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Peterson, D. S., & Carlile, S. P. (Eds.). (2021). *Improvement science: Promoting equity in schools*. Myers Education Press.

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Three years have passed since the COVID-19 pandemic struck the US in the spring of 2020. Many educators and schools overcame the challenges caused or exacerbated by COVID-19, whereas others awaited a return to pre-pandemic school norms. Nonetheless, the global health crisis has introduced significant changes in schools, including social, emotional, and economic distress for teachers and students. According to the EdWeek Research Center (2022), educators have been stretched to their limits in an environment where intense political and social polarization has ignited or reignited fractious debates about policies and practices aimed at addressing racism, equity, social justice, and achievement gaps between the majority and minority student populations. Consequently, K-12 education is at an inflection point, where its foundations and forms are in flux.



The challenges related to supporting equity, social justice, inclusion, and increasing student diversity are not new to schools. According to Anthony Bryk (2020), schools are on the frontline, facing a chasm that

... has been widening for some time between our rising aspirations for what we would like schools to accomplish and what they are able to routinely achieve. And this gap is greatest for our most disadvantaged students and in our most troubled community contexts. This has come to be a major social justice issue for our time. (p. 2)

Deborah Peterson and Susan Carlile's recent volume offers a valuable tool—improvement science—to assist educators in tackling inequity in schools and address new and longstanding issues in public schools that prevent vast numbers of public school students from reaching their full potential. Despite its origin in the healthcare field, improvement science is built on the fundamental principles of Dewey (1990), who advocated for education as a means to advance democracy and emphasized the importance of constructivist education for those intimately familiar with the challenges at hand. Consequently, teachers, being the closest to the issues faced by schools, possess the necessary tools to devise effective solutions.

The authors' collective accomplishments as academics and practitioners dedicated to boosting educational equity amply qualify them as writers for this volume. Deborah Peterson served as a school leader before assuming her current role as an Associate Professor at Portland State University. As a practitioner, she worked to promote equity, increase community engagement, and amplify students' voices, while dramatically improving student outcomes. Her teaching and research focus on preparing current and future anti-racist, culturally responsive school leaders. Susan Carlile has more than 50 years of K-12 experience as a teacher, middle and high school principal, and director of curriculum and instruction in a large suburban school district. As a professor of practice and program lead for the Portland State University's Educational Leadership and Policy program, she has facilitated the leadership development of more than 600 school leaders and collaborated with experts such as Anthony Bryk, Sherril Gelmon, Louis Gomez, and Paul LeMahieu.

Although not explicitly stated, the editors weave the following definition of improvement science throughout the case studies in each chapter: improvement science involves applying small and measurable changes to address specific issues within schools to identify the root cause of inequities. Peterson and Carlisle connect improvement science to Freire's (1993) argument that individual and communal freedom and enhancement are obtained through contextualized practical, collaborative actions. Importantly, they stress incorporating other voices, such as those of classroom teachers, students, and their families, into the improvement process. The contributions in this volume emphasize a grassroots approach to improvement science that involves those closest to the problems, rather than previously used top-down approaches. The editors also explain that they discovered improvement science when searching for something better than the adage of simply needing to "work smarter" to address issues that arise when schools cannot serve all student populations. In their introduction, they point out that pre-pandemic tools failed to achieve desired outcomes and working harder to implement the same old strategies will yield the same inadequate outcomes.

Following the introduction, contributors present case studies in which educators used improvement science to improve the outcomes of students traditionally underserved in schools. The 14 case studies (Chapter 2-14) are clustered into four content areas: reading; writing; math and science; and health, wellness, and physical education. These studies highlight the work of

teams of teachers, school leaders, and district leaders in developing frameworks for success. Each team analyzed a problem of practice in their setting and considered what might or might not work when changes were implemented.

A distinguishing characteristic of the volume is the inclusion of non-traditional voices involved in efforts to improve schools. Each case study features underutilized voices of teachers, students, and families in the improvement process. For example, Chapter 4 centers on a school principal who drew on student and family voices to create more equitable community learning exchange programs at her school. Using improvement science, she created opportunities for families and students to engage in storytelling, and then incorporated the stories of families and community members into the curriculum. Through this process, the principal enabled students to participate in their own learning.

The editors also underscore that school improvement does not require an overhaul of the entire public education system. Change begins in one classroom, one school, and one district at a time:

Our educational systems were not created with equality in mind. And while improving the system is our goal, too, we each have to start small. We have to start in our setting, in each of our classrooms, in each of our schools, improving what is within our sphere of influence and locus of control.
(p. 279)

The case studies also illustrate that K-12 educators and students are closest to educational problems; and by raising their voices, they might play a part in defining the problems in their schools and identifying viable solutions. For example, Chapter 2 featured a team composed primarily of teachers who used an improvement science model to increase literacy outcomes for K-12 students of color. In this case, the teachers designed literacy supports to solve actual problems rather than base solutions on mere assumptions about the needs of students and teachers. Rather than focusing on high-level student data on why students of color struggled with reading, they implemented an improvement science model and performed a detailed analysis of the data. With this model they were able to gain a clearer understanding of their own students' needs instead of relying on assumptions. Intimately involved with the students and literacy levels at the school, the teachers were able to discern the genuine nature of the situation at hand.

Also related to the importance of context, several chapters describe grade-level teams attempting a particular strategy and then noticing that the strategy worked in certain classrooms but not in others. The teams concluded that it was necessary to adjust and adapt their strategy in classrooms where it was not working, rather than trying even harder to implement the original strategy. Rather than assuming the implementation was the problem, they questioned the strategy itself, explored what contextual differences might

explain the divergent results, and then collected the necessary data to develop strategies that would yield the desired outcomes.

The contributions emphasize “one size only fits some” and criticize leaders who seek to implement exemplar strategies from other schools in their own schools and then blame teachers when initiatives do not yield the hoped-for results. Educators and leaders must consider that circumstances differ across classrooms and school districts. Children are different; teachers possess different types of expertise. The person closest to the students probably understands the issues with their education better than those farther away. As Marietta and Marietta (2020) noted: “Efforts that are place-based, responsive to the current . . . needs, and promote collaboration beyond the school walls have the greatest chance of succeeding” (p. 8).

With an engaging and informative format, this volume would be a useful resource for any educator interested in implementing improvement science in schools or seeking to spur discussions about equity-focused improvement in school districts, universities, and communities. The main audience for this volume is people unfamiliar with improvement science, as the authors include the basic steps for implementing the improvement science process. However, for educators with some knowledge of improvement science, the book is an excellent refresher and functional tool to boost their practice.

In particular, I recommend *Improvement Science* to principals, classroom teachers, and educators in teacher and administrator preparation programs serving traditionally underserved students. These case studies are written by teachers and present real-life examples collaborations to improve the educational outcomes of students of color and close achievement gaps in reading, mathematics, and other areas.

Three years ago, *Financial Times* writer Arundhati Roy stated, “Nothing could be worse for some students than a return to normalcy” (p. 10). Echoing that position, the editors and contributors to this volume align with this viewpoint and emphasize the value of improvement science as an educational tool. Concurrently, they urge for immediate action, recognizing the pressing need for change: “We have students in our classrooms who need the change to happen now” (p. 279). In an era marked by increasing diversity within schools, educators and students find themselves grappling with social, emotional, and economic distress following the global pandemic and at the forefront of national discussions on race, equity, and social justice. It is precisely at this juncture that educators must embrace tools such as improvement science, which hold promise for fostering success among those students who have traditionally been underserved.

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