

Developing Capacities for Evidence-Guided Continuous Improvement:

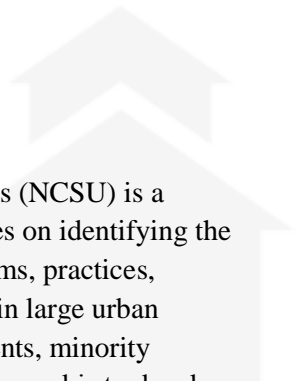
A University/P-12 Network Project

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Conference Paper

October 2015





The National Center on Scaling Up Effective Schools (NCSU) is a national research and development center that focuses on identifying the combination of essential components and the programs, practices, processes and policies that make some high schools in large urban districts particularly effective with low income students, minority students, and English language learners. The Center's goal is to develop, implement, and test new processes that other districts will be able to use to scale up effective practices within the context of their own goals and unique circumstances. Led by Vanderbilt University's Peabody College, our partners include The University of North Carolina at Chapel Hill, Florida State University, the University of Wisconsin-Madison, Georgia State University, the University of California at Riverside, and the Education Development Center.

This paper was presented at NCSU's second national conference, Using Continuous Improvement to Integrating Design, Implementation, and Scale Up. The conference was held on October 7-9, 2015 in Nashville, TN. The authors are:

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This research was conducted with funding from the Institute of Education Sciences (R305C10023). The opinions expressed in this article are those of the authors and do not necessarily represent the views of the sponsor or the National Center on Scaling Up Effective Schools.

**Developing Capacities for Evidence-Guided Continuous Improvement:
A University/P-12 Network Project**

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Abstract

This qualitative multiple case study contributes to the growing body of translational research that seeks to better understand what is needed to develop capacities for evidence-guided continuous improvement in P-12 settings. The study investigated school leadership team participants' perceptions of an intervention called COMPASS. COMPASS engages teams from different schools and districts in activities to identify strengths, weaknesses, and priorities then engage in an inquiry cycle of implementing action plans, gathering data and interpreting evidence in order to reach targeted goals. Two-hundred and twenty-eight district and school leaders and instructional staff from 36 school teams provided reflections on the intervention revealing the majority reported increases in competence in all dimensions of evidence-guided decision making, from priority and goal setting to identifying potential research-based levers to improvement as well as increased capacities for school- and district-wide action planning and progress monitoring. Observation field notes, documentary evidence, and interviews with school leaders also indicate that the process fundamentally shifts educators' focus on systemic changes to achieve system-wide targeted goals. Implications for theory, future research, and considerations for those interested in university/P-12 partnerships for continuous improvement are discussed.

Keywords: Capacity building, school improvement, leadership, network improvement communities

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Integrating research findings, researcher and practitioner knowledge, and data collected within and across school settings to guide decisions about classroom, school, and district practices and processes is essential for systemic continuous improvement. Yet examples of such efforts beyond a particular university/school or district partnership are rare. In addition to lacking a systems approach, most school improvement efforts continue to neglect local priorities, pushing for the adoption of something that worked somewhere else for something that may not be of the highest import in the setting at hand (e.g., as exemplified by the federal What Works Clearinghouse); other programs put forward a generic approach to school improvement with the assumption that if something worked for many it should work for all regardless of organizational capacities and individual staff competencies (see, for example, NASSP's Breaking Ranks program [<http://www.nassp.org/School-Improvement>]). There are notable exceptions, of course, such as the Carnegie Foundation's Networked Improvement Communities (Bryk, Gomez, Grunow, & LeMahieu, 2015) or the Raising Achievement Transforming Learning (RATL) project in the U.K. (Hargreaves & Shirley, 2009). Each of these foreground the import of taking into account organizational contexts when implementing any improvement effort.

In the current U.S. educational policy environment, there is a clear, important priority being placed on the use of data to not only guide decisions regarding curriculum and instruction but to measure performance of students, teachers, and school leaders— each of these with an eye to scaling up effective programs, processes, and practices. For example, whether students are

college and career ready is to be measured by their performance on assessments aligned with the Common Core State Standards (CCSS). States that have successfully secured federal grants in recent years in addition to being required to adopt the CCSS, have also been required to use CCSS student assessment data as part of individual teacher and principal evaluations and to make greater use of these data in addition to others (e.g. classroom observations) in decision making around promotion and tenure.

The purported intent of such policy directives is to create schools that are adaptive learning organizations, using evidence to guide decision making. While this makes intuitive sense, it is also lacking in clarity about how educators are to determine (1) what problems are of the highest priority in their setting, (2) what data will inform them about improvement goals, (3) how data might translate into evidence of something like student learning or teacher skill, and (4) how to use evidence in a system-wide continuous improvement inquiry cycle of planning, doing, studying, and acting (Bryk et al., 2015).

Unfortunately, programs touted as “data driven” or “evidence based” make no distinction between data and evidence. This problematic conflation results in decision making based on data becoming *the* goal instead of a strategy for achieving other goals and/or decision making based on data derailing long-term planning in favor of what Hargreaves and Shirley call “addictive presentism” (2009a). These undesirable results often come about because of two related deficiencies. District office personnel and constituent school staff lack the requisite capacity, and the workforce overall lacks the requisite competencies. Two units of analysis are implicated here—organizations and people. To optimize decision-making both organizational capacity and individual and team competency are required, a finding that raises questions about how they will be developed, institutionalized and sustained. For example, if Hatch (2009) is

correct when he claims that it takes capacity to build more of the same, serious questions arise about the schools and districts that have little of it, a situation further exacerbated by the finding that it takes capacity to build capacity (Hatch, 2009).

Those who have studied learning organizations (e.g., Senge, 1990; Senge et al., 2012) find that organizations that provide the support and structures for individuals within them to work together to develop new knowledge and skills (e.g., learning about the relationship between data and evidence) develop competence for further development. As individuals develop skill in making sense of data, individually and together, for example, they contribute to organizational capacity (Wilcox & Angelis, 2012; Wilcox, 2011). This learning can also occur across a network of organizations, thus further scaling up the potential for effective practice across settings (Bryk et al., 2015). In this view, organizational capacity and individual and team competency are not seen as mutually exclusive. In an ideal situation, they are linked by new organizational routines and practice protocols that are best developed in tandem (Spillane, 2012). Improvement-oriented interventions in alignment with this view target both the organization and its people; and with a priority for crafting coherence using a combination of top-down and bottom-up learning and improvement strategies (Honig & Hatch, 2004).

Faced, then, with the complexity of using evidence to guide decision making, district and school leaders and their improvement teams in the current U.S. policy context need suitable strategies for doing so— strategies that make sense in their own contexts and can be embraced by those who must enact them but that are also grounded in research-based findings and theory. Such strategies are thought by some (e.g., Bryk et al., 2015; Ball, 2012; Robinson, 2012) to best arise when researchers and practitioners work in partnership, especially when they are aligned with external policy demands with unprecedented demands for the implementation of multiple

innovations concurrently (e.g. CCSS and teacher and administrator evaluation systems). This special kind of University/P-12 partnership and research on it is likened to what some call “improvement research”, “improvement science” (e.g., Bryk et al., 2015), or “translational research” (Ball, 2012).

The study of the COMPASS intervention introduced in the ensuing analysis was designed as an exemplar for this new genus of research, which aligns and unites analysis and action. Accordingly, COMPASS was developed and field-tested with school leadership teams. COMPASS captures a process of **COM**paring practices in one’s own setting to those in higher-performing schools identified through research, **Assessing** priorities based on those comparisons, **Selecting** potential levers to improve a priority area, and **Setting** a SMART goal or goals designed to address the priority. Once a leadership team establishes a goal, the process has them take AIM at **A**ction planning, **I**mplementation, and **M**onitoring progress through what we call “check the pulse” meetings. The entire intervention is hence called COMPASS-AIM.

Before further discussion of the COMPASS-AIM process and procedures, we provide a selective summary of the literature informing the COMPASS-AIM approach and why it is needed. Next, we more fully describe COMPASS-AIM and provide details about its pilot testing and subsequent iterations in 36 schools. We then explain findings related to participants’ perspectives on how COMPASS-AIM impacts evidence-guided decision making and continuous improvement effort outcomes. We conclude with implications for theory, future research, and practice with specific considerations for those developing university/p-12 partnerships.

Indicators of Need and Opportunity Derived from the Related Literature

Our review yielded five categories of literature related to developing competence and capacity for evidence-guided decision making: (1) prescriptive and normative analyses that exhort leaders to move their schools and districts toward greater use of data and evidence in decision making; (2) critiques of data innovations; (3) descriptive-explanatory (social-analytical) accounts of actual data use; (4) conceptual frameworks that map the work that lies ahead with regard to evidence-guided decision making, while emphasizing shortcomings and gaps in the extant literature; and (5) action-oriented, empirical accounts of the progressive development of evidence-guided decision making. The relative dearth of literature in this last category occasioned the development of COMPASS-AIM.

Prescriptive and Normative Literature

DuFour and Fullan (2013) provide a recent, persuasive example of this kind of literature. With a focus on professional learning communities as a key driver for school improvement and effectiveness, these two scholars also exhort leaders to foster transparency and trust along with a focus on data as part of an overall approach to organizational learning and improvement. They prescribe six key priorities for leaders: (1) recognize and celebrate short-term progress and small wins; (2) break down long-range goals into short-term, doable tasks; (3) develop a system for identifying and addressing obstacles and barriers as they arise; (4) build confidence, self-efficacy and hope; (5) move people from grudging compliance to enthusiastic commitment; and (6) convey regularly and strategically admiration and appreciation (pp. 74-75).

Use of data and evidence-guided decision making are embedded in the above priorities, but with a caveat. In the words of Dufour and Fullan (2013), “The call for educators to be more data-driven misses an important point: Without a basis of comparison, data do not inform” (p. 56). Unfortunately, these scholars leave out the relevant details about how to proceed with such

comparisons, including what tools are needed. The same need is manifest in other examples of this literature.

Critiques

Persistent, top-down, compliance-oriented, and regulatory state and national policies create their own set of challenges. Hargreaves and Shirley (2009b) frame this top-down, compliance-driven policy orientation as a key feature of what they call “second way” reform agendas, those driven by a market philosophy and standardization, including a reliance on testing and data. Using the term “technocracy,” they highlight the technical-rational orientation of such an approach as entailing the steady translation of moral issues into technical ones defined and driven by data about students’ test scores and comparative performance indicators. Without the application of professional judgement and experience, they say, the technocratic approach risks misusing data and making decisions based on misleading and/or misinterpreted data. In a related analysis, they describe this pattern as “data-driven-to-distraction” (Shirley & Hargreaves, 2006).

Language that is unclear, incoherent, misaligned, and inconsistent contributes to such vexing practice and policy problems and their consequential outcomes. For example, data-informed, data-guided, data-based, evidence-based, and evidence-guided decision making often are used as synonyms. Compelling on the surface, these data-related terms have different meanings. A significant practical problem results when meanings are inconsistent and unclear. This clarity and coherence problem is exacerbated when “evidence” is conflated with “data” (Hargreaves & Shirley, 2009b; Shirley & Hargreaves, 2006). Additional challenges arise when assumptions are made that data and evidence arrive pre-packaged with ready-made meanings and use values.

Descriptive-Explanatory Research

Farrell's (2014) recent study on data use for instructional improvement is an important example of descriptive-explanatory research. She emphasizes the gaps in the extant literature and has found an important commonality—namely, accountability pressures shaped data systems and use in all of her sample schools and districts. However, she also reported important contextual differences involving, for example, organizational structures and decision-making rights and responsibilities and available financial resources. Farrell emphasizes that these same contextual differences operated differently in her sample's district and school contexts. They were constraints in some and facilitators in others. One implication is that data-related organizational interventions that work in one context will not automatically transfer to others.

Conceptual Frameworks

Knapp and colleagues (2014) emphasize the importance of district office-school alignments on a wide range of improvement priorities (see also Dufour & Fullan, 2013). Honig and Venkateswaran (2012) emphasize the “social sense-making activities” people undertake in translating data into “evidence.” These sense-making activities are social because individuals rarely do this work alone. They involve sense making or interpretation because the data do not speak for themselves—they mean something as evidence supporting some claim; in addition, their application and use to solve problems of practice nearly always are challenging because practice problems rarely are narrowly technical and procedural. Rather, they often involve understanding primary and secondary drivers as well as possible unintended consequences. Honig and Venkateswaran (2012) also stress that individual, team, and organizational learning and improvement depend in part on the quality of this collaborative sense making, while Levin and Datnow (2012) highlight the reciprocal nature of data sense making among principals, teachers, students, and district personnel.

Unfortunately, this literature tends not to address another important step in the decision-making process. Once educators determine that data merit the status of evidence, they need to learn how to apply intervention logic to the practical problem of what to do with the evidence. This competency set entails learning *how* to match research-based practices to the evidence-based need or problem taking into account constraints and affordances in a particular setting. Such a contingent, evidence-guided decision-making approach ostensibly transcends the conventional meaning of being driven by data. It is itself an important innovation, one that requires requisite supports, resources, technical assistance, and leadership.

The shift toward evidence-guided decision making can be viewed as an organizational change, especially when this new way of working is slated to become a defining feature of school- and districtwide practice. Toward this end, Spillane (2012) emphasizes the importance of organizational routines for evidence-guided decision making. One implication of this research is that in schools where there are no such formal routines, specialized interventions for schools-as-organizations are needed. As stated earlier, the shift to evidence-guided decision making entails changes in both people and organizations. For evidence-guided decision making to become embedded in everyday practice, interventions for both are needed. Where schools-as-organizations are concerned, interventions that develop new organizational routines and replace existing ones are a top priority (Spillane, 2012). At the same time, principals, teachers, student support staff and other front-line professionals need to develop requisite competencies to engage in such work.

Action-Oriented, Empirical Accounts: Organizational Intervention Research

Schools and entire districts, then, confront formidable challenges as they move toward evidence-guided decision making. Three recent publications define the characteristics of improvement

efforts that show promise of enduring effects on organizational capacities for evidence-guided decision making. First, based on their research of how so-called “third way” approaches to improvement (i.e. those intended to advance performance through multiple public and private partnerships) work, Hargreaves and Shirley (2009b) identify four catalysts that cohere and sustain improvement efforts: distributed leadership, networks of collaborating schools, putting local responsibility for learning before centralized accountability measures, and valuing differentiation and diversity. Next, Hargreaves and Fullan (2012) in a critique of the failures of dominant standardizing and accountability policies, provide counter examples drawn from their work and research across the U.S, Canada, and the U.K. They found that individual teachers cannot make a big enough difference in results working independently; collaboration and professional learning in communities is required. To that end, they assert that organizations must invest in the professionals within them by providing the structures and processes to support developing competence and commitment at every career stage. Most recently, Bryk and colleagues (2015) added their voices with a book describing their efforts with networks of schools that use the Plan-Do-Study-Act inquiry cycle. Here again, examples abound of the importance of defining specific problems, noting variations in performance across settings, taking into account system affordances and constraints (e.g. organizational capacities and individual and team competencies), measuring performance, and most importantly engaging in continuous improvement efforts in networks to accelerate learning.

Each of these accounts concludes that only by developing and supporting individual and team competence in making professional decisions can organizations develop the capacity for sustained improvement. The problem is systemic, not individual, and so must be the solution. In terms of evidence-guided decision making— a fundamental aspect of professionalism—

educators need support in terms of time, space, and mentoring to learn the sense-making activities involved in the translation of data into evidence. They also need assistance and supports in the critical work of matching a research-supported solution to an evidence-based problem of practice (e.g., Fixsen, Blase, & Van Dyke, 2012; Meyers, Durlak, & Wandersman, 2012). And they need support in establishing evaluation-driven, continuous quality improvement mechanisms to facilitate embedded and ongoing individual, team, and organizational learning and improvement (e.g., Argyris & Schön, 1996; Knapp, et al. 2014; Kowalski, 2009). These several needs recommend supports that model new school and district routines and help embed evidence-guided decision making routines in everyday practice (Spillane, 2012).

The COMPASS-AIM Intervention

In response to requests from practitioners, the lead author, in collaboration with peers, policymakers, and practitioners, developed a complex organizational intervention that is designed to provide the supports suggested by the literature as needed for evidence-guided decision making as part of a continuous improvement effort (i.e., turning data into evidence, trying and testing potential evidence-based solutions to problems of practice, establishing routines for ongoing identification of needs, implementing action plans, measuring progress, assessing results, and recalibrating). This intervention was developed in the context of a multi-year university research project supported by a broad array of public and private entities with the intent to translate best practice research into tools and procedures for continuous school improvement. For more detail on the history of the project see Appendix A.

COMPASS-AIM was designed to scaffold the social sense-making activities of individuals and teams with an emphasis on developing individual and team competencies for

evidence-guided decision making. As indicated earlier, the acronyms stand for activities the leadership team undertakes in partnership with university researchers and professional development team facilitators. Participants:

- **COMP**are their current practices and processes with those recommended in case studies of higher-performing schools.¹
- **Assess** their schools' strengths and weaknesses to identify priority areas. A survey, offered online in Survey Monkey as well as in hard copy (see Appendix B) supports the comparison and assessment.
- **Select** potential levers to improve (i.e. promising procedures, processes, and practices) gleaned from rich case studies of higher-performing schools whose narratives tell the stories behind the effective practices while providing context.
- **Set SMART** goals in line with their identified priority area(s).
- **Action plan** to identify data to collect to provide evidence of progress; those plans include steps needing to be taken – when and by whom – to work toward their self-defined goals.
- **Implement** the steps in the action plan, regularly meeting as a team in their own settings and occasionally reconvening with university personnel in “check-the-pulse” sessions.
- **Monitor** progress by collecting, analyzing, and making sense of the data collected in terms of the SMART goal(s) set in “check the pulse” meetings.

These steps are set within a five-stage continuous improvement process derived from Kowalski and colleagues (understanding, formulating, applying, reflecting, improving) (2008) (see Figure

¹ The case study schools were identified as achieving higher-than-predicted student performance outcomes over time taking into account student demographics. All of these case studies and the research methods used in deriving them have been published online (see Wilcox, 2007, 2008, 2009, 2011; Wilcox, Baker, & Angelis, 2013).

1). It is similar to the Plan-Do-Study-Act cycle advocated by Bryk and colleagues, among others (2015), particularly in the ways that it focuses on identifying specific problems of practice, practical measures to assess progress and making adjustment as part of an improvement cycle.

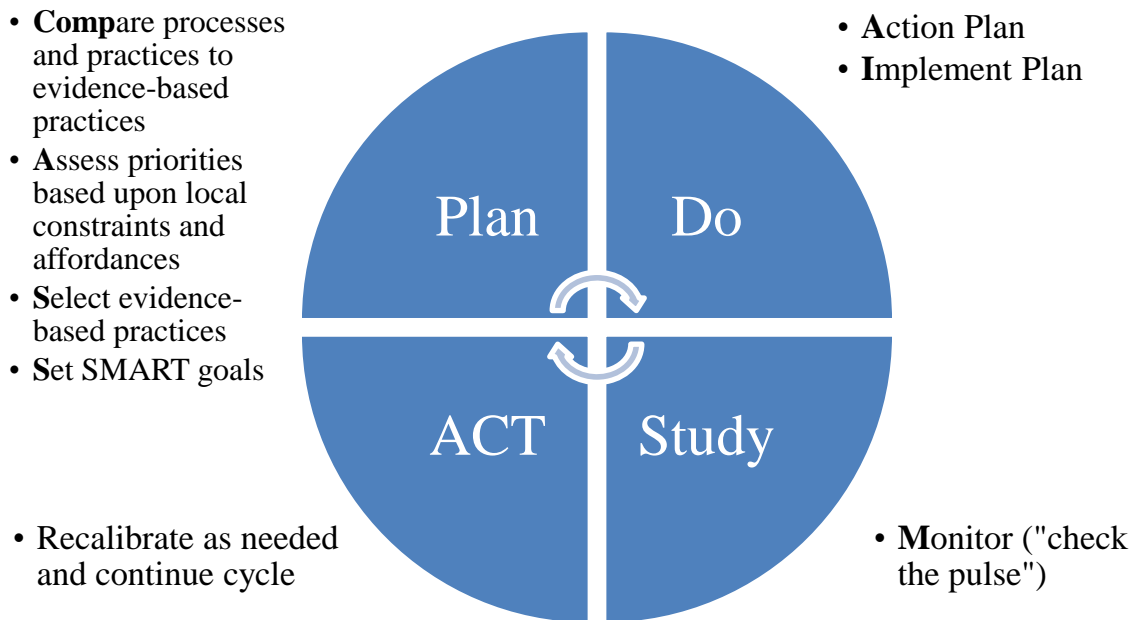


Figure 1. COMPASS-AIM as part of a continuous improvement process

The COMPASS-AIM process includes both face-to-face facilitated work among leadership teams, university researchers, and professional development facilitators. It includes a set of tools to support that work comprised of scaffolds to engage participants in team-building as well as the use of research results to inform planning. It combines initial intensive institutes, usually over two days with “check-the-pulse” meetings throughout the school year and encourages ongoing meetings of the leadership teams in their own sites with outside facilitation as needed or requested. Tools provided to each participant include a COMPASS-AIM workbook, with guidance on the evidence-guided decision making process for continuous

improvement as well as how to access online surveys and research. It also includes, whenever possible, bringing together school teams from different districts and contexts to form a network improvement community (NIC).

Once COMPASS-AIM was formalized as a process, with its associated tools and procedures developed, we field tested it with a sample of school leadership teams. Educators in these schools, like all others in the state, were confronted with standardizing, compliance-oriented influences associated with state and federal educational policies indicative of a technocratic, data-driven approach to reform. Therefore, our aim was to achieve the delicate balance between helping them comply with external mandates (such as assisting in developing a School Improvement Plan if they had not met state-determined student achievement targets) and the need to account for what educators believed was important work in their own local contexts and taking into account what resources they had to achieve aims.

Toward this end, the COMPASS-AIM intervention was founded on core assumptions regarding the importance of shared purpose, coherence, professionalism, and collaboration (Hargreaves & Shirley, 2009b; Hargreaves & Fullan, 2012) among people and also on the importance of organizational structures and processes that develop and evolve in tandem with these people-related characteristics.

Theoretical Orientation

In developing and investigating the impacts of COMPASS-AIM we relied upon social ecological theory (Bronfenbrenner, 1993). One genus of this theory provides a systems perspective and frames the components of any system as both nested and interrelated. Whether presented in a horizontal plane as interacting spheres, or in a vertical plane as multiple levels of influence and determination (e.g., Weiner, Lewis, Clauser, & Stitzenberg, 2012), social

ecological theory emphasizes what Coburn and Turner (2012) call the macro-micro relationship. Significantly, this theory does not assume that individuals' performances are the result only of what takes place in the most immediate setting. Instead, it frames performance as resulting from activities and interactions that are situated within a set of nested social structures or systems: The classroom is nested in a school, which is nested in a school district, nested in a community, which is, in turn, nested in a state and national policy context (see also Hargreaves and Fullan, 2012).

We blended social ecological theory with theories of organizational change that emphasize the importance of clarity and coherence, both within schools and programs and between schools and their districts (Wilcox, Lawson, & Angelis, 2015; DuFour & Fullan, 2013; Hargreaves & Shirley, 2009b; Langer, 2004). Four essential propositions underlie the COMPASS-AIM intervention: Organizational capacity and competencies for individuals, professional learning communities, and teams are enhanced when (1) practitioner expertise from local, contextualized examples of promising practices provide credibility to change efforts and model the workings of resilient and higher-performing systems in action; (2) facilitators use team-building activities and protocols to remodel how individuals work together toward shared goals; (3) facilitators support organizational adjustments to routines and reconfigurations over time; and (4) leadership teams from a variety of schools and districts work together, each bringing and learning from the diversity of perspectives and ideas. This conceptual framework paved the way for field testing.

The current study investigates four related research questions. First, what are educators' perceptions of the impacts of COMPASS-AIM on their research-based and evidence-guided decision-making structures and processes? Second, what are educators' perceptions of how

COMPASS-AIM impacts their abilities to use research in the selection of tailored interventions that hold promise to achieve priority goals? Third, what are the relationships of COMPASS-AIM to the development of organizational capacities and individual competencies for organizational learning and improvement? Fourth, what challenges and solutions to these challenges do leadership teams with varying organizational capacities and individual competencies for organizational learning and improvement experience when engaging in COMPASS-AIM? Ultimately, answering these questions helps us understand variations in performance and how attention to those variations might accelerate continuous improvement across networks of school improvement teams.

Method

This multiple case study of 36 schools utilized both quantitative and qualitative methods. Quantitative data in the form of likert-scale survey responses as well as qualitative data such as observation field notes, documents, and interviews were collected.

Participants

To recruit participants, we offered half-day introductory sessions as well as sent flyers and eblasts throughout our network. Once we were contacted, we first invited school and district leaders to an initial institute with a building leadership team comprised of teachers and other staff who would be able to commit to the process and bring their work back to other colleagues. Second, we offered an online survey on Survey Monkey that we recommended be distributed to and completed by all instructional and administrative staff prior to an institute. The online survey assesses staff evaluations of strengths and weaknesses with regard to such things as curriculum and academic goals; capacity building; instruction; interventions and adjustments; resource

allocations; and monitoring and use of data. We collected these data from Survey Monkey and shared them with leadership teams during COMPASS institutes.

We commissioned the facilitation expertise of the university’s affiliate professional development organization (Capital Area School Development Association) and these facilitators collaborated with the research team in developing the COMPASS-AIM agenda and activities as well as co-facilitated the institutes. From the first year of the COMPASS-AIM offerings in 2010 until 2014, 228 district and school leaders and instructional staff from 36 school teams have participated in providing us feedback on the process (see Table 1). Only schools 7 and 30 did not participate in providing reflections on their experiences; In addition, 2013 was a field study year for the project, therefore, no COMPASS-AIM institutes were offered.

Table 1.

Participants COMPASS-AIM

Year	Schools Participating	# Participants
2010	# 1-7	38
2011	# 8-15	73
2012	# 16-32	71
2013	0	0
2014	# 33-36	46

Data Collection

For the current study, the university research team collected four types of data— reflections, observation field notes, documents, and interviews. The reflection instrument (see Table 2) sought to assess how well the COMPASS-AIM process developed participants’ abilities to

collaborate on school improvement efforts using an evidence-guided approach to decision making. This reflection was administered at the close of the initial institute. The reflection included open response items as well as a rating scale. The scale asked that participants rate the impact of the COMPASS-AIM materials and institutes on particular competencies; the rating scale ranges from “not at all,” “somewhat,” and “very much” and also included an area for open comments.

To answer our first research question, the reflection asked respondents to assess COMPASS-AIM’s impact on their abilities to: Compare practices in their own school with those of other schools to identify areas for improvement and develop a shared vision of priorities with other members of their participating school or district team. To answer our second research question, the reflection asked respondents to evaluate COMPASS-AIM’s impact on their ability to identify potentially effective levers to improvement based on evidence-based practices identified in the research. To answer our third research question, the reflection asked respondents about the impacts of: developing SMART goals; developing timelines for accomplishment of actions; reflecting on and evaluating progress toward achieving goals based on evidence; planning next action steps; and using processes of evidence-guided decision making to improve educational outcomes. Finally, for our fourth research question we drew upon the observation, document, and interview data to assess what challenges and solutions to these challenges leadership teams with varying organizational capacities and individual competencies for organizational learning and improvement experience when engaging in COMPASS-AIM. Observation field notes were gathered to document teams’ interactions during institutes and included details about challenges and solutions as they moved through the COMPASS-AIM stages. Documents collected included cluster maps on SMART goals, notes, and other

reflections. The open-ended interviews, which we conducted by telephone with some principals, asked them to reflect on how participation in COMPASS-AIM had affected leadership, teamwork, and school improvement efforts in their schools, including challenges, concerns, and any known effects on student and school targeted outcomes.

Data Analysis

We analyzed the 228 reflection responses by checking frequencies using Excel. The other data were open-coded using the research questions as a guide (Miles, Huberman, & Saldana, 2014). We used “unique case selection” procedures (LeCompte & Preissle, 2003, p. 75) to highlight two cases of particular interest to our inquiry — Millstream Primary School (MPS) and Echo High School (EHS). For these we used typical case study analysis procedures, triangulating across the observation, principal interview, and documentary data (Yin, 2014). These cases are described following a description of the overall discussion of the findings.

Findings

In response to our first research question (What are educators’ perceptions of the impacts of COMPASS-AIM on their research-based and evidence-guided decision-making processes?), reflection data derived from questions one and two were informative. On these questions, 97% of participants indicated “somewhat or very much” in response to question 1 (During the COMPASS institute, how has the tool and process for using the tool impacted your ability to compare practices in own school with those of other schools to identify areas for improvement? On question 2, 99.9% of participants indicated “somewhat or very much” with regard to the impact of the COMPASS institute and its tools and processes on their ability to develop a shared vision of priorities with other members of the participating school/district team (see Table 2). To

answer our second research question regarding COMPASS-AIM’s impact on improving educators’ abilities to use research in selecting tailored interventions with potential promise to achieve priority goals, we drew upon question 3, which asked participants’ about their ability to identify potentially effective levers to improvement based on best practice research. On this, 100% of participants answered “somewhat or very much” (see Table 2).

Our third, more complex research question sought to investigate COMPASS-AIM’s impact on the development of individual competencies and organizational capacity for organizational learning and improvement. This encompasses the last four steps of the COMPASS (setting SMART goals, developing an action plan, implementing the plan, and monitoring progress) and aligns with the “plan, do, study, act” inquiry cycle discussed earlier (Bryk, et al., 2015). Reflection questions seeking to answer this research question included numbers 4-9 that probed for evidence of organizational learning through recursive and iterative processes of SMART goal setting, developing and implementing action plans, and monitoring results to inform continuous improvement. The findings show that between 92% and 99.5% of participants felt that the COMPASS institute tools and processes impacted their abilities somewhat or very much as is displayed in Table 2.

Table 2.

Participants’ Rating of the Impact of COMPASS-AIM on Abilities to Use Research and Evidence (“somewhat” or “very much” rating)

Questions	% Responding “somewhat” or “very much”
1. Ability to compare practices in own school with those of other schools to	97.1

identify areas for improvement	
2. Ability to develop a shared vision of priorities with other members of the participating school/district team	99.9
3. Ability to identify potentially effective levers to improvement based on best practice research	100
4. Ability to develop SMART goals	99.5
5. Ability to develop timelines for accomplishment of actions	99.3
6. Ability to share progress with other participants and outside school/district facilitators	96.2
7. Ability to reflect on and evaluate progress toward achieving goals based on evidence	92.1
8. Ability to plan next action steps	96.6
9. Ability to use processes of evidence-based decision making to improve educational outcomes (e.g. improve graduation rates, increase performance on standardized or other assessment, reduction of suspensions, etc.)	95.4

In response to the open-ended questions (posed at check-the-pulse sessions), participants responded with the following comments in response to the question: “Have the COMPASS-AIM process and/or other project resources (e.g., research reports) made a difference in your school? Yes or no. Please comment.” Comments, indicated, for example, that COMPASS-AIM was responsible for fostering “forward motion” and “growth”; using data for goal setting; better focusing their initiatives; and bringing building-wide coherence to their efforts. Notwithstanding this study’s limitations, including the relatively short time frame between successive

administrations of the reflections (in many cases less than one school year), these findings signal an important developmental process. They indicate that the progressive development of educators' competencies results in organizational improvements, especially new capacities for data-driven and evidence-guided decision making.

As mentioned earlier, a round of phone interviews with principals of participating teams sought to learn how – or if – participating leadership teams were putting COMPASS-AIM to use and to what effect. We discuss findings related to our fourth research question (What challenges and solutions to these challenges do leadership teams with varying capacities and individual competencies for organizational learning and improvement experience when engaging in COMPASS-AIM?). Here we draw upon our observations as well as principal interviews and documentary evidence from a few select schools.

“Millstream Primary School” (School 36)

Millstream, a primary school in a relatively rural area, joined COMPASS-AIM because its district had contracted with us to work with the district's intermediate, middle, and high school in 2014-15. In August 2014 the principal of Millstream sat in with the intermediate-level team for part of our initial institute with the other three teams, then invited us to work with the Millstream faculty as a whole-school team. Early in the school year we offered a full-day institute, which was attended by the principal plus the 35 staff members working with students in the PK-2 building.

They brought to the institute five vision statements that they had earlier drafted as a group, and they insisted on developing a SMART goal and action plan for each, despite our advice that five goals are typically too many. The goals covered topics from providing engaging and challenging instruction to nurturing positive student behavior to welcoming families to

collaboration and meaningful professional development. Initial action plans were uneven in terms of specifics about who would take what actions within what timeframe and what data to collect to provide evidence of success. Discussions revealed doubts about family support for education and an overriding concern about student behavior, with underlying differences in how faculty thought it best to improve it. “Ticket out” reflections revealed both appreciation of and need for more collaboration among staff to deal with these and other issues. Since we had spent only one day with them, we asked only the first four reflection questions (see Table 2), which are related primarily to our first two research questions (What are educators’ perceptions of the impacts of COMPASS-AIM on their research-based and evidence-guided decision-making structures and processes? What are educators’ perceptions of how COMPASS-AIM impacts their abilities to use research in the selection of tailored interventions that hold promise to achieve priority goals?). As shown in Table 3, their responses on these questions indicate confidence in their ability to set priorities and develop SMART goals.

Table 3.

Millstream Participants’ Rating of the Impact of COMPASS-AIM on Abilities to Develop Priorities and Set SMART Goals (“somewhat” or “very much” rating)

Questions	%	%
	Responding “somewhat” or “very much”	Response Rate
1. Ability to compare practices in own school with those of other schools to identify areas for improvement	82.9	94

2. Ability to develop a shared vision of priorities with other members of the participating school/district team	97.1	100
3. Ability to identify potentially effective levers to improvement based on best practice research	100	100
4. Ability to develop SMART goals	97.1	100

At the principal's invitation, we returned in October for a follow-up session, at which the focus was to be on developing the action plans associated with their goals related to positive student behavior and connecting with families. In response to a questionnaire asking participants to list (1) "3 things I do with confidence," (2) "2 things that are challenging for me," and (3) "1 area where I need more support," it became clear that student behavior was a major concern. Nearly half (9/22) of the responses to statement 3 sought support in that area, and one-third of the items (15/44) listed in response to statement 2 mentioned handling student misbehavior as challenging. However, whether the approach should be to "crack down" on disruptive students first and then expect academics to follow, or to better support students' social and emotional development and provide more engaging instruction in the classroom as a way to attain better behavior was hotly contested. The discussion brought out the "storming" phase of team development and revealed the influence one particularly punitive-oriented staff member had over her peers.

Thus we approached our third session with the staff (in March) with some trepidation. However, we found that in the intervening five months, they had (1) come to the conclusion that five goals are too many and decided to focus on two: behavior and families, and they had (2) marginalized the most negative member and begun to collectively and collaboratively take a

more positive, developmental approach to student behavior and family connections. The two goals they developed are:

- “We, the entire Millstream Primary School community, will promote positive behavior within a caring and nurturing school by increasing character education throughout the building.
- By June 2015 the Millstream Primary School community will make families feel valued, comfortable, and supported by increasing the opportunity for reciprocal communication, engagement and involvement at school events as measured by family feedback and participation.”

With attention now focused on their areas of most concern, they developed more specific actions plans (see Figure 2) to meet the goals, both by grade level and for the entire school, some for the current academic year, others for the next.

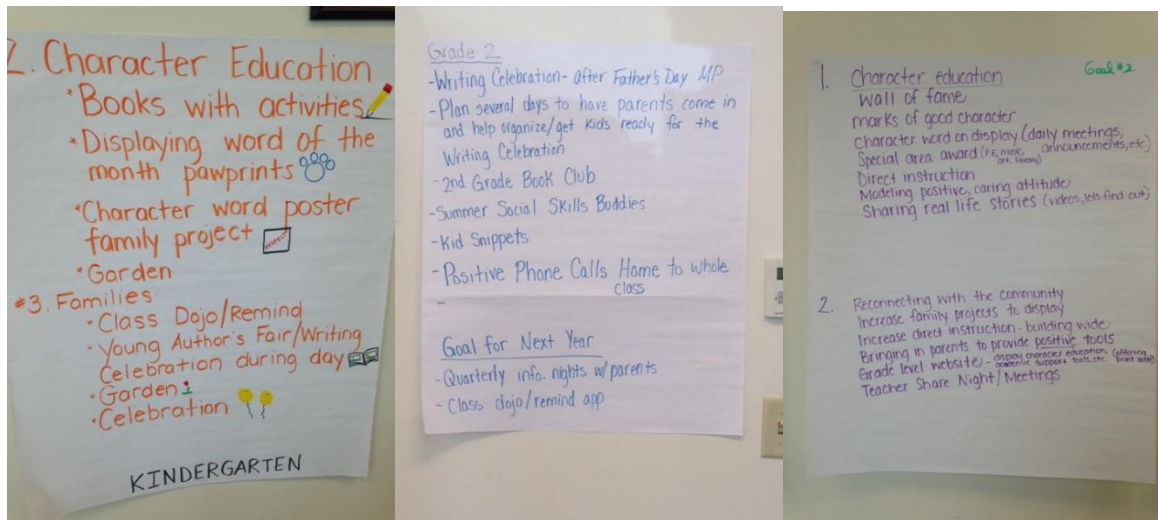


Figure 2. Millstream teachers’ plans for meeting their SMART Goals

This process of identifying manageable focused aims required iterative cycles of articulating the problem and grasping what components of the system were producing the

undesired outcomes. Attention to affect (such as frustration and blame) was important as well as providing time for staff to discuss and work out their differences with the benefit of the researcher/facilitator team guidance.

“Echo High School” (EHS) (School 1)

In the first year of the COMPASS-AIM intervention, EHS had been cited by the state, yet again, for the persistence and size of its achievement gaps. EHS and its feeder middle school had failed to make Adequate Yearly Progress (AYP) with three subgroups of students, and its graduation rate did not meet AYP targets (targets set by the state education department and based primarily on required high-stakes assessment outcomes).

District and school leaders were seeking solutions and so turned to our research team and COMPASS-AIM for support. At that time the principal voiced a central concern: “There are so many data, getting your arms around them is like wrestling with a mattress.” With this concern in mind, the EHS leadership team consisting of the principal, assistant principal, and eight others, including guidance personnel, curriculum coordinators, a psychologist, and teachers arrived at the initial two-day summer institute with the results of 52 of their 89 colleagues’ responses to the online survey that would inform **COMP**aring and **A**ssessing their practices to those in higher-performing high schools. A summary of their survey results is shown in Figure 3. On a four-point scale where four equaled more like the practices in higher-performing schools and one, more like practices in average-performing schools, EHS’s average score across all of the categories was 2.68. This score indicated that they assessed their practices somewhere between those we had found in average-performing and higher-performing high schools.



Figure 3. EHS Questionnaire results (scale: 1/lowest-4/highest)

In group discussions at the initial institute, the EHS team reported that they had been cited by the state for consistently low performance of their Hispanic/Latino, special education, and economically disadvantaged students. They also explained that the entire faculty had had some frank and heated discussions about their moral obligation to close those gaps. Discussions had included, for example, the potential to teach more heterogeneously grouped classes along with teachers' need for professional development in how to better differentiate instruction to be successful in that endeavor. Although evidence-guided decision making was not their lowest score on the questionnaire (transparent communication was), the team was concerned that they “didn't know what they didn't know,” so they chose to focus on that area first. At the conclusion of the institute, they had not yet drafted a SMART goal related to evidence-guided decision making, saying they felt stuck on “measurable” and “time bound.” As displayed in Figure 4, by the conclusion of the institute they were committed to using evidence but were not yet clear on which evidence and how to make it suit their purposes. They recognized that the goal they wrote was a preliminary or interim step: to “develop the infrastructure to identify, collect, and utilize

data to improve student achievement.” They knew they needed data but wanted to avoid drowning in data.

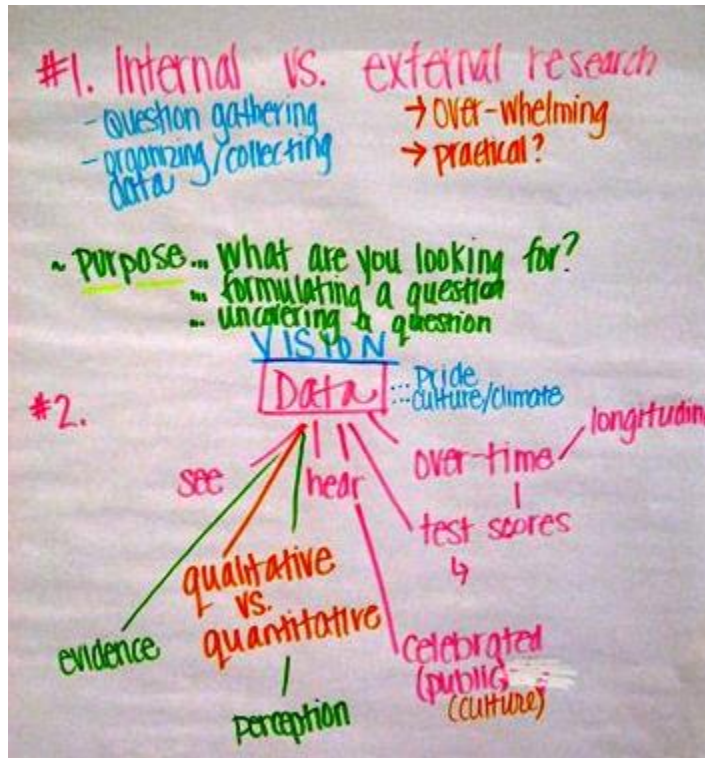


Figure 4. EHS brainstorm for SMART goal

Before school began in the fall, the EHS principal reconvened the team and together they determined that they needed to look at data through the lens of a class cohort. At that time they developed two SMART goals for the cohort of students that had entered the school in 2007-8 and, ideally, would graduate in 2011: The first goal was “to attain the annual measurable objectives for all students in ELA and math” on the state report card and the second: “to attain the safe harbor targets² for Hispanic/Latino students, students with disabilities, and economically disadvantaged students in ELA and math.”

² A No Child Left Behind Act term referring to reducing the percentage of non-proficient students by 10% as an indicator of improvement.

By the following March in a “check-the-pulse” meeting, the team reported making headway in recruiting colleagues to the effort to focus on individual student growth and measure progress through the lens of a class cohort. For example, math and English teachers reported using more diagnostics to help target support to where students needed it. More teachers were working with students and families to encourage students to take the five state assessments required for a state-sanctioned diploma; they were actively focusing on differentiating instruction, providing after school tutoring, and offering breakfast to all students on the morning of the state assessments. The ELA and math coordinators, both of whom were members of the leadership team, also reported that teachers in their departments were beginning to critically examine their curricula and instructional practices; they were becoming more open to change.

In August (approximately one year after the initial institute), without the involvement of any university team member via COMPASS-AIM Institutes or meetings, the EHS principal reconvened the team to measure progress. At that time, the team reviewed data indicating that the school had met half of the six targets their team had set for closing student subgroup achievement gaps (i.e. Hispanic/Latino students in ELA and math; economically disadvantaged students in ELA). Perhaps as important, they found that paying close attention to the students on the disadvantaged side of the achievement gap had not diminished performance by those on the advantaged side. They had met their target for all students in ELA and were close to meeting AYP in math for all students (missed by only four points) as well. Meanwhile white students were holding their own as the gap with Hispanics/Latinos was beginning to close.

The team then decided to refine its goal related to evidence-guided decision making. Also, drawing on what they had learned from COMPASS-AIM (e.g., comparing their processes and practices to higher-performing schools and assessing their priorities), they decided to address

transparent communication, which they knew to be the lowest overall score on the original survey completed by 58% of the staff (see Appendix B). The leadership team divided into two groups, invited colleagues to join them, and drafted SMART goals for each priority area. For evidence-guided decision making their refined goal was: “Increase the percent of students eligible to sit for the June 2012 Living Environment [State] Exam.”³ For promoting transparent communications, their goals were: “Curriculum maps will be actively used, including rigorous assessments that drive instruction to improve student achievement by June 2012”; and “Parents of students who receive failing comments on the Interim Report will be contacted by the child’s teacher to discuss strategies for improvement.” With participation of the science department in the process of setting the first goal, their inquiry team in the second goal, and parent outreach groups in their third goal, there was indication that the COMPASS-AIM continuous improvement routines were becoming more fully integrated into the school, reflecting an increase in individual competency and school capacity for making decisions guided by evidence.

Despite losing 10 full-time teachers and one half-time teacher to budget cuts in the second school year, the team reported in December of the second year that they were able to maintain their focus on their SMART goals and on what they could do—not on what was beyond their control. In other words, they relied on evidence as they made strategic decisions about supporting professional development for differentiated instruction and cooperative learning while preparing to tackle new demands such as implementing the Common Core State Standards and new professional performance review requirements, both external mandates. The EHS principal’s leadership was manifest throughout the process.

Since the December 2011 check-the-pulse session the principal has continued to provide updates on his school’s progress in personal communiques (March 2012, January and October

³ The Living Environment exam meets the graduation requirement of passing at least one state science assessment.

2014; July 2015). Data compiled from the state education department data base bear out his reports of his school’s progress in terms of closing the achievement gap in graduation rates, as shown in Table 4.

Table 4.

EHS Graduation Rates, 2009-2014

Increase in Graduation Rate, 2009-2014	2009	2014
All students	62% ⁴	67%
Hispanic Students	32%	49%
Economically Disadvantaged Students	48%	52%
Students with Disabilities	20%	43%

Such progress does not, however, mean that the EHS leadership team is satisfied nor without frustrations. As of July 2015, they were wrestling with the challenge of attendance. In a check-the-pulse session, the first in four years with university partners, they assessed their own practices in relation to the findings from our most recent study, which focused on practices correlated with higher-than-predicted graduation rates. Recognizing their own need for better systems of attendance tracking, both schoolwide and within school (i.e., period-to-period reporting), they identified some potential approaches to put into their own improvement planning gleaned from reading the case studies of higher-performing schools. “If we can get them here, we can get them to graduate,” said one teacher; attendance is “our Achilles heel.” Five years after their participation in the initial COMPASS-AIM institute, the evidence-guided approach to decision making is still the approach used to set and meet goals at EHS. Importantly, the EHS

⁴ Source: New York State Education Department School Report Card data base

principal continuously brought his team to NIC events to share their progress and get information about new research from the university team and so has kept them active members in the NIC.

Discussion

An organizational intervention called COMPASS-AIM was developed and enacted in institutes and follow-up “check the pulse” sessions offered successively to P-12 school improvement teams. The study and COMPASS-AIM intervention itself are framed by social ecological theory, with attention to the interactive systems perspective this theory provides. This research was designed to yield new knowledge and understanding about COMPASS-AIM’s impacts on organizational capacities and individual and team competencies for organizational learning and improvement through iterative and recursive processes of goal setting; data-to-evidence translations; evidence-guided practice selection; action planning; implementation; and progress monitoring. The objective was to develop individual and team competencies and overall school capacities to embed and institutionalize evidence-guided decision making in everyday practice. Our approach was deliberately designed to be context specific and to support site-based teams to work on self-identified goals using relevant research findings while learning a continuous improvement process within a network improvement community. To achieve our research objectives, we collected data in the form of specially developed reflections, observations, documents, and interviews with school principals. Data were analyzed and presented in two ways: Cross-school analysis, including a comparative analysis of reflection responses and case study summaries of one primary and one high school.

Findings indicate that COMPASS-AIM achieved desirable impacts for most teams. During and after teams’ initial experience with COMPASS-AIM, teams were offered opportunities to work with university partners and each other as they strove to enact their plans,

then collect and make sense of data to provide evidence of progress and identify additional actions or new goals. Participants reported differences in how they organized, structured, and proceeded with their improvement planning in response to participating in COMPASS-AIM. In brief, individuals and teams strengthened competencies related to evidence-guided decision making. They attributed these stronger competencies as well as commitments to the process in large part to their COMPASS-AIM experience.

Overall, the findings confirm earlier study results about individual competence and organizational capacity building (e.g., Senge et al., 2012; Hargreaves & Fullan, 2012; Bryk et al., 2015). In essence, COMPASS-AIM initially provided a cognitive scaffolding mechanism for individuals' learning and competency development. Subsequently, team cohesion and performance apparently improved as members achieved consensus on developing SMART goals, and operational processes for achieving the goals they had set, as well as grasped how to institute progress monitoring within a system-wide continuous improvement effort (Kowalski et al., 2008). Those teams that have continued to participate in the COMPASS-AIM check-the-pulse sessions have reported differences in how they thought about and proceeded with their work. The suggestion here is that new organizational routines resulted from the COMPASS-AIM intervention, and in one school highlight "EHS", at least, these routines have become defining features of everyday practice (Spillane, 2012).

While this study was not designed to identify, describe, and explain all of the details regarding the progression from individual competency development to team-related outcomes, the finding regarding the progression from individual competency development to team development is significant because teams typically are the main unit for planning, action, and analysis in P-12 settings. Specifically, findings from this study implicate the progressive

development of important team characteristics. These team properties include willingness and competence to reach consensus on goals and determine appropriate outcome measures, especially a compelling purpose; perceived interdependence; inter-subjective understanding, collaborative cognition, and development of collective mind; mutual supports and resource exchanges; and the development of collective efficacy, including team readiness for additional learning, development, and change as well as enhanced organizational commitments (Wilcox, Lawson, & Angelis, 2015; Hackman, 2012; Siebert, Wang, & Courtright, 2011).

Conclusion

Hargreaves and Fullan (2012) define professional capital as the product of human (individual) capital, social (organizational) capital, and decisional capital – individuals collectively making decisions in complex organizations like schools. According to Holme and Rangel (2012) social capital includes four dimensions, all of which are salient to this study's findings and also may guide future theorizing and research: (1) the cognitive dimension (organizational members share representations, interpretations and systems of meaning); (2) the relational dimension (organizational members enjoy interpersonal relations, including trust, gained through a history of successful interaction); (3) the intellectual dimension (the organization's knowledge systems, which include the capacity to generate new knowledge and use it for learning and improvement); and (4) the structural dimension (network ties, especially those developed through teaming, that influence information communication, transfer, and use).

Increasing stocks of organizational social capital may account for another finding. Study participants reported organizational changes that can be described as re-culturing and re-structuring, and it is noteworthy that these changes correspond to essential features of learning

organizations (Senge et al., 2012). For example, participants reported that these organizational outcomes were manifest in changes in the way leadership teams worked together; how these changes spread to their colleagues schoolwide; and in adjustments in the ways and frequency with which teams used evidence-guided decision making to inform their work. Additionally, team-based goal setting and problem solving in these schools achieved a new level of importance and effectiveness in these schools-as-organizations speaking to a system-wide impact.

Although this study did not address the organizational conditions needed to optimize team formation and performance, typically this new way of framing and doing improvement planning starts with leadership and extends to new school and district resource allocations, especially time and additional professional development. Taken together, these several changes are associated with new organizational capacities (Hatch, 2009), many of which appear to follow from the progressive development of individual and team competencies. In other words, as individuals and teams develop new competencies, they also restructure their organizational practices so that their new skills and abilities become routinized.

This leads us to some considerations for those interested in university/p-12 partnerships for continuous improvement. First, it is clear that mandates for the use of data without accompanying supports for organizational capacity building and individual and team competency building are unlikely to work well without supports and without a clearer understanding of how those supports must differ in different contexts. This returns us to Hatch's (2009) finding—it takes capacity to build capacity—and sets the stage for theory articulation as well as future research and intervention development. Here, individual/team competency development and organizational capacity may be framed, developed, and researched in two ways. One strategy is to frame them as antecedents to, or facilitators for, school improvement interventions. Put

another way, competency and capacity development require their own, data-informed and evidence-based interventions. Until such time as competency and capacity interventions have been developed in ways that are problem-specific and user-centered (Bryk et al., 2015), other improvement interventions (e.g. evidence-guided systems to inform improvement) will not realize their potential. In essence, determining the competencies and capacities required depend on the degree and kind of change needed—first-order “tinkering,” second-order reforms, or third-order transformations.

The other strategy derives from COMPASS-AIM’s emphasis on iterative and recursive, evidence-guided improvement planning, including SMART goal development, intervention-driven goal achievement activities, and ongoing inquiry in the quest to institutionalize processes and practices leading to achievement of designated goals. Here, the focus is on organizational readiness for change (Weiner, 2009), albeit in an innovative theoretical frame. In this new frame, organizational readiness for change is offered as a dynamic feature of schools and districts-as-organizations in lieu of a fixed characteristic locked in to a particular point in time. Extending Hatch’s (2009) finding that it takes capacity to build capacity, it also takes some amount of organizational readiness—e.g., change commitments, past-present change efficacy, task salience and persistence (Weiner, 2009)—to build even more organizational readiness for change. Viewed in this way, organizational readiness development is itself developed iteratively and recursively. It is both an organizational capacity that often is perquisite to change and also a proximal outcome for COMPASS-AIM and like interventions. Both strategies emphasize the social-ecological aspects of improvement planning, including the several units of analysis—individual, team, school, district, and community contexts—taking into account how these may change over time, including their impacts on each other.

Before concluding it is important to revisit the policy context. As indicated at the outset, what Hargreaves and Shirley (2009b) call second way reform strategies provided a contextual common denominator for the participating schools, especially the risks and challenges posed by too many innovations expected to be implemented in a short period of time. Participating school leadership teams without outside intervention might have narrowly focused their efforts on this implementation agenda. Instead, they opted for a more expansive and strategic agenda. They relied on the university/P-12 partnership in combination with their school leadership teams to avoid the two pitfalls described by Hargreaves and Shirley (2009a)—namely, goal displacement and an inadvertent reinforcement of “addictive presentism (p. 25-7).” In fact, these teams invested in the kind of sustainable capacity building that Hargreaves and Shirley recommend but did not find in their research (Ibid). For example, at baseline (before participation in COMPASS-AIM), each participating team had some measure of third and fourth way commitments and priorities—e.g., shared purpose, principles of professionalism, and an emergent, albeit implicit perspective of the team as a catalyst of coherence (Hargreaves & Shirley, 2009b, p. 110).

Although the research design employed in this study with its several methods did not focus specifically on these fourth way features-as-priorities, the evidence indicates that the COMPASS-AIM framework has the potential to produce them. Alternatively, these fourth way principles or priorities can be viewed as value-committed pillars on which COMPASS-AIM depends. In the end this study’s findings suggests that approaches such as COMPASS-AIM have the potential to generate and incubate processes and practices that enable educators to escape the lock-step, technocratic pattern of second way reforms and to do so in ways that have the potential for scaling up in network improvement communities.

Limitations

Several limitations constrain this exploratory study's findings. To begin with, the participating teams and schools volunteered to participate in COMPASS-AIM. Consequently, selection effects are unavoidable. A limitation in one light, yet in another, these selection effects may have empirical and theoretical importance. Specifically, these schools apparently had some level of organizational readiness to change or at least willingness to do so; and even more, they had some level of commitment to evidence-guided decision making. Doubtless their readiness and willingness interacted with and impacted their COMPASS-AIM experience. These factors must be taken into account in evaluating and examining COMPASS-AIM's impacts on specific schools and the sample of schools overall.

This study's sample rules out any claims for generalizability. Together with its other limitations, the study's main contribution may be identical to the aim for case studies—theory articulation. Here, too, an inherent limitation offers advantages. The study's contributions to theory, together with its design limitations, help set the stage for a relatively new line of research focused on the developmental pathways and pivotal priorities for a journey from second way technocracy to third and fourth way professionalism of schools, both of which can be facilitated by evidence-guided improvement processes guided by researcher/educator partnerships. If this study contributes to this agenda, it has achieved its primary aim.

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Appendix A. History of the Project

As part of its mission, the research project shares findings from its series of best practice studies in language and formats designed for practitioners and makes these available in mailings, on its website: www.albany.edu/nykids, and in a variety of practitioner journals and conferences. But these efforts are mostly one-way dissemination of results, unlikely to change practice and unsatisfactory to the authors. Members of the project's advisory board – officers of statewide educational professional associations, including school boards, administrators, teachers, and parents, as well as representatives of the business community – confirmed this. They advised us that K-12 educators lacked time to figure out how to make best use of those resources. They needed the supports listed earlier. We needed to develop something more – something to use and test in collaboration with P-12 partners.

We were fortunate in that we are employed by a school of education in a research university with a fairly anomalous staff position: the second author, hired as professional staff to work on the development side of R&D when the university secured a large federal grant to form a national R & D center 20 years ago, was hired on the hard money rather than soft money side of the university, eventually earned tenure, and, despite the closing of the national center, has endured to add R & D expertise to other research projects, including the one discussed in this article. As discussed later, in our experience it is rare that research universities fund such positions unless they are required or funded by large federal grants. The current tenure and promotion system, in fact, generally rewards only traditional theory-developing research, not translational research. This constrains, especially, any young scholars whose interests might lie in ensuring that their research effects change in real-world settings.

Appendix B. High School COMPASS Survey

Element 1: Rigorous Curriculum and Expectations.

Please indicate how well you think your school or district is addressing the following:

	[not at all well]	[somewhat well]	[well]	[very well]
(1) Our vision is not bound by meeting state-determined targets for performance; we strive to exceed state-determined targets for performance.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(2) Higher-level classes (honors and AP) are offered to a variety of students (not only those with typically higher achievement).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) For classified students, we emphasize providing inclusion rather than self-contained classrooms whenever possible.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) High expectations are explicit and pervasive for all students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(5) We challenge students to seek opportunities to contribute to the larger society and fulfill their own potentials in high school and beyond.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Element 2: Innovative Instructional Programs and Practices.

Please indicate how well you think your school or district is addressing the following:

	[not at all well]	[somewhat well]	[well]	[very well]
(1) Our schedule is flexible and revised to meet students' needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(2) Resources (time, staffing, technology) are allocated where a variety of evidence (e.g., teacher reports, classroom assessments, and state tests) show the most need.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) We use innovative and proactive interventions to keep students on-track before AIS is needed.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) We apply for and use grants and outside resources to provide experiences outside the classroom, enhance course offerings, and target interventions (e.g., tutorials and field trips).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(5) Technology use is supported with sufficient training and integrated into	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	[not at all well]	[somewhat well]	[well]	[very well]
the school in a variety of ways (e.g., teacher web pages, on-line curriculum documents, and smartboards).				
Element 3: Transparent Communication.				

Please indicate how well you think your school or district is addressing the following:

	[not at all well]	[somewhat well]	[well]	[very well]
(1) Teachers, administrators, and others frequently and consistently discuss goals and vision for the district, school, and classrooms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(2) In developing and articulating a shared vision for student success, a breadth of input from students, teachers, administrators, and community members is invited and encouraged.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) Curriculum is made transparent to parents, community members, and teachers, and provided on-line.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) Curriculum is seen as “living,” with ongoing and systematic revision to K-12 curriculum maps.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(5) School is the heart of the community - a place where students, parents, and community members feel welcomed into discussions and processes to improve.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Element 4: Evidence-Based Decision-Making.

Please indicate how well you think your school or district is addressing the following:

	[not at all well]	[somewhat well]	[well]	[very well]
(1) Data are closely analyzed and interpreted among teachers and administrators.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(2) Professional development foci are informed by teachers’ needs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(3) In-house teacher expertise is utilized for professional development.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
(4) We use a variety of evidence (e.g., teacher observations, classroom assessments, and surveys) -- not only high stakes assessments -- to inform practice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- | | [not at all well] | [somewhat well] | [well] | [very well] |
|---|-----------------------|-----------------------|-----------------------|-----------------------|
| (5) We benchmark achievement results against other successful schools within the state as well as nationally. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Element 5: Strategic Targeting of Resources.

Please indicate how well you think your school or district is addressing the following:

- | | [not at all well] | [somewhat well] | [well] | [very well] |
|--|-----------------------|-----------------------|-----------------------|-----------------------|
| (1) Our strategic plan guides practice; our goals are clearly articulated and well understood by teachers and administrators. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (2) We consistently dialogue around our vision and strategic plan; we gather a breadth of input in developing and articulating a shared vision for student success and a strategic plan to achieve it. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (3) We closely and consistently analyze data for trends and achievement gaps in order to target interventions and develop and implement other reforms to improve student performance. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (4) We use data to inform our strategic plan and allocation of resources into interventions that go beyond the traditional AIS. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| (5) We take a proactive stance looking at trends and how to “get ahead of the curve.” | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Please indicate your: Position/Title:

School District:

State: