring academic growth and sustainability for future success.

Utilizing data effectively has been a hallmark in the reform movement as educators access the wealth of data in order to make informed decisions about how to best educate and support students. Testing scores, attendance rates, demographic data, and surveys have been used to pinpoint areas where schools and teachers need support.

However, the larger question as to why certain racial, gender, and/or ethnic groups are not excelling may be due to issues that are not easily tested or confined to facts and figures. Thus, educators need to be equipped to take a deeper dive into the essential question of why numbers look as they do. Unfortunately, educators' belief systems can sometimes "contribute to dysfunctional perceptions of students' intellectual abilities—particularly those students who are culturally and linguistically diverse—due to limiting predictors of school achievement" (Ahram et al., 2016, para.7; Noguera, 2003).

Equity theory is one framework that may conceptualize some of the underlying causes of the achievement gap. That is, these

issues may not be clearly addressed when educators focus on data indicators that address academic performance solely. Rather, academic performance is the outcome of the student's ability to achieve equity restoration as a result of the perceived injustice of inputs and outcomes.

While data analysis is an important tool for educators to diagnose how inequity has manifested itself, it is just the beginning in determining causes and appropriate training to address the underlying problems.

For the purposes of this paper, the authors will analyze equity theory as it relates to perceived inequities regarding student achievement. In addition, the authors will discuss how data can be used (and should be used) to reinforce and mitigate the perceptions of inequity for underserved students as it relates to the achievement gap.

Theoretical Framework

Equity theory was first introduced by J. Stacy Adams in an article written in 1963 in relation to cognitive dissonance theory. In his original business article, Adams explained "The fairness of an exchange between employee and employer is not usually perceived...simply as an economic matter. There is an element of relative justice involved that supervenes economics and underlies perceptions of equity or inequity" (as quoted in Mahoney, 2013, p. 158).

As originally intended by Adams (1963), the theory postulated about business and salaries. However, it has had several

¹ The achievement gap refers to the gap in performance (i.e., test scores) between one group of students compared to another. Essentially, it is what occurs when one group

of students (such as students grouped by race/ethnicity, gender, and the like) outperforms another group of students, and the difference in average scores is statistically significant (NAEP, 2015).

criticisms and iterations since the original publishing, including one by Adams himself as he more clearly defined *equity/inequity* in a follow-up book chapter. He stated, “Inequity exists for Person whenever he perceives that the ratio of his outcomes to inputs and the ratio of Other’s outcomes to Other’s inputs are unequal” (as quoted in Mahoney, 2013, p. 159).

Equity theory consists of four different propositions that draw from “exchange, dissonance, and social comparison theories” (Huseman et al., 1987, p. 222).

First of all, Adams theorized that:

(a) people perceive and evaluate their relationships with others based on a comparison of their input into the relationship and outcomes from the relationship as compared to another’s inputs and outcomes;

(b) if the ratio from the input/outcomes and comparison relationships is not equal according the perception of the individual, they will determine it to be an inequitable relationship;

(c) the more inequity one feels, the more distress one feels as well; and

(d) the more distress, the more they will work to restore equity.

Throughout the course of this paper, the term *input* will be used to refer to the pedagogical practices, attitudes, and belief systems that affect the social, emotional, cognitive functioning of students. *Outcomes* will be used to refer to the academic levels, the social and emotional capital of the students as it relates to the successful development of the whole child.

“Equity restoration techniques include altering or cognitively distorting inputs or

outcomes, acting on or changing the comparison other or terminating the relationship” (as quoted in Huseman et al., 1987, p. 222). Equity restoration, specifically, has some implications regarding the behavior and attitudes of students as they relate to the perception of injustice of the school system and/or relationships between educators and students. Therefore, the argument can be made that these basic components can be related to the relationship between administrators and teachers, as well as, educators and students.

This article will focus on the latter relationship, specifically the perceived underachievement of marginalized students as it relates to data interpretation and the achievement gap. McKown (2013) discussed “how the social processes” related to social equity theory (SET) “contribute to racial-ethnic achievement gap” (2013, p. 1121). As part of McKown’s delineation of equity theory, SET includes certain propositions about the origins of racial-ethnic achievement gaps. In detail, they are:

- Two classes of social process influence racial-ethnic achievement gaps: (1) *Direct influences* are social processes that support achievement. Direct influences contribute to the racial-ethnic achievement gap when they are distributed differently to people from different racial-ethnic groups; and (2) *Signal influences* are cues that communicate negative expectations about a child’s racial-ethnic group. When children from negatively stereotyped groups detect such cues, this can erode achievement.
- Signal influences depend on children’s ability to detect cues signaling a stereotyped expectation.

- Together, relevant direct and signal influences across developmental contexts account for the achievement gap (McKown, 2013, p.1121).

As researchers continue to study education using a social justice framework, equity theory may highlight why some of the injustices continue and suggest ways in which educational leaders can utilize equity theory as they develop policy, and train teachers and aspiring administrators.

The analysis of student achievement data is vital to closing the achievement gap. However, as previously reported, it does not tell the whole story. Therefore, educators need to analyze quantitative data, such as test results (the *what*), in conjunction with qualitative data, such as interviews and conversations (the *why*), to address some of the inequities that are evident in schools with marginalized and/or underserved populations.

Nonetheless, the following will be a discussion of the various challenges associated with using academic and assessment data as the sole indicator for interventions with students. In addition, this paper will highlight systems and processes that can mitigate the effects of academic decisions based on a single data source. Finally, the authors will lay out a case to use multiple modes of data to determine the underlying causes of academic underachievement.

Using Data to Close the Achievement Gap

In the United States, the role of the principal and assistant principal in the PreK-12 educational setting continues to evolve (Hallinger, 1992). Just one of the many evolutions includes the expectation that school administrators have the ability to effectively analyze student achievement data and use it to

lead instructional practice. “Principals and other school leaders have been given a difficult charge: take an abundance of student data, mostly in the form of assessments, and turn this data into information to be used in improving instructional practice” (Midgley, Stringfield, & Wayman, 2006).

As the role of principals and assistant principals continues to change, one thing is for certain; school administrators must be data-driven instructional leaders and exercise data-based decision-making (Blink, 2007; Midgley et al., 2006). Blink (2007) wrote, “The increased attention and focus of legislators at all levels on public education provides the impetus for building and implementing a data-driven instructional system that will ensure improvements in student achievement while closing identified achievement gaps” (p. xv).

School leaders across America continue to seek ways to effectively plan for improved student achievement based on an array of assessments administered to students in the PreK-12 educational setting nationwide. “Although the research and literature provide numerous case studies on individual schools or educators that have successfully used data to improve student achievement, Stringfield, Reynolds, & Schaffer (2001) found the use of data at the school level to be an incredibly difficult task because school personnel often lack proper systematic supports for data use” (Midgley et al., 2006).

Unfortunately, even with this push to use student achievement data to close the achievement gap, we continue to see a gap in achievement among diverse groups of students. Beecher and Sweeny (2008) reported that “achievement gaps among culturally, linguistically, ethnically, and economically diverse groups pose great concerns for educators and policymakers” (p. 502).

The concept of analyzing student achievement data to effectively drive instruction throughout a given school building is not a new concept. This is no easy task, and, more specifically, challenges certainly exist when using data to drive instruction. “The educational literature is replete with recommendations for improving student achievement and closing the achievement gap; however, research suggests that the gap remains” (Beecher & Sweeny, 2008, p. 502). Even though this movement to close the achievement gap dates back to the 1990s, some researchers argue that the gap has worsened (Harris & Herrington, 2006).

Schools that have more diversity and serve students of low socioeconomic status (SES) continue to perform low with regard to student achievement (Foorman, Francis, Fletcher, Schatschneider, & Mehta, 1998; Harris and Herrington, 2006; Lara-Cinisomo et al., 2004). Additionally, the gap between the haves and have nots (i.e., students from high versus low socioeconomic backgrounds) as well as White students versus their African-American and Hispanic peers, still exists (Chatterji, 2006; Cronin, Kingsbury, McCall, & Bowe, 2005; Lutkus et al., 2007).

One could argue that both school leaders and teachers must get innovative and attempt to identify what the data are *not* telling them about their students and identify other issues affecting student achievement, especially in those schools that serve high populations of underserved students who continue to represent a large portion of the achievement gap.

Perhaps, most importantly, school leaders and teachers must have the same expectations for all students regardless of race, SES, or past school performance, as this mindset is essentially the foundation of equity in education. “Equity in education addresses fairness and inclusion” (Mu et al., 2013, p.

374). That is, it would not be fair to expect less of underserved students and likewise, maximum inclusion in all aspects of schooling is key. Utilizing data effectively will help in addressing equity issues in terms of resource allocation.

Complexities of Using Data

With all of the ways assessment data and accountability structures can tangibly increase student scores, educators are still struggling in intangible ways to address what will also aid in disintegrating the achievement gap. Ahram et al. (2016) identified three predominant cultural beliefs that contribute to low performance patterns in the academic achievement of vulnerable student groups. “Taken together, these elements of cultural dissonance constitute a prevailing pattern that includes (but is not limited to):

- perceptions of race and class as limiting predictors of school achievement;
- perceptions of different learning styles versus intellectual deficiencies; and
- lack of cultural responsiveness in current policies and practices (para. 17).

As a result, students feel and perceive the difference teachers struggle with because of internal cultural beliefs, “teacher(s) on average expect more of White students than Black students with similar records of achievement” (McKown, 2013, p. 1124; McKown & Weinstein, 2008). In addition, students internalize the devaluation or negative stereotypes associated with their race and/or ethnicity.

This input upon the students consistently can lead to the equity restoration in the form of less effort and motivation to persist toward an academic goal, which will manifest

itself to lower achievement (output). As such, the educators' internal beliefs about the students they serve have a direct influence on achievement, and yet it cannot be easily measured.

There have been some quantitative studies to address the issues described. However, Bécaries and Priest (2015) found that much of this research is dedicated to single and separate social identities, such as race or gender. What is noticeably lacking, though, is a "need ... for quantitative research to consider how multiple forms of social stratification are interrelated, and how they combine interactively, not just additively, to influence outcomes."

This suggestion for further research would then be able to highlight how influential the educator's lens is in regard to multiple forms of internal bias reflected in student outcomes. Conversations around these internal belief systems will allow educators to confront the conscious and unconscious bias that hurts the academic success of students. In addition, they will enable educators to realize that many students are associated with multiple marginalized groups, which can multiply the cultural dissonance and signal influences projected by the educator.

These overt or covert signal influences "activates a concern in the mind of a stereotyped individual—consciously or not—that he or she may be judged on the basis of the stereotype" (McKown, 2013, p. 1125).

Consequently, the student picks up on cues of differential treatment based on marginalized group membership and adjusts behaviors to restore equity related to the perceived injustice. Children can also read in these cues that their abilities are not valued in the school's social setting which will negatively

affect the relationship between the school and the student. Bécaries & Priest (2015) noted that:

The contrasting outcomes between racial/ethnic and gender minorities in self-assessment and socio-emotional outcomes, as compared to standardized assessments, provide support for the detrimental effect that intersecting racial/ethnic and gender discrimination have in patterning academic outcomes that predict success in adult life" (p. 13).

Comparing the information that comes from standardized testing to the student's own feelings of self-worth, efficacy, and achievement can paint a clearer picture of the perceived inputs and outcomes on the teacher's and student's behalf. Otherwise, according to McKown and Weinstein (2002), low teacher expectations are associated more strongly with negative academic outcomes for students other than White.

If children perceive that educators are not uniformly addressing the needs of all students effectively, "this belief may activate cultural narratives about racial injustice, signaling that they are devalued because of their ethnicity. This may in turn have a negative impact on the academic achievement of children from stereotyped racial ethnic groups." (McKown, 2013, p. 1125).

Educational leaders in partnership with researchers need to create pathways for conversations that address what the data say about students and why the data may read as they do. Then, our data-driven decisions can be supported by changing mindsets that see the academic benefit of embracing diversity in the educational setting.

If one purpose for data driven decisions is to address the achievement gap for all students, then more robust data will have to be

collected by institutions. Data from cultural and climate surveys for teachers and students, teacher efficacy regarding diverse students, and students' perceptions of educational attainment will support achievement numbers to create a bigger picture.

Quality decisions that will have lasting impact on student success will include policy, programming, and pedagogical changes based on data to achieve perceived and actual equity on both parties. Otherwise, "interventions to eliminate achievement gaps cannot fully succeed as long as social stratification caused by gender and racial discrimination is not addressed" (Bécares & Priest, 2015, p. 13).

Discussion

Many of the issues addressed thus far represent a fundamental shift in the way we would look at data in relation to our teaching practices. The authors submit that data should truly be used to measure all dimensions of adult and student learning as a tool for growth as opposed to how it may be used to indict teachers and students for not exhibiting knowledge as demanded on a test.

Therefore, data should be the beginning of conversations and reflections that lead to greater understanding of how adults can adapt behavior to match student needs and expectations.

In order to change the paradigm of how teachers view data, educational leaders need to create a safe space for teachers to reconnect to the learning process just as students would. The authors will discuss two important components of adult learning theory that would support the transformational process of utilizing data in a way to inform outcomes that are more equitable.

Principals need to address the needs of teaching faculty and staff in a way that "builds on and challenges their teaching practice and persistently focuses on student learning" (Fahey & Ippolito, 2014, p.3; Bryk, Sebring, Allensworth, Luppescu, & Easton, 2010).

The purpose of collecting, disaggregating, and consuming data is to better improve teaching and learning practices for students. This cannot be done in a way that does not take into account the learning needs of students, which is why data should begin to inform the conversations around equitable outcomes for students based on the students' relationship to the teacher, the educational system, and their own learning processes.

Thus, this answers the *why* question referenced earlier in the article. "In order to learn more and improve our practice, we have to dig deeper into what we do, what our kids need, and what we already know" (Fahey & Ippolito, 2014, p.3; Breidenstein et al., 2012, p. 29).

Instrumental Learning Practice

Two themes of adult learning that were born out of constructive developmental theory (Kegan, 1998) are instrumental learning practice and socializing learning practice. Instrumental learning practice in short is "built on precise solutions, specific processes, and unambiguous answers" (Fahey & Ippolito, 2014, p.32).

School leaders who are in the process of leading equity-focused conversations with instrumental learners should know that there needs to be a specific framework to make the process clear. These conversations can become very fluid with lots of mitigating factors in order to keep it student focused.

A reflective protocol will assist these adult learners to guide discussions to specific processes that will support data discussion based on equitable student-centered outcomes.

Socializing Learning Practice

The second theme is socializing learning practice. The definition of socializing learning practices according to Fahey and Ippolito, (2014) is one that “is not dependent on straightforward, concrete answers” (p. 34). When guiding discussions with socializing learners, teachers need to know these learners are better able to think abstractly and are able to reflect about practice.

Therefore, they may feel constrained thinking there is one way of doing things and should be encouraged to learn from their experiences. “These adults are most concerned with understanding other people’s feelings and judgments about them and their work” (Drago-Severson, 2008, p. 61). They are able to reflect on the core understanding that data should inform teaching practices to create an environment where the student feels that both parties are equally concerned with growth and success.

In reality, just like the classroom, the principal will have a mix of both learners and will have to accommodate a variety of different development strategies to help the teacher understand all facets of data.

In addition, the teachers can help inform leadership about data sets still needed to obtain a complete picture of student growth and needs.

Principals should guide teachers in equity-based discussions pertaining to data early in the learning process. In addition, the leader should encourage teacher teaming and

mentors to support the learning process while each teacher may progress at different rates.

Conclusion

“Any attempt to improve educational quality, without educational equity to address disadvantaged groups, will never achieve the overall academic improvement for learners. Instead, it would lead to an expanding gap of educational equity to address disadvantaged groups...” (Mu et al., 2013, p. 379).

When framing educators’ work against the backdrop of equity theory, it becomes more likely that students will receive additional effort from teachers and respond with additional effort of their own.

It is important that the expectations teachers have for students are matched with the efficacious work on the part of the teacher.

Furthermore, we contend that educational leaders should support adult learning to deepen their knowledge base on the underlying causes that may answer the *why* in order to address equity issues. In many educational settings, reflection on how behaviors and beliefs lead to inequitable student and educator relationships and possibly the student underperforming to achieve stasis is a fundamental issue that should be addressed in learning communities.

In sum, addressing achievement gaps in education by simply looking at output data is not enough. The authors contend that using equity theory to address the before question of *why* will then support the input for students. Using information regarding the input and output of data will inform how educational leaders can support an equitable system for our students to thrive.

Author Biographies

Denver Fowler is an assistant professor of educational leadership and policy studies at California State University, Sacramento in the College of Education, Graduate and Professional Studies in Education. His research is focused on educational leadership in the PreK-12 educational setting. He is a former school administrator with over a decade of experience in the PreK-12 educational setting as well as over seven years in higher education. Fowler received his BS from Ohio State University, MA from Mount Vernon Nazarene University, and EdD from Ohio University. He is the author of the forthcoming book, *The 21st Century School Leader: Leading Schools in Today's World*; foreword by Todd Whitaker and afterword by Thomas Tucker. Email: denver.fowler@csus.edu

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