A Framework for Cohesive School Improvement: Integrating School Improvement Plans, Evidence Use, and Resources

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Abstract

Many school educators struggle to reconcile the onslaught of mandatory and competing, top-down policies. Educators must merge policies into a singular plan that reflects the local stakeholders' goals and values. Given the federal and state accountability movement, schools are forced to build capacity around the use of on-site data and research literature to study if interventions are improving outcomes. For capacity building and to implement reform, schools must have the appropriate resources and understand how to distribute them equitably. Therefore, available resources and their distribution must be tracked alongside the progress of interventions. The purpose of this evidence-based practice article is to integrate these discrete areas of research literature into a framework that educators can follow for cohesive school improvement.

Key Words

school reform, school finance, evidence use, data driven decision making, school improvement plans, education policy

Problem Statement

For several decades now, a myriad of complex reforms has descended upon U.S. school districts as an attempt to improve academic outcomes for all learners. While these attempts are well-intended (Bryk, 2015), they often transpire in a 'reactive rather than proactive way' (Daly & Finnigan 2014, p. 1). No Child Left Behind (NCLB), tied federal funding to evidence of student improvement and the use of research-based practices for the first time, and marked the beginning of a national high-stakes accountability era (Daly & Finnigan, 2014).

A series of reforms followed NCLB: Common Core State Standards, academic standards defining knowledge and skills throughout grades K-12 (National Governors Association & Council of Chief State School Officers, 2010); i3 grants, designed to scale up innovative ideas proven to work for school districts and consortiums (U.S. Department of Education, 2010), and the Blueprint for Reform, reauthorizing and extending policies begun in 2009 (U.S. Department of Education, March 2010).

By 2015, Every Student Succeeds Act (ESSA), the current U.S. education act (U.S. Department of Education, 2015), attempted to ease some of the constraints as states struggled to meet mandates but kept many of the foundational reforms in motion.

Reforms from these policies included *high stakes accountability*, *value-added measures*, and *evidence-based* practices as part of assessing teacher and school effectiveness (Bryk, 2015; Finnigan et al., 2013). Efforts to reform the U.S. educational system continue to build so too, do the unintended consequences, including lack of improvement, as well as fragmentation (Bartell, 2001). Despite decades of reform and scrutiny, educational inequities remain (Daly & Finnigan, 2014), leaving schools and educators with overwhelming tasks: sifting through data, most often state testing results (Bryk, 2015; Finnigan et al., 2013), improving targeted areas of concern, negotiating the needs of an increasingly diverse population, and an explosion of professional knowledge (Bryk, 2015).

While some research findings may demonstrate that using data *effectively* helps with student progress, the mere existence of data does not drive improvement. The work of 'human capital to understand and make sense of the data,' promotes meaningful reform (Beaver & Weinbaum, 2015, p. 479).

However, the very policies enacted to bring about change are often disconnected from the classroom level, and may disregard instruction and learning (Duyar, 2006). Educational leadership is left to bridge the disconnect between policies, which may distract from instructional time and needs of teachers, to develop and maintain a focus on goals for improved student learning (Bryk, 2015; Finnigan et al., 2013; Robinson et al., 2008). Further, resources are often disconnected from these goals and reforms leaving schools with continued disparities for the most vulnerable student populations (i.e. Condron & Roscigno, 2003).

Because of this high pressure in a changing context, school and district leaders must continually integrate and assess interventions, and resources attached to these interventions, in order to make progress toward more equitable access to learning (see Urick et al., 2018). The current terrain of educational reform necessitates that educators must learn

to learn (Bryk et al., 2015; Fernandez, 2011). With that in mind, *how do schools create a cohesive plan for improvement*?

A New Direction to Align Reforms I" Policy and Practice

We synthesized scholarly literature on discrete areas to propose a new framework for school improvement that incorporates key intervention components to increase student outcomes in an active feedback loop. These components, although separate, are interacting, changing, and evolving based on community, regional, and national structures, and stakeholders. Therefore, a new system must be clearly defined, but flexible to meet the needs of students, teachers, administrators, policy makers, and the overall community. Through a careful evaluation of literature on improvement plans, evidence use, and resources, a new conceptual framework of *cohesive school improvement* was developed.

Figure 1

Comprehensive Framework for Cohesive School Improvement
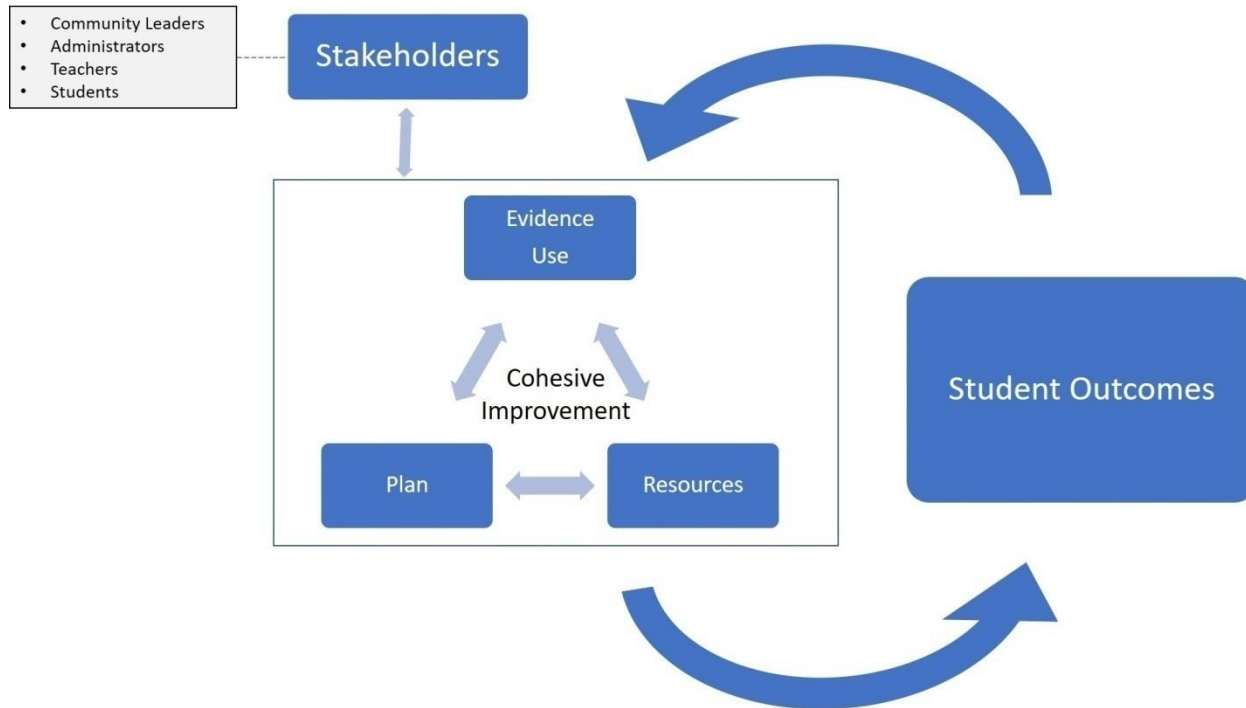
The purpose of the cohesive school improvement framework is to combine multifaceted policies into a singular, evolving direction based on a school's specific context and stakeholders.

Overall, scholars have indicated the importance of a robust, flexible, and all-inclusive system to guide communication and coordination between stakeholders with school evidence use, appropriate resources, and formalized improvement plans (Anderson-Butcher et al., 2010; Bryk et al., 2010). For example, Bryk and authors (2010) detail the necessary components to increase outcomes and prioritize resources, and Anderson-Butcher and associates (2010) highlight the importance of collaborative leadership structures to incorporate data and evidence-based programs.

These theoretical components represent categories of focus in formalized school improvement plans (or SIPs). SIPs have been designed to cyclically test and evaluate the effectiveness of 'treatments' on desired student outcomes. SIPs become a primary instrument that might direct decisions across the school (Bryk et al., 2010). Unfortunately, some SIPs are developed without a holistic vision, stakeholder collaboration or approached as a living document (Schildkamp, 2019).

Conversely, SIPs are often accountability-driven and are not incorporated into daily values and actions of the school. An actionable, flexible plan along with aligned data-use should be incorporated into a shared, organizational routine to manage the cohesiveness of interventions and equitable distribution of resources (Schildkamp, 2019). Furthermore, Farley-Ripple and Buttram (2015) called attention to the significance of collaboration between teachers and administrators on school data-use and importance of building collaborative evidence-

use networks. The freedom for teachers and administrators to democratically interact without judgment is viewed as critical for effective data-use (Abbott & Wren, 2016; Roderick, 2012).

A community-driven organizational culture, where constant communication, collaboration, and teamwork is embraced by administrators, teachers, parents, students, and the community, can empower substantial evidence-use. However, the implementation of collaborative cyclical school improvement is not possible without appropriate resources. Oftentimes school budgets are not linked to core change processes within a school (Faubert, 2019). School budgets are a mechanism by which leaders can demonstrate a commitment to what is valued.

Through the alignment of resources to evidence use in SIPs, leaders can invest in equitable and effective outcomes for historically marginalized students. Cohesive improvement stems from this community-driven organizational culture which combines active input from stakeholders with school improvement plans, evidence-use, and the investment of resources for equitable outcomes.

This framework addresses the need for more coordination between theory and policy (see Finnigan et al., 2013). It represents an active feedback loop between improvement strategies, planning, evidence use, and resources for a cohesive process which values input from stakeholders.

This model allows for a holistic approach to combat current problems while actively circumventing future problems rather than attempting to connect each policy to fragments of practice. Stakeholders can freely discuss, implement, and, importantly, adapt to

an ever-changing environment and adjust course of action when desired results are not being achieved. Critically, formalized plans within the framework build the evidence and data necessary to advocate from schools up to policymakers for necessary supports to close inequitable learning gaps.

Improving School Improvement Plans

What are SIPs?

School Improvement Plans (SIPs) serve as a guide for organizing strategies meant to solve problems (Levine & Leibert, 1987) and to continually assess if data-driven interventions are working (Fernandez, 2011). SIPs operate based upon the concept of logic models.

A logic model is a way of testing interventions based upon the scientific method and a prescribed time in which data are collected (McLaughlin & Jordan, 2004). Decisions derived from the evaluation of those data show the feasibility of interventions to create significant changes (Knowlton & Phillips, 2012).

To that end, creating a school culture in which evidence use is the norm requires a common vision to direct collective action (Cosner, 2011a; Eilers & Camacho, 2007). Hamilton and authors (2009) argue that cohesion develops from a unified vision which is imperative for positive student outcomes.

Further, Bolhuis and authors (2019, p. 99) found that leadership teams are most efficacious when they concentrated on student learning, a shared goal, collaboration between teachers and school leaders, and 'reflective inquiry and analysis and interpretation of data.' School and district leaders should work to create, support, and maintain a school culture of data-use for SIPs (Bolhuis et al., 2019).

Because of this need for a common culture with norms, Mandinach (2012) calls for incentivizing data-use in schools.

However, for data-use to be successful, educators should understand what data to collect and why. Overarching school improvement theory has provided necessary components to assess and track a school's progress.

While SIPs are not a new concept, application varies, and they are often not used as an integrated, authentic practice (see Acton, 2021; Hashim et al., 2021). SIPs should engage the entire school community with a vision for constant evaluation of structures and practices related to student learning.

Although leaders are commonly trained to build a vision, and hopefully, engage all stakeholders, fewer leaders are trained to guide evaluation efforts based on research design and intervention (e.g., Reynolds & Neeleman, 2021). The field of educational leadership has been following recent calls to apply improvement science to consistently evaluate incremental changes designed to address problems in structures and practice (see Bryk et al., 2015; VanGronigen & Meyers, 2021).

Improvement science is like logic models but extends this idea by systematically testing improvements and gradually growing implementation with support of a networked community focused on solving common problems. This improvement science process is reflected in a SIP as a living document which aligns goals, implementation, and evaluation for shared progress.

What to improve?

The essential supports theory suggests structural, institutional, and local community

factors that contribute to a school's capacity for improvement (see Bryk et al., 2010).

More specifically, it identifies five, main organizational elements: (1) school leadership, (2) parent-community ties, (3) professional capacity, (4) student-centered learning climate, and (5) instructional guidance. These organizational factors, coupled with relational trust, form a mutually reinforcing system that influences school improvement efforts aimed at increasing student engagement and expanding academic learning (Bryk et al., 2010).

Therefore, educational leaders who invest data collection and resources into these targeted essential supports likely contribute to sustained improvement in student outcomes. These essential supports are based on decades of research on school improvement (see Bryk et al., 2010; Reynolds & Neeleman, 2021). Each of these areas has been proven to increase student learning and represents a long-term approach rather than an immediate intervention, policy, or reform.

Educational leaders, who want to improve learning and assess school progress, can track these five organizational elements over time. SIP goals traditionally focus on student outcomes connected to state accountability systems, which are too far removed from a school's daily structures and practices (see Leithwood & Jantzi, 2008).

This research-based essential supports theory provides a frame to select school elements to measure and assess to demonstrate short-term and long-term school improvement. Although growth in achievement is a by-product of these elements, these five essential supports consist of the routine structures and practices of a school which lead to effective student learning. Therefore, leaders should

track each element and evaluate changes in each area to understand how and why their school or district is improving (or not) over time.

Who is involved?

Administrators, teachers, staff, and parents play an important role in planning, implementing, and evaluating improvement (Bryk et al., 2015; Green, 2017; Kyriakides et al., 2019; Yurkofsky, 2021).

However, an increasing influx of theories and practices about SIPs emphasize the importance of partnerships such as those found in community schools (Blank et al., 2003), full-service schools (Dryfoos et al., 2005), comprehensive learning supports systems (Adelman & Taylor 2006), and community collaboration models (Anderson-Butcher et al., 2010; Warren, 2005).

Significantly, these new partnerships entail cross-system changes in schools and communities that also involve child welfare, mental health, youth development, and so forth (Blank et al., 2012; Owens et al., 2021). These social service and health partnerships are necessary for a well school community, to increase access to programs, and to address consequences of economic and other inequities.

For the successful implementation, capacity-building practices among individual schools, partner organizations, entire districts, and communities are essential (Bodilly et al., 2004; Fullan, 2005).

Cicchinelli and authors (2006) noted, capacity-building efforts contain the following strategies: (1) First-order change extends past-present structures, operations, roles, responsibilities, policies, and practices in a school or district, whereas (2) second-order

change accompanies a break with the past in a school or a district as the innovation tends to be inconsistent with conventional policies, structures, and practices.

Partnership-centered processes involving curriculum alignment, high-quality instruction, and standards-based accountabilities existent in schools and districts are complemented by the development of horizontal linkages connecting schools and districts strategically with their communities.

Ultimately, they create collaborative leadership structures that encourage leaders to utilize data to guide the implementation of multiple evidence-use programs and services (Anderson-Butcher et al., 2010). Further, community involvement is the core component to equitable and just schools through shared decision making, understanding of values, assessment of needs, and synergy around the direction of improvement (see Green, 2017). Overall, community partnerships extend the services a school can provide as well as extend the expertise used to assess and implement change.

Since SIPs have been traditionally tied to accountability goals, many times they are applied top-down from state to district to school (Bernhardt, 2016; Yurkofsky, 2021). When incorporating a SIP into the daily practice of the school, with authentic goals and evaluation tied to organizational elements, the involvement of all stakeholders and external partners, beyond only teachers and staff, is necessary to develop a SIP as a living document that reflects local needs and efforts (Young et al., 2018; Kyriakides, et al., 2019; VanGronigen & Meyers, 2021).

This collaborative process encourages shared data collection and application of evidence to evaluate daily practices which

have meaning in the local learning environment (Bryk et al., 2015; Kyriakides et al., 2019). This collection of evidence allows a school community to track their own progress and needs to communicate from the bottom-up, from local stakeholders to school officials to district to state.

This kind of shared, transparent, and meaningful evaluation becomes a foundation from which educational leaders can advocate for their school community.

Implementing Evidence Use: Data Use and Research Use

Existing data and research literature indicate schools and districts need to develop certain competencies in interpreting information into effective action.

Although both data and research can be meaningfully interlinked as evidence use, we argue a distinction between competency in data use, using on site data collection in SIPs, and competency in research use, using primary research of others to formulate interventions and interpretations (see Datnow et al., 2021; Reynolds & Neeleman, 2021).

Bernhardt (2016) writes about four categories of evidence use school leaders need to be competent in combining research and data to make meaning across a long continuum on demographics, perceptions, school processes, and student learning.

School leaders use insights from a combination of understanding previous empirical research in these areas and measures from original data collection of each vantage point to assess their continuums and overlap for school improvement. Previous research literature and unique data collected from each of these categories are used as lenses to

provide a full picture about the organizational elements within the school.

How to use evidence for improvement

School leaders apply evidence to evaluate each organizational element using scientific inquiry to adjust structures and practice (e.g., Bowers, 2017; Sheard & Sharples, 2016). When in the classroom, like schoolwide use, Mandinach and Gummer (2016) provide an overview of what teachers specifically need to know to use data effectively and efficiently.

Five elements are suggested for data literacy: (1) identification of problems of practice and how to frame questions, (2) knowing how to use data appropriately, (3) converting data into usable information, (4) transformation of that information into real decisions, and lastly, (5) being able to evaluate the outcomes achieved by using data (Mandinach,& Gummer, 2016).

Evidence-use entails appropriately collecting and evaluating data. Data teams should have baseline level of competency in assessment and evaluation in education, which aligns with the purpose underscored in logic models and improvement science practices found in SIPs (see Bryk et al., 2015; Knowlton & Phillips, 2012; Mandinach & Gummer, 2013; McLaughlin & Jordan, 2004).

More specifically in improvement science, educational leaders guide teams to identify a problem, look for variation in local data, review empirical research, examine the surrounding system, develop a theory of action, test interventions on a small scale then extend, and share progress with a larger network (Bryk et al., 2015; Cohen-Vogel et al., 2016). Holistic competency in overall evidence-use is imperative if appropriate and effective interventions are to be chosen for SIPs in the first place (Hamilton et al., 2009).

Gaining competency in data skills is but one piece of the picture when it comes to making decisions based on evidence. Corcoran (2003, p. 2) found that 'personal beliefs about policy and practice usually prevailed over evidence.' Farley-Ripple and Buttram (2015, p. 4) explain that 'data use in schools… is social in nature.' Further, creating a culture of using data and research to inform decisions is an imperative.

Creating a cohesive culture can support teachers, stakeholders, and school leaders in making coherent decisions to use evidence. Part of creating a successful culture to use evidence to make decisions relies on placing an importance on improvement instead of compliance (Bernhardt, 2016; Yurkofsky, 2021).

The use of evidence is geared toward meaningful goals, growth, and a desire to improve rather than sanctions, blame, accountability, and compliance. This culture of evidence use is particularly necessary when examining issues of equity and the success of traditionally marginalized students to avoid deficit thinking (Baker, 2019) and to purposefully gain student and community support of school improvements (DeMatthews, 2018).

Educational leaders are encouraged to search for other leaders and expert partners who are working to solve similar problems of practice so that evidence, interventions, outcomes, and resources can be shared across a network (LeMahieu et al., 2017).

Integrating Funding and Resource Distribution

Poor funding is a barrier to growth in student achievement, but more specifically it prevents wider school improvement which directs this growth. 'Money does not educate children,'

(Grubb & Allen, 2011, p. 121) but well-researched and well-managed plans may potentially contribute to the improvement of educational outcomes for students. Above all, prior to planning, a thorough investigation of the availability of resources can determine further steps in building essential resources to adequately address existing gaps.

On one hand, a collaborative effort is critical in obtaining 'complex' resources such as: experienced teachers with quality instructional approaches, principals capable of promoting a common vision of educational leadership alongside teachers, and schools with positive climates. This urgency for collaborative effort among teachers, principals, and other administrative leaders is built through curricular coherence and trust (Bryk & Schneider, 2002; Newmann et al., 2001).

On the other hand, "simple" resources, such as smaller class sizes and increases in counselor recruitments, are not as multilayered as complex resources when applied to targeted reforms. In practice, inadequate funding poses a threat to attaining both types of resources (Baker, 2012).

Policymakers need feedback about necessary funding from schools as the implementers of policies, especially to equitably meet needs of students from diverse backgrounds (Baker et al., 2016). An investigation of the relationship between select school inputs and student outcomes is essential to develop fair and adequate educational policy.

Select inputs include programs and services, staffing, materials, supplies and equipment, and educational facilities. Because these inputs can be disproportionate across schools along with their associated student outcomes, policymakers need adequate tools to measure effectiveness of educational interventions and reform initiatives. Disparity between allocated resources and educational outcomes illustrates barriers to anticipated school reform and improvement. When planning resources, school leaders and policymakers should discern how resources have and have not been distributed to low income and historically marginalized community populations.

How to evaluate funding through the lens of adequacy, equity, efficiency

Funding inequality continues to affect the quality of education received by low income and marginalized student populations in the United States (Baker & Corcoran, 2012). The equity, adequacy, and efficiency of funding depends not only on resources allocated, but also on discrepancies in financial infrastructure, and varying costs of educational programs across districts and schools (Duncombe & Yinger, 1999).

Formulating policy, which advances equity in distribution of funding and resources, is possible by diagnosing visible issues through a solid vision with clearly attainable values. This overarching evaluation of funding through an adequacy, efficiency and equity lens is measured by the quality instructional materials, teacher training, and an evaluation of the differing needs of traditionally marginalized students.

However, the inequalities inherent in school funding systems are also due to the complex make-up of local property taxes and value of commercial property affecting the financial infrastructure of school districts (Wenglinsky, 1998). In fact, not all schools are dependent on school funding from the state government (Picus & Odden, 2011). Consequently, a diverse array of issues ranging from socioeconomic status to local property

taxes are intricately linked to variations of equity, adequacy, and efficiency in school funding across schools and districts.

Since the era of high-stakes accountability in the U.S., education finance reform incorporates both school performance and broader realms of educational policy. In line with this change, Lockridge and Maiden (2014) defined the concept of adequacy as the correlational aftermath between the targeted outcomes and the resources required to reach such outcomes. Further, Hanushek (1994) pointed out the disparity between these two constructs is possibly due to an inadequate funding system.

Funding is more simply allocated to tangible areas such as safety, curriculum, transportation, and facilities, whereas funding for human resources, such as high-quality teachers, and supports for them, is often more complex. Because of these varying and complex needs, providing adequate distribution of funding to reach student success is often a challenge.

Over the last several decades, state budgets have been cut due to the economic recession. These cuts have challenged school and district leaders to bring change to student outcomes with decreased funding (Leithwood & Riehl, 2005; Levine, 2005; Portin, 2005). Principals are accountable for responding to emerging needs such as implementing policies, managing resources, and school finances in conjunction with improving learning outcomes (Leithwood et al., 2004).

However, improving the quality of education seems to be unattainable without acknowledging the broader need for equity across diverse student populations in schools. These communities include students from diverse racial, ethnic, language, ability, and economic backgrounds. One approach to assessing equity in funding is to understand the per-pupil funding across districts (Berne & Stiefel, 1994; Rolle & Liu, 2007) and correlation between per-student spending and local property wealth (Goldhaber & Callahan 2001; Cortez, 2008; 2009; Odden & Picus, 2014).

In addition, Knight (2017) also noted that such research did not account for differences in expenditures needed to meet varied needs specific to this student population. Considering this factor, Baker and Green (2008) stated that adequate finance systems should provide resources to meet state standards and school finance equity should allocate resources by accounting for these diverse student needs.

The efficient allocation of resources necessitates the budgets for a fair distribution based on the diverse needs of students (Masters & Adams, 2018; Starmans et al., 2017). Such initiative calls for a unified decision from school leadership, teachers, community leaders, and political leaders to establish a process of 'realistically' fundable and achievable student improvement goals.

Resources, if structured efficiently and allocated fairly, should potentially meet a 'consistent' standard of curriculum, quality teaching, and well-maintained school facilities across differing school settings and student populations. High test scores, graduation rates, and college attendance rates have been used to benchmark the attainment of these standards (Rebell et al., 2012).

However, unless these accountability benchmarks are connected to the extent and nature of how resources were distributed to

students, an understanding of the local budget necessary to meet adequacy, equity and efficiency for all students is lost.

Conclusion

The purpose of this cohesive, school improvement framework is to integrate the necessary, yet commonly discrete, components required to build a singular direction toward progress based on local community needs despite competing, and often top-down, policies and reforms.

While evidence-use and SIPs have been associated with larger high-stakes accountability movements, and added workload pressure to schools, building capacity around these skills can allow educators to adapt these tools to meet local goals rather than to comply to far-removed government policy.

Further, these tools become a language in which educators can communicate the extent to which top-down policy has or has not served their local efforts, and the ways this top-down policy should be revised to serve local needs and practices (see Gardner & Brindis, 2017).

To this end, one of the most important local decisions is the distribution of resources. Many educators, who are charged with the implementation of mandatory reforms, may view them as underfunded or inequitably funded. Further, the process of resource distribution at all levels of the government, down to school decisions, can be detached from specific actions and tasks in interventions connected to a cohesive improvement plan.

Without careful study of evidence to understand opportunity gaps of historically marginalized students within a local school context, a vision and the resources for execution can be misplaced. Overall, the careful tracking and study of school efforts to serve students more equitably would organize the evidence necessary for educators to advocate with policymakers about shortcomings within government policies and resources that prevent or complicate progress.

This evidence for advocacy would help to shift policymaking from a top-down to a bottom-up approach and to re-assign power to local school communities and practitioners with implementation expertise (Lipsky, 1971; Taylor, 2007).

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