
LESSONS LEARNED

FROM THE
MIDDLE SCHOOL
MATTERS INITIATIVE



GEORGE W. BUSH
INSTITUTE

About the Bush Institute:

Housed within the George W. Bush Presidential Center, the George W. Bush Institute is an action-oriented, nonpartisan policy organization with the mission of cultivating leaders, advancing policy, and taking action to solve today's most pressing challenges. The work is achieved through three Impact Centers – Domestic Excellence, Global Leadership, and our Engagement Agenda – by which the Bush Institute engages the greater community with its important work.

About the Meadows Center for Preventing Educational Risk:

The Meadows Center for Preventing Educational Risk (MCPER) at the University of Texas, Austin is dedicated to generating, disseminating, and supporting the implementation of empirically validated practices to influence educators, researchers, policymakers, families, and other stakeholders who strive to improve academic, behavioral, and social outcomes for all learners. Created in the spring of 2008 with a major commitment from the Meadows Foundation of Dallas, MCPER is a collaboration of researchers from multiple disciplines and sites, including the Vaughn Gross Center for Reading and Language Arts in The University of Texas at Austin College of Education.

About Middle School Matters:

Middle School Matters (MSM) works to encourage school districts to adopt key practices and core policies, backed by the highest-quality research, in order to improve student achievement in the middle grades. A partnership between the Bush Institute and MCPER, the MSM team develops and disseminates resources that help educators and researchers use high quality research to guide their instructional practice. MSM's goal is to increase the number of students prepared for success in high school and beyond.

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- Martin Middle School – Corpus Christi, TX
- Paul Revere Middle School – Houston, TX
- Roosevelt Middle School – Erie, PA
- Uplift Mighty Preparatory School – Fort Worth, TX
- Advanced Studies Magnet-Haut Gap Middle School – Johns Island, SC
- Baytown Junior High School – Baytown, TX
- Grant Middle School – Corpus Christi, TX
- Lyndon B. Johnson Middle School – Pharr, TX
- Trinity Middle School – Trinity, TX
- Robert E. Lee Middle School – San Angelo, TX
- Walter L. Wilkinson Middle School – Mesquite, TX
- Walter Woodward Elementary School – Manteca, CA
- PSJA ISD – Pharr-San Juan-Alamo, TX
 - Austin Middle School
 - Audie Murphy Middle School
- San Angelo ISD – San Angelo, TX
 - Glenn Middle School
 - Lee Middle School
- Etiwanda ISD – Etiwanda, CA
 - Etiwanda Intermediate School
 - Heritage Intermediate School

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GEORGE W. BUSH INSTITUTE PROJECT TEAM:

Holly Kuzmich, Executive Director
Anne Wicks Humphrey, Director of Education Reform
Dr. Catherine Jaynes, Director of Evaluation and Research
Eva Chiang, Deputy Director of Education Reform and Evaluation and Research
Abby Hoak-Morton, Associate of Education Reform
Brittney Bain, Manager of External Affairs

THE MEADOWS CENTER FOR PREVENTING EDUCATIONAL RISK :

Dr. Sharon Vaughn, Executive Director
Christy Murray, Principal Investigator & Project Director
Dr. David C. Barrett, Assistant Director
Veronica L. Miller, School Support Coach
Adri Ruiz, School Support Coach
Mary Leamons, Extended Support & Outreach Coordinator
Shannon Hewgley, Project Coordinator

MIDDLE SCHOOL MATTERS RESEARCHERS AND ADVISORS:

Dr. Robert Balfanz
Dr. Marcia Barnes
Dr. Sarah Brasiel
Beth Ann Bryan
Dr. David Chard
Dr. Mark Dynarski
Dr. Leanne Ketterlin Geller
Dr. Art Graesser
Dr. Steve Graham
Dr. Diane Haager
Sandy Kress
Johann Liljengren
Dr. Sarah Powell
Brea Ratliff
Dr. Deborah Reed
Dr. Tanya Santangelo
Dr. Sharon Vaughn

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EXECUTIVE SUMMARY

Building on decades of commitment, work, and investment by President and Mrs. Bush to improve educational outcomes for all students, the George W. Bush Institute began the Middle School Matters (MSM) initiative in 2010 with the goal of increasing the number of students who are prepared for high school and post-secondary success. The initiative accomplishes this by drawing upon evidence-based research to develop practical tools and engaging support opportunities for middle grade campuses, allowing research-based practices to be brought to life in classrooms across the nation. The heart of the initiative is the deliberate connection between research and the instructional practice of educators. More specifically, MSM turned high-quality research into actionable strategies for districts, schools, and teachers to use to improve reading, writing, and math instruction – and to improve use of data systems to identify students who are at-risk of dropping out.

MSM’s two objectives are first to compile the proven principles, practices, and strategies that can improve student success and second to help educators actually learn, adopt, and master these strategies. In order to meet these objectives, MSM was designed with expert researchers and practitioners and then implemented directly in schools via three cohorts.

This report continues the Bush Institute’s commitment to

advancing educational outcomes broadly by sharing learnings to date about creating and implementing MSM. The report’s goal is to help school leaders, policymakers, philanthropists, and others learn from our experience to better understand:

- The power and promise of connecting high-quality research to instructional practice;
- The importance of rigorous (and supported) implementation when seeking to improve teacher or leader performance; and
- What to look for—both in terms of challenges and solutions—when implementing school-based improvement initiatives.

Most teachers welcome opportunities to learn about and master research-based strategies to improve

outcomes for students, especially when they can learn directly from experts who can model these strategies. Yet finding these proven techniques and practices can be difficult. Professional development (PD) for teachers in schools tends to adopt “flavor-of-the-month” techniques, whereby districts incorporate a fragmented sequence of learning that is ineffective.^{1 2}

Effective professional development both exposes teachers to a logical sequence of research-based and job-embedded techniques and helps with the implementation of those techniques in complex classroom environments³. For example, when educators apply the proven strategies identified and taught by MSM, teacher performance

“MSM stood out over other PD because of the title: Middle School Matters. We rarely came across stuff that was specifically for middle schools. The whole premise is fixing things for students before they get to high school. There used to be no PD to fix the middle. Now we have researchers and information tailored to us.”
(District Administrator)

¹ Darling-Hammond, L. et al. 2009. “Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad.” National Staff Development Council.

² Blase, K. A., Fixsen, D. L., Sims, B. J., & Ward, C. S. 2015. Implementation science: Changing hearts, minds, behavior, and systems to improve educational outcomes. Oakland, CA: The Wing Institute.

³ Garef, Michael S., et al. “What makes professional development effective? Results from a national sample of teachers.” American educational research journal 38.4 (2001): 915-945.

⁴ As noted in the observations and interviews conducted as part of the program implementation evaluation.

and student engagement increase⁴. However, there is a significant difference between learning the basics of a new strategy and consistently, effectively applying that strategy in a school or class. As implementation science and extensive experience suggests, familiarity and will are not enough for most people to fully adopt and master new approaches.

Thus, based on our experience and learning through MSM, it is clear that successful transformation of teacher and leader performance requires extensive, systemic attention to high-quality implementation, including:

- Following initial training sessions with opportunities for participants to practice and receive feedback on the new strategies;
- Developing implementation processes or structures that provide continuous emphasis on the core principles, learning and improvement, problem-solving, and accountability for all involved;
- Ensuring the new initiatives are focused on just two or three new strategies and align with or replace other initiatives occurring at the same time; and
- Measuring progress, both in terms of implementation and adoption as well as ultimate outcomes, and using that data to drive further improvement.

In summary, achieving better educational outcomes for students requires both proven practices and effective

implementation. MSM has provided an accessible, highly valuable suite of tools grounded in high-quality research to middle grades educators. While the progress among MSM participants is encouraging, successful implementation has been challenging. As a result exciting successes in some schools have been mixed with insufficient progress in others. This report seeks to use the lessons of MSM's design and implementation to inform and support the efforts of others seeking to improve student outcomes by implementing school-based programs.

INTRODUCTION AND OVERVIEW

The Genesis of Middle School Matters

In the last 20 years, untold time, effort, and money have been spent to improve student outcomes—from billions spent to turn around failing schools to raging debates about curricula to experimental initiatives like Race to the Top. Yet despite all this activity, there are still too few success stories of school improvement initiatives that systematically improve student performance. Fortunately, the sector is gradually learning what works.

President and Mrs. George W. Bush bring a decades-long commitment to the success of students. That commitment has always been guided by what high-quality research indicates

works best for student learning and growth, teachers' instruction, and educational leadership. The work of the Bush Institute operates under the same philosophy. How can high-quality research help to improve outcomes for

*"We don't expect our students to be able to master something after we teach a concept to them once. I think as teachers, we learn the same way."
(Teacher)*

*"The feedback and PD was helpful. They sat down and talked to us individually about what we did well and what we could do better. The feedback was very tangible about what we could do. We talked specifically about the thought process we could go through with the scholars."
(Teacher)*

all students?

With this in mind, the Bush Institute convened an extensive array of education experts—from researchers to practitioners to policymakers—to create a research-based initiative to improve education outcomes for students. What emerged was further clarification of three fundamental realities.

First, according to Sandy Kress, an early architect of the initiative, “the middle grades were the last best chance that we have to get youngsters on the right path [toward academic and career success]. It’s not necessarily early enough, but later is too late.” A lot happens for students in the middle school years, both personally and academically. For example, for the first time: they are taught by multiple teachers on separate subjects, receive more homework, have higher expectations for students to self-manage, there are tangible consequences for getting off track, and much more. It is uniquely challenging for teachers and principals to help students successfully navigate their social-emotional and academic growth. Despite extensive research to this effect, public and private attention to these pivotal years

“A lot of models around school reform are hatched by people based on an intuitive sense of what will work with kids. Education often floats around in a realm of grayness that seems intuitively plausible. In our early discussions, the group was strongly oriented towards using as much evidence of effectiveness as we could bring to bear on the issue.”
(Mark Dynarski)

“Schools under NCLB and ESSA have been asked to use evidence- or research-based practices. It’s a reasonable request and most stakeholders and parents say, ‘Of course!’ But there’s a problem. When you talk to key decision-makers—whether district administrators, principals, or teachers—about what they actually do, it becomes clear that they mostly rely on the set of practices they’ve been using over time. Some of these practices are quite effective. And whether they have research behind them or not, they’ve served as great extensions that help them do their job as teachers. However, the research base in education has outpaced the practice and implementation. We ‘know’ a lot more than we ‘do.’ There’s a lot of knowledge out there that isn’t been utilized in schools.”
(Sharon Vaughn)

tends to trail behind that given to elementary and high school efforts. While it makes sense to ensure students get a great start in elementary and are later ready for college and beyond, middle schools are also a critical piece of that process.

Second, rapidly expanding best-practice research findings are not readily in the hands of educators. In the last 10-15 years, rigorous research has made substantial progress in identifying the specific instructional strategies that drive student success. As Kress noted, “a good bit of the research that had been done in the previous decade (largely under NIH or IES grants) said something about adolescents or youngsters in these [middle school] grades. So we had a corpus of research that was newly available.” Yet the vast majority of education practitioners—administrators, school leaders, and teachers—are unaware of or not using these proven strategies.⁵ There are many reasons for this gap. Researchers typically don’t have the time, ability, or incentives to ensure their insights get all the way into the classroom. And educators are not often prepared, nor do they have the time, to explore, interpret, and apply the latest

⁵ Cohen, J., McCabe, E., Michelli, N., Pickeral, T. 2009. “School Climate: Research, Policy, Practice, and Teacher Education.” *Teacher College Record*. 111 (01). 180-213.

research on their own. Furthermore, most purveyors of effective teaching and school leadership—whether schools of education, private consultants and trainers, or state and district offices—don’t bridge this gap between research and practice very well. As a result, educators are left to sort it out on their own based on their individual training, experiences, situations, and style.

As the growing field of implementation science demonstrates, even when we know what works, it is very difficult to get individuals and systems to accept, adopt, master, and consistently apply new concepts. Reaching full implementation takes much more than how-to manuals, one-off presentations, or periodic training seminars. Rather, it requires extensive learning and practice, feedback and coaching, incentives and accountability.

In the field of healthcare, where the understanding and use of implementation science is increasingly robust, research has shown that most implementation efforts result in outcomes that are an average of 12 times better than those resulting from typical implementation techniques.⁷ And in education, recent research shows that teachers’ mastery and

use of new techniques reaches only 5 percent when they’re simply taught the concept and discuss it in theory.⁸ Unfortunately, this mode of implementation is all-too-typical in educational PD – and teachers recognize this. As one school leader involved with

MSM noted, “professional development without follow-up is malpractice.” Instead, when educators learn new techniques through a more robust approach to PD—one involving instruction, observation, practice with feedback, and ongoing, in-class coaching—depth of implementation reaches 95 percent.

With these gaps in mind, the Bush Institute and the experts we convened reached a compelling conclusion—more high-quality research is needed about what works in educational instruction and leadership, and we must ensure that existing and future research guides the educators’ work and efforts in practice. With a historical eye on the transition healthcare has made over the last century based on the insights from the Flexner Report, the group readily agreed that there was a significant opportunity

to catalyze education’s transition from craft to science as well.⁹

“Education doesn’t live in the same kind of world that most enterprises do—it’s just not research-based. People have opinions, people have views. But people don’t make decisions about money and programs based on data and research. We’re still in a ‘pre-Flexner’ world in education.”
(Sandy Kress)

“When we came back from MSM in June, we felt like just bringing the teachers together wasn’t enough. I have learned that the one shot approach to PD does not work without the follow-up. It was my thought to build in the coaching piece using the MSM leadership team. If we didn’t have the push and the support piece in place, I would have had several teachers who would have said, ‘It’s just one more thing,’ and not put it in place. Everyone is held equally accountable.”
(Principal)

⁶ Vernez, G., Karam, R., Mariano, L. T. & DeMartini, C. 2006. “Comprehensive school reform: The implementation gap.” Santa Monica, CA: RAND Corporation.

⁷ Fixsen, D., Naoom, S., Blasé, K., Friedman, R., Wallace, F. 2005. Implementation Research: A Synthesis of the Literature. University of South Florida.

⁸ Joyce, B. & Showers, B. 2002. Student Achievement Through Staff Development. ASCD.

⁹ Flexner, A. 1910, “Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching.” Bulletin No. 4., New York City: The Carnegie Foundation for the Advancement of Teaching.

2010-2011

Expert researchers, policymakers, and educators met to identify MSM's focus and the core instructional strategies.

2012

Researchers and educators collaborated to build the first edition of the Field Guide and tools. Bush Institute partners with the Meadows Center for Preventing Educational Risk (MCPER) to complete the materials and to design and implement the cohort model.

2013-2014

The first MSM summer conference held in June 2013 followed by the launch of the first cohort.

2014-2015

Second summer conference held and Cohort 2 launched. Schools select fewer focus areas and the MSM team made additional site visits to schools to improve adoption.

2015-2016

The third summer conference is held. Cohort 3 schools selected fewer (2-3) strategies in order to increase implementation. MSM team conducted four PD site visits per school along with ongoing advising and support. Districts participated alongside schools to facilitate scale and sustainability over time.

2016

MSM published the second edition of the Field Guide, along with the release of an updated website with new toolkits and support materials.

The Program Model

The Middle School Matters initiative incorporated three core elements:

- A repository of instructional and leadership principles, practices, and strategies designed to help teachers and leaders implement the insights from high-quality research.
- A summer conference that introduces participating schools and districts to these strategies and helps them develop customized implementation plans.
- Professional development, provided onsite and virtually at various points throughout the year, to help educators learn and adopt the strategies they have chosen to implement.

MSM Resources—Principles, Practices, and Strategies

Following the decision to focus on connecting high-quality education research with educators' efforts in schools, MSM engaged leading scholars in both instruction (including reading, writing, math, cognitive science) and student supports that enhance learning (including dropout prevention, school climate and culture, student behavior and motivation, and extended learning time) to develop the core content of the MSM program.¹⁰ Each scholar was tasked with distilling the latest, most relevant research about his/her topic in order to identify the principles and practices that have been proven to improve student outcomes in that area. As Beth Ann Bryan, an original advisor to the MSM team, recalls, "there was a lot of pressure to include ideas in our materials that didn't have a lot of evidence, including topics like school leadership¹¹." But both the Bush Institute and the full group of scholars and practitioners agreed that they would only draw from studies employing the most rigorous research methodologies, mirroring standards used by the National Institutes of Health (NIH) and the Institute of Education Sciences (IES). This is an important point of distinction for Middle School Matters—all recommendations, strategies, and materials are based on scientifically proven methods for improving student outcomes. The result of this work is a series of guiding principles and practices in each topic area, as summarized in Table 1 below.

Following extensive collaboration with other scholars and practitioners to clarify and define these insights (see the Making Research Accessible section), the MSM experts translated the research into educator-friendly strategies, principles and practices. All of these materials have been made available via the Middle School Matters Field Guide (Field Guide) and on the initiative's website (www.greatmiddleschools.org). These resources not only provide a central source for the best research regarding the drivers of middle school success, they are replete with overviews, how-to guides, toolkits, multimedia examples, FAQs, and more so that educators can easily turn research insights into reality for students.

¹⁰ The list of scholars can be found here: <https://greatmiddleschools.org/download-view/cover-and-introduction/>

¹¹ GWBI also focuses on school leadership policy and research: <http://www.bushcenter.org/explore-our-work/developing-leaders/alliance-to-reform-education-leadership.html>

TABLE 1: MSM PRINCIPLES

RESEARCH-BASED INSTRUCTION			
READING	WRITING	MATHEMATICS	COGNITIVE SCIENCE
<p>1. Establish schoolwide practices for enhancing reading for understanding in all content area instruction.</p> <p>2. Teach word-meaning strategies within content area classes.</p> <p>3. Activate and build appropriate background knowledge for understanding text content.</p> <p>4. Teach students to use reading comprehension strategies while reading complex text.</p> <p>5. Provide intensive reading interventions to students with reading problems.</p> <p>6. Guide students during text-related oral and written activities that support the interpretation, analysis, and summarization of text.</p> <p>7. Maximize opportunities for students to read and connect a range of texts.</p> <p>8. Organize students into collaborative groups for reading tasks.</p> <p>9. Discontinue using practices that are NOT associated with improved outcomes for students.</p>	<p>1. Establish consistent schoolwide practices for using writing as a tool to support student learning in all content areas.</p> <p>2. Explicitly and systematically teach students the processes, knowledge, and skills of effective writing.</p> <p>3. Establish word processing as the common medium for student writing.</p> <p>4. Assess and monitor student writing to improve instruction and identify students who require more intensive writing instruction.</p> <p>5. Provide extra assistance and instruction to students who experience difficulty learning to write.</p> <p>6. Discontinue using practices that are NOT associated with improved outcomes for students.</p> <p>7. Improve teacher capacity to teach writing and use it as a tool for learning.</p>	<p>1. Establish schoolwide practices for enhancing mathematics understanding within relevant content area instruction.</p> <p>2. Use a universal screener to identify students at risk for mathematics difficulties and to determine interventions to provide these at-risk students. Monitor the development of mathematics knowledge and skills of identified students.</p> <p>3. Help students recognize and expand their understanding of number systems beyond whole numbers to integers and rational numbers. Use number lines as a central representational tool in teaching this and other fraction concepts.</p> <p>4. Develop students' conceptual understanding of mathematics and provide ample opportunities to improve procedural fluency.</p> <p>5. Provide explicit and systematic instruction during intervention.</p> <p>6. Instruction should include strategies for solving word and algebra problems that are based on common underlying structures.</p> <p>7. For students who struggle in mathematics, instruction and intervention materials should include opportunities to work with representations of mathematical ideas. Teachers should be proficient in the use of these representations.</p> <p>8. Establish a schoolwide plan to identify and improve teachers' mathematical content knowledge and pedagogical content knowledge.</p> <p>9. Discontinue using practices that are NOT associated with improved outcomes for students and teachers.</p>	<p>1. Distribute presentation, practice, and testing over time.</p> <p>2. Ground ideas in active, engaging experiences.</p> <p>3. Provide timely, qualitative feedback on students' learning activities.</p> <p>4. Encourage the learner to generate content.</p> <p>5. Select challenging tasks that require explanations, reasoning, and problem solving.</p> <p>6. Design curricula, tasks, and tests in different contexts, media, and practical applications.</p> <p>7. Promote self-regulated learning.</p>

STUDENT SUPPORTS THAT ENHANCE LEARNING

STUDENT BEHAVIOR AND MOTIVATION

1. Consistently teach, model, and recognize appropriate and positive academic and social behaviors across all classrooms.
2. Provide classroom instruction in self-monitoring and regulation, academic organization and study skills, goal setting, persistence, and healthy behaviors.
3. Establish processes for identifying problem behaviors early, diagnosing their causes, identifying effective interventions, applying the interventions at the scale and intensity required, and monitoring their effectiveness.
4. Make the value of schooling personal.
5. Create a sense of belonging for all students.
6. Connect students' academic success to effort.

SCHOOL CLIMATE AND CULTURE

1. Create a "can do" school culture marked by a shared mission among the staff members that centers on academic achievement and shared belief that they can collectively enable students to succeed.
2. Create a school environment in which mutually supportive relationships between students, teachers, and parents can develop.
3. Engage in schoolwide efforts to increase student attendance, promote positive behaviors, and increase student effort (where needed).
4. Focus the school-family partnership on communicating to students the importance of high academic and educational aspirations and showing the steps that need to be taken to actualize these aspirations.
5. Conduct student-need and asset analyses and select community partners and supports based on student need. Design and manage a plan to link community supports to success in school and use common metrics to gauge their impact.

DROPOUT PREVENTION

1. Use data systems to identify students who are at risk of falling off the path to high school graduation.
2. Assign adult advocates to students who are at risk of falling off the path to high school graduation.
3. Provide academic support and enrichment to improve academic performance.
4. Implement programs to improve behavior and social skills.
5. Personalize the learning environment and instructional process.

EXTENDED LEARNING TIME

1. Align the Extended Learning Time (ELT) program academically with the school day.
2. Maximize student participation and attendance.
3. Adapt instruction to individual and small group needs.
4. Provide engaging learning experiences.
5. Assess program performance and use the results for program improvement.

It may be helpful to provide an illustration of the connection between the MSM principles, practice, and strategies, as well as the available resources that help educators apply these concepts. As noted in Table 1 above, the fourth reading principle states: "Teach students to use reading comprehension strategies while reading complex text."¹² This general concept is supported by two recommended practices:

1. Instruct students to generate questions while reading to build comprehension.
2. Instruct students to generate main ideas at regular intervals in a text.

The Field Guide further elaborates on the first practice by introducing the instructional strategy known as "Leveled Questions" in which teachers encourage students to ask three types of increasingly nuanced questions to increase their reading comprehension. In addition, the Field Guide links to a toolkit to help teachers learn how to use leveled questions in the classroom. The toolkit includes online instructional modules, presentations, videos that demonstrate the strategy in action, and supplemental lesson and student materials for teachers' immediate use. Finally, the site provides a complete research bibliography for those interested in further understanding of the evidence that supports the use of these principles, practices and strategies. Similar resources are available for many of the MSM topics and principles.

¹² MSM Field Guide: Reading and Reading Interventions, pA-12. Available at: <https://greatmiddleschools.org/download-view/reading-and-reading-interventions/>.

MSM Program Model

In addition to compiling the proven principles, practices, and strategies that can improve student success, the second essential objective of MSM is to help educators actually learn, adopt, and master these strategies. To do this, the program model included extensive PD, delivered by the MSM team of researchers and coaches. In addition to the MSM website described above, the PD delivery model included three elements:

- **Summer Conference** – A multi-day opportunity for teachers and administrators to learn about the various MSM principles and develop tailored plans to implement a few of those principles in their own schools.
- **In-Person Training** – Two-day training sessions provided by MSM researchers throughout the academic year to train teachers on the MSM principles selected by the school (increased to four visits by Cohort 3). Sessions including lectures and presentations, modeling of the strategies with students, and some observation and coaching of teachers using the strategies in their own classrooms.
- **Coaching and Support** – On-call support by MSM coaches to answer questions, identify additional resources, provide additional training via webinars, etc.

Schools applied to be part of MSM, and once selected, sent a team of school leaders, instructional coaches, and faculty to the summer conference to learn about the MSM principles and develop an implementation plan. In conjunction with their MSM coach, each school team then selected specific principles/practices from the MSM Field Guide on which to focus in the year ahead. This choice was based on a variety of factors, including student performance data and needs, alignment with ongoing initiatives, and the availability of MSM resources.

The delivery of the program truly began with the summer conference, which had multiple objectives:

- Provide an introduction to specific principles, practices, and strategies and how they apply to the goals of the schools and districts;
- Introduce ongoing access to the MSM resources available via the website;
- Introduce the concept and merits of research-based practices to improve student outcomes;
- Moderate schools' self-evaluation of needs based on student achievement data;
- Encourage the adoption and implementation of these practices by schools and districts based on the participants' needs and objectives; and
- Build relationships between school leadership and the MSM coach.

Following the conference, the MSM team provided in-person training to each cohort member during the

school year. The PD was provided primarily by an expert researcher who has both deep familiarity with the underlying research and extensive experience applying the instructional strategies in the classroom. The first session was primarily an introduction and planning session—sharing the MSM platform with the entire school, explaining why the school team chose the specific principles/practices that it did, and finalizing plans for subsequent training sessions. The remaining sessions typically lasted 2-3 days and involved several hours of professional development along with the opportunity for teachers to either see that

practice modeled in their own classroom or to receive feedback after they try to implement it themselves.

The presenter demonstrated how to apply the strategy in practice, first with the educators in attendance and then with a group of students at the school. At the end of the session, the expert often visited classrooms, either to further demonstrate the strategy in different settings and/

“The summer conference helps you to build up that trust with the coach and researcher. You get to sit right next to them, so it’s not something that’s coming from out of nowhere. They can bring in their suggestions [to the school], and we can take it as they really care and they really want the best. The summer conference helped build that relationship. Next year I would add a science and a history teacher to the leadership team that attends the conference to have their buy-in as well.”
(Instructional Coach)

or to observe and provide feedback to a teacher trying to implement the new strategy with his/her own students. The next day, this individualized coaching continued. In addition, the teachers, the expert researcher, and the MSM coach reviewed training provided on a different strategy in the previous site visit to check on progress and address questions that arose as teachers implemented the strategy over time.

Between in-person training sessions, a MSM coach played a key coordination and support role throughout the delivery of MSM PD. The coach provided additional materials, tools, modeling, and feedback to support teachers' adoption of instructional strategies. The coach proactively shared additional research materials with principals or instructional coaches to distribute to their broader leadership team and teachers as needed based on regular check-ins with demonstration schools. At the end of the school year, the MSM coach worked with the school's leadership team

*"They (MSM team) would come in and meet with us about where we were with our implementation. That kept us accountable so that we as a leadership team could realize where we haven't met our goals so we can go into our PLCs and determine where we're going to put the strategies in. It's an opportunity to keep the teachers on track and remind them when we haven't seen something we need to see."
(Instructional Coordinator)*

*"Just being in contact with the coach and researcher has been helpful to me. Being able to contact them to ask those questions is helpful... I can talk to him and email him. For example, I was preparing for a presentation on lesson plans, and I contacted (MSM Coach) about gradual release lesson plan templates, and he looked at that and gave us some options of lesson plan templates we could try out. It's things like that they are there for."
(Instructional Coach)*

to discuss progress made throughout the year and provide guidance regarding the school's implementation and ongoing planning efforts.

In the first two years of implementation, MSM worked at the school-level. In an effort to facilitate both scale and long-term sustainability, MSM expanded the model during the 2015-2016 school year to include a second middle school in a district as well as district leaders. One school was selected as the demonstration school, which received direct engagement from the MSM team. The second school was selected as the pilot school. District officials and pilot school staff were invited to attend the site visits at the demonstration to learn about the MSM strategies and see them in action. The district officials, rather than the MSM coach, then provided direct ongoing support to the pilot school.

*"There needs to be more accountability. On walk-through day or on [site visit] day, we are held accountable, but as far as general, every day [accountability], there's nothing. I think there needs to be something. There are teachers that are totally bought in, and then there are teachers that are only going to do it the week of and for the walk-throughs."
(Teacher)*

LESSONS LEARNED

There are a number of lessons learned from the six years of development and delivery of Middle School Matters. The most important and salient of these are directly related to the initiative's original objectives—increasing accessibility to the existing research on what works for middle school success and determining how to turn our knowledge about what works to improve student outcomes into practice in schools and classrooms. In addition, the process of connecting researchers and educators to improve student outcomes yielded a number of additional lessons that are relevant for anyone working on school-based improvement initiatives.

Making Research Accessible

It is easy to blame educators for not doing a better job of learning about, adopting, and applying best practices as determined by rigorous research, but there are a number of complex reasons why this does not happen naturally. A fundamental challenge is that the basic interests and outlooks of education practitioners and academic researchers are very different, making it difficult for knowledge or experience from one group to transfer to the other.¹³ Furthermore, leaders from the two professions rarely interact, making it hard for each group to connect with, understand, and learn from the other. As a result, researchers too often assume that their statistical findings can be easily understood and translated into action by teachers. Teachers have limited opportunities to learn from and ask questions of researchers about their work - much less provide feedback to those researchers - to ultimately improve the nuance, precision, and practicality of researchers' insights.

In addition, the body of research is expansive and sometimes contradictory, making it difficult for any one teacher or administrator to know what findings deserve attention. Even when a research study has conclusive findings, those findings are rarely, if ever, generalizable to all school contexts given the many disparate situations that exist in a particular school or district. Finally, research increasingly involves more and more specialization, meaning that most individual

researchers' depth of expertise decreases as the range of topics or issues grows.

MSM's initial approach to bridging this gap has been crucial to the success the program has subsequently achieved. As described above, this began with an open, solution-oriented discussion among education experts. The key is that this work involved a range of different types of experts—experienced researchers representing multiple issue areas (e.g. reading, math, school climate, etc.), policymakers, seasoned administrators, and experienced teachers. Getting this full set of perspectives in the same room for multiple discussions was crucial as everyone had an equal opportunity and equal responsibility to advance the dialog.

The next step involved gaining group consensus as to (a) the potential value of using high-quality research findings to drive school improvement and (b) what qualifies as rigorous research. Alignment on these guiding principles created both clarity and objectivity about what would and, importantly, what would not be included in the initiative. Without agreement on these criteria, similar discussions routinely devolve into arguments based on personal preferences rather than proven results. In this case, however, topics which met the high bar of research rigor were quickly identified and focused the initiative.

Once the group identified the topics that met the research criteria, experts in each area took the lead in identifying the most relevant principles and practices that would improve student outcomes to include in the Field Guide. In doing so, each content-area expert attempted to address a basic question for his or her chapter of the guide: "What should the field know and do about this topic?" Through considerable work, each author developed an initial list of principles and practices the field had tested and proven to improve student success. Each principle came with a fully-documented set of high-quality research to justify its inclusion.

With these drafts of the Field Guide in place, the researchers shared their recommendations both with other researchers and with teachers. Through several rounds of iteration, each group asked questions and gave feedback that increased the clarity and practicality of the guides. In some cases, changes involved simply

¹³ Shavelson, R.J. 1988. "Contributions of educational research to policy and practice: Constructing, challenging, changing cognition." *Educational Researcher*, 17 (7), 4-11; 22. Trubowitz, S. & Longo, P. 1997. *How it works: Inside a school-college collaboration*. New York, Teachers College Press.

removing academic jargon and re-casting the principle in terms more familiar to teachers. In other cases, teachers worked with researchers to ensure the research finding was actually something that could be applied in practice. The experts at the MCPER played a pivotal role here, working extensively to identify

instructional strategies that exhibited the sometimes esoteric principles covered in the research. As Christy Murray at the MCPER notes, “The researchers themselves didn’t understand the level of detail we needed to get to for teachers to apply things in classrooms.”

MSM’s research experts and coaches took the Field Guide chapters and presentations developed by the researchers and, over the last several years, incorporated the feedback of hundreds of teachers to develop clearer research summaries, additional training materials, videos showing the strategies in action, and toolkits to apply the strategies with students. This experience was new for everyone involved, but highly gratifying and beneficial. The result is a website that provides a comprehensive and rigorous yet accessible and practical set of resources about how to improve middle school student success. The Field Guide was updated in the spring of 2016 and is available, for free, along with support materials at www.greatmiddleschools.org.

Mastering a New Strategy

Whether you are an educator or not, mastering and consistently applying a new behavior is hard. After all, most New Year’s resolutions fall by the wayside only a few days or weeks into the New Year. It’s no different when educators—whether newly minted or seasoned veterans—are introduced to a new approach to teaching or leading. Even the most optimistic and committed will struggle to master a new approach. In light of this reality, there are several insights drawn from MSM’s implementation.

- **First, educators are hungry for deeper, longer-lasting professional development support.**

Most educators are looking for high-quality PD opportunities to deepen their practice. But, quality offerings are limited, and educators often struggle to put into practice what they learn in a one-day seminar. Cohort 1 schools shared this feedback when the in-person PD initially consisted of only one daylong site visit. In light of this, in-person support was gradually increased over the three cohorts to become four multi-day visits throughout the year accompanied by ongoing webinars and offline support by Cohort 3. This year-long support was highly appreciated and highly valued. It provided teachers with an initial introduction to the

key principles, time between sessions to try out the corresponding strategies, and subsequent opportunities to ask questions and learn more about how to put the principles in practice. Of course, even though this level of ongoing PD is much more extensive than most teachers receive, MSM participants agreed that - time and budget permitting - it would be even better if MSM or any other PD initiative could provide even more extensive support.

- **Second, individual improvement requires ongoing, systematic follow-up.**

When left to their own devices (even with multiple rounds of support from MSM experts), only a small percentage of

teachers truly mastered the new strategies by the end of the school year. However, when schools created or applied a formal system and structure to roll out, reiterate, and sustain new initiatives, more than half of participating teachers gained some level of mastery in the same time period. Why? The obvious answer is that continual reminders, additional opportunities for learning (especially from respected peers), ongoing encouragement, and even a little bit of pressure all contribute to changing one’s behavior regardless of the setting. In the most recent implementation year, three of the participating schools used such systems to drive success. And while each of these schools differed in its approach and process, all three systems included:

“That this process [connecting researchers and educators] is not more often used is a pity to me. This dance between research and practice should be mutually reinforcing like this.”
(Mark Dynarski)

- A strong principal committed to high-quality instruction. These principals were visible, adamant, and consistent in their leadership, ensuring that everyone in the school recognized that research-based teaching was one of (if not the) school's top priorities. They publicly celebrated successes, provided ongoing encouragement, and even implemented negative consequences when necessary.
- A strong and distributed leadership team. These teams were comprised not only of administrators, but of both new and experienced teachers, instructional coaches, and non-academic support personnel. All team members shared the principal's commitment to bringing research-based practices into schools. Just as important, they developed and implemented a consistent process for providing additional instruction and feedback, reviewing progress, and ensuring accountability. Each step along the way, they focused on both the school as a whole and on each individual teacher.
- Finally, the principal and leadership teams exhibited a sense of entrepreneurialism, addressing unfamiliar or challenging situations in a creative, proactive, and solution-oriented way. While they frequently sought advice and resources from the MSM coach and experts, they took responsibility for success on themselves, determining on a daily basis how best to implement the MSM principles with fidelity in their local level.

“Repetition was key for us. I know they’re trying to reach out to as many schools as possible, but going (to the summer conference) several times has really led to our success in being able to implement some of the strategies on our own.”
(Teacher)

Of course, others have recognized the importance of such in helping individual educators improve their own performance.¹⁴ Yet the reality remains that far too many PD efforts—whether homegrown or externally driven—continue to ignore these essential realities. PD without ongoing instruction, feedback, and follow-up often amounts to outputs without outcomes.

Scaling and Sustaining a New Strategy

The level of investment described above can be significant. The challenge of sustaining and scaling such an effort is significant as well, and there are often a number of factors that can inhibit long-term sustainability. The implementation of MSM confronted many of these obstacles, providing an understanding of what does (and does not) work to overcome them.

• Training the trainer can increase scale, but it requires its own strategy and investment.

In the first two years of MSM's implementation, the focus was solely on improving the model— learning how to best train and support educators to use MSM's research-based practices to improve instructional practice. In Year 3, the aim was to expand MSM's impact without hiring many additional MSM researchers and coaches. To do this, district officials and faculty from a second middle school (the pilot school) in a selected district were invited to join the delivery of PD to the primary (demonstration) school. In bringing these additional audiences into

the process, essentially as observers, the hope was that the district officials would learn enough to provide ongoing support to the second school between our in-person visits.

Unfortunately, that did not occur. In hindsight, the gap became clear to the MSM team. The districts and pilot schools needed much more support to be effective. They

needed to become content experts themselves, gaining more than an introductory familiarity with the research-based strategies and how they should be applied in a classroom. Just as important, they also needed to become experts in providing the type of PD described above, including how to teach and model each strategy, provide effective coaching and feedback, and support schools' leadership teams in developing and applying their initiative support strategies. And while this would indeed involve an entirely additional PD program for district staff, it is unfair to expect scale or sustainability to occur without it.

¹⁴ As one example among many, see *Transforming Schools: How Distributed Leadership Can Create More High-Performing Schools* by Bain & Company.

- **Alignment across initiatives matters.**

While MSM was clearly a top priority for most participating schools, in no case was it the only new or ongoing initiative being implemented at the same time. Sometimes the other initiatives involved different approaches to improving instruction, in which case teachers often became confused, struggling to understand which strategies to use when and whether some should receive more attention than others. In other cases, the other efforts were relatively unrelated. But even then, at best parallel initiatives diminished focus on learning MSM strategies. At worst, they led teachers to treat MSM as the “flavor-of-the-month,” just the latest in a long line of initiatives that would shortly be supplanted. While the planning efforts at the beginning of the year to understand and align with other initiatives were important, the program underestimated the effect the other initiatives would have on MSM’s implementation. A recommendation is to address this early and often at both the district and campus levels to limit the number of initiatives to a bare minimum and ensure all involved understand how these are related.

- **Distributed, team-based leadership protects new initiatives against both turnover and early opposition.**

Even when everything else is in place, every educator has seen how quickly turnover can undermine progress in a school. Likewise, in education and elsewhere, many turnaround or transformation initiatives face resistance from a few vocal individuals, causing others’ support to waver. Both of these are important reasons to generate on widespread ownership in planning and implementation of an improvement effort like MSM.

- **Be clear in advance about how you’ll know you’re succeeding. Then measure, report, and adjust accordingly.**

Everyone has heard the old adage, “what gets measured, gets done” or its corollary, “what gets measured, gets improved.” Either way, the point is that

measuring the right things matters. The problem is that just as too many school improvement efforts fail to build on solid evidence, too many likewise fail to assess implementation and progress. In the case of MSM, while the focus was heavily on data-driven design from the outset, the need for ongoing assessment was identified several years into the program when a significant implementation evaluation was conducted (and from which many of this report’s highlights emerged).

“MSM needs to be a little more hands-on. When we come back from training at [demonstration school], we don’t really know if we’re rolling out the training correctly. At the district level, I don’t have access to the coaches and researchers like the demonstration school does.”
(District Coordinator)

Perhaps not surprisingly, the evaluation of MSM’s implementation found that none of the schools were systematically measuring their own progress in terms of teachers’ awareness, adoption, or application of MSM principles. And while the best school leaders had a sense for how many teachers were mastering the strategies, many were surprised at the variation of implementation

when the independent evaluation was conducted. Consequently, both the schools and the program missed significant opportunities to provide feedback, learn about successes and challenges, and improve along the way. In experience elsewhere, this type of ‘measurement for learning’ goes way beyond looking at end-of-year test results. Rather, it involves deliberate discussions to answer questions like:

- What early signals are likely to indicate progress toward the ultimate goal of student success? For example, how will we know whether we are implementing the new approach with fidelity; whether that implementation is prompting greater student engagement; and whether greater engagement is driving student learning?
- What simple tools can we use to track our progress on these indicators in a consistent, standardized way? Can we develop an observation rubric or a personalized checklist to know how well we’ve mastered the strategy?
- How will we use this data to hold ourselves accountable and improve? Who will review the data and determine its implications? When and how will this occur?

Implementing with Fidelity

• Presume Good Intent.

It's all-too-easy for non-educators to assume that poor instruction is simply a result of unmotivated teachers. This experience suggests the exact opposite. Time and again, both anecdotally and in the formal evaluation, the vast majority of teachers resoundingly expressed a strong desire to help students excel, and the teachers recognized that they need to learn and use effective strategies to make that happen. So while some might be hesitant or even resistant to a new initiative, most teachers are eager to implement what they are taught.

• Success Breeds Success.

Change management gurus and athletic coaches alike know this all too well—simply knowing what to do or believing it is important is not enough. Rather, it is crucial to engineer, look for, and highlight quick wins. In this experience, many teachers were intrigued by presentations about the research or even role-play examples of how to use the strategies. But often they would leave the training sessions with a heavy dose of skepticism, commenting either, "I've seen things like this before," or "You haven't seen the kids in my class."

But when the expert visited a teacher's classroom to model the strategy and successfully engaged his/her students, that teacher became more open-minded. That experience powerfully motivated teachers to commit to trying the new approach themselves. Then, when an effective principal invited a veteran teacher to share her positive experience with the strategy in front of the entire faculty,

other teachers were resolved to keep working at the strategies they learned. Teachers' desire and ability to implement research-based strategies increased dramatically as they saw progress in themselves and its effect on students.

• Focus, Focus, Focus.

When it comes to learning new strategies, less is definitely more. The Field Guide includes the key principles and practices that research has shown improve student outcomes—dozens of things that educators 'should' be doing. And for those who are passionate about helping students succeed, it is tempting to teach all or many of the essential strategies at once. But this may mean nothing is mastered and little changes. The first two cohorts proved this even though the intention was to focus by limiting each school to selecting six to eight practices to implement per year. Six to eight practices proved to be too much.

For Cohort 3, the focus was reduced to just two areas (e.g. two principles each in reading and math), and teacher buy-in and fidelity of implementation improved significantly. Even with the reduced focus, many teachers felt they were "drinking from a firehose", especially if there were a significant amount of other initiatives going on in the district. It is equally important to stop doing certain things. As stated earlier, most teachers like learning and trying new

approaches. The catch is that they want to try what is new without dropping what does not work. This leads to frustration ("there's just too much to do in a school day"), confusion ("how do 'leveled questions' align with [fill-in-the-blank] strategy"), or both. When deciding which

"There hasn't been any evaluation or assessment of how well the program is working... no formal process for us to look at how effective the strategies are."

(Assistant Principal)

Whether we're talking about eating well or exercising or teaching with research-based practices, the challenge is the same—they only work if you keep at it. The difference with these kinds of instructional practices is that they don't necessarily give you the immediate positive impact that you need to sustain them like endorphins after exercise. Instead, you try the instructional strategy out and it's actually a little more than you're used to. And the ultimate outcomes only appear after a couple of years. In the meantime, many people drop these programs.

(Sharon Vaughn)

approaches to focus on, take the extra time to decide what approaches or strategies you will stop doing.

- **Get Specific.**

When learning a new principle, educators need specifics. Teaching a strategy as it applies to the average student or as if one-size-fits-all is not enough. Many teachers commented that they could see how the strategy applied to someone else’s class, but that they struggled to see how to use it in their own situation because of student levels, capabilities, subject matter, etc. While the general approach might be the place to start, it is crucial to help teachers see how they can adopt the strategy to different circumstances. This could involve repeating demonstrations of the same strategy in multiple situations, taking care to point out what changes and what does not based on the context. Furthermore, leaving educators with an entire presentation or manual does not specify the most important things to remember and do. Extensive teacher feedback indicated that many would have preferred to receive simple how-to guides or ‘cheat sheets’ that could be quickly referenced when preparing for or even in the middle of a lesson.

- **Acknowledge the Status Quo.**

Introducing a new approach to instruction and the provision of student supports inevitably challenges common norms. Whether people stick with these norms due to inertia, habit, or simply lack of self-awareness, it is important to identify what needs to be changed and why. Some of this can be done in large-group settings. But in most cases, experience indicates that the best approach is through frequent, job-embedded observation accompanied by constructive, non-evaluative feedback. In most cases, educators who fail to quickly adopt a new strategy do so because they don’t realize how ingrained their standard approach really is. Pointing this out on an individual, real-time basis is one way to begin the improvement process.

- **Sweat the Small Stuff.**

Attention to detail matters. Participating teachers and leaders routinely praised the highly attentive and responsive MSM coaches, whom they saw as distinctively professional and supportive relative to other PD providers with whom they had interacted. Whether it was last-minute requests for additional materials or queries about new research, the coaches’ responsiveness increased participating educators’

willingness to engage with the changes MSM was encouraging. On the other hand, missing details had a negative effect. For example, in one case at least, not enough substitutes were secured in time to allow for pilot school teachers to attend a PD session at the demonstration school. As a result, the potential for impact was significantly diminished

even though everything else was ready to go.

- **Combat the Tendency to Check the Box.**

Every new initiative runs the risk of oversimplification. This is especially true for efforts that attempt to distill complex ideas or insights into easy, practical application. When this happens, participants simply go through the motions, failing to use the recommended steps and core principles as a foundation to build upon. In addition to measuring progress and focusing on results rather than just effort, we have seen two additional antidotes. First, regularly return to this foundation. While checklists and quick tip guides are useful in the moment, it’s also important to remind participants of the why and how—where the strategies come from, why you’ve focused on this initiative above any other, and how these principles are intended to be used. And second, routinely promote progression. Encourage participants to build on their knowledge and expand their mastery to increasingly challenging situations. In doing so, they will need to remember the foundation while remaining engaged through additional growth.

- **Encourage Innovation, But Be Wary of Wandering.**

In the most recent school year, one high-performing school created their own program to support the

*“It would have been nice to have a concrete outline of what the strategy looks like. There wasn’t really something concrete that I could walk away with. If I don’t know the names of the manipulatives, I can’t look them up to create them for my kids.”
(Teacher)*

implementation of their selected MSM principles and practices. The MSM team was initially encouraged when they learned of the new program because the local team had designed it to fit their local context. However, as time passed it became obvious that much of the new program, while potentially effective, was not in fact based in rigorous research. It may be that this school is ahead of the research. But maybe not. The point is that it's easy for local adaptations to veer quickly from appropriate innovations to problematic dilutions. And while it may not always be easy to tell the difference, the solution lies in returning to original principles (in this case, relying only on high-quality research) and being deliberate about treating the effort as an experiment, one that needs measurement to be proven productive.

A CALL TO ACTION

Looking forward, there are a number of areas in which school-based interventions designed to drive student success can improve.

First, everyone interested in the success of middle school students can begin by becoming familiar with and using the resources made available through the Middle School Matters initiative. The research, frameworks, strategies, and materials available on www.greatmiddleschools.org are excellent sources for funders, educators, and researchers alike.

Funders, whether private or public, play an outsized role in the nature and scope of efforts to transform school performance and drive student success. As such, they should recognize that providing additional training, resources, or capacity alone will not yield the change in individual or institutional behavior that needs to occur. Funders should consider whether and how they enable or discourage full adoption of new approaches. This reflection requires an understanding and application of insights from fields such as change management, implementation science, systems design—including many of the principles and lessons described above. It might also require additional funding for things like management training and capacity, measurement and accountability systems, and the development of tools and materials, all of which are traditionally viewed as undesirable overhead. Small but intentional investments in these areas will ensure that the rest of the funding

going to improve education outcomes achieves its goal.

Educational leaders and policymakers at the state, district, and school levels should recognize and adopt at least two lessons from this experience. First, not all school training, initiatives, frameworks, or models are created equal. There is increasing evidence about what works and what does not when it comes to instructional practices and school environment. And while they may be plausible and occasionally effective, too many of the strategies educators know and practice are not based on the growing body of principles and practices that have been proven by research to improve student outcomes. It may not be easy, but educational leaders need to hold themselves to a high standard—limiting training and priorities to research-based approaches wherever possible.

Second, educators can foster a culture where all educators are expected to learn, adopt, and master proven instructional strategies over the course of one's career. While the MSM team has been encouraged by how many educators actively embrace change, there are still individuals who do not actively focus on deepening their personal practice over time. There are many reasons for this reality: misaligned incentives, philosophies held over from earlier eras, confusion about what really works, insufficient access to appropriate solutions, and occasionally individual resistance to change. However, the more educators are aware that research-based practices exist, the more they seek out and even demand access to these resources. In turn, they become more effective practitioners and their students will experience success. A culture of continuous improvement builds upon itself.

Finally, change takes both time and focus. Once one knows what to do, it is tempting to try to do it all. But that's a recipe for failure and disillusionment. Instead, go slow to go fast. Identify just a few priorities or initiatives that have been proven to succeed. Take the time to make sure those initiatives do, in fact, succeed before moving on to the next big thing. Doing this requires the patience, resources, and repetition for individuals to fully understand, implement, and eventually master new skills and behaviors. This will seem terribly inefficient at first. But after the foundation is in place and the stakeholders have seen positive results, the improvement process will

get faster and faster.

Investing in effective middle schools to ensure students have every opportunity to succeed is important. Through the efforts of Middle School Matters and countless others' work, there is now a growing body of knowledge and resources available for those who desire to help middle school students succeed. Achieving this goal is certainly challenging. But holding ourselves accountable, both individually and collectively, to a higher, rigorous standard of both instructional practice and effective implementation will generate untold benefits for educators and students around the country.

CASE STUDIES

The following two brief case studies help to illustrate this report's findings.

Middle School A

Middle School A identified the following MSM principles¹⁵ on which it would focus:

- Reading 2 – Teach word-meaning strategies within content area classes
- Reading 4 – Teach students to use reading comprehension strategies while reading complex text
- Reading 7 – Maximize opportunities for students to read and connect a range of texts
- Math 2 – Screen all students, using a universal screener, to identify those at risk for mathematics difficulties and provide interventions to students identified as being at risk. Monitor the development of mathematics knowledge and skills in

identified students

- Math 4 – Develop students' conceptual understanding of mathematics and provide ample opportunities to improve procedural fluency
- Math 9 – Discontinue using practices that are NOT associated with improved outcomes for students and teachers

The PD delivered by the MSM team focused on the following reading and math instructional strategies:

1. Increase student vocabulary through explicit teaching and vocabulary maps
2. Increase reading comprehension through leveled questions
3. Partner students according to reading levels
4. Increase math comprehension through the use of manipulatives

*"I have found that this whole process is transforming our school culture for breaking down barriers for those teachers who wanted to be left alone and didn't want people to come into their classrooms. We are now hearing teachers soliciting feedback. That has been the shining star for the year—for teachers to offer help and accept help from colleagues. It's about teachers helping teachers and colleagues helping colleagues. So when you see those people starting to help each other, that's huge."
(Principal)*

Following the summer conference, the MSM team provided four two-day, onsite training opportunities. Session 1 consisted of an introductory visit in which expectations were set and the MSM team became familiar with teachers, leaders, and school structure. In Session 2, the MSM coach and researcher led a training session on leveled questions for three hours during the first afternoon for all of the school's teachers. In the same site visit, another researcher led a training session on manipulatives for math and

science teachers. The next day in their classrooms, teacher coaches from Middle School A modeled the strategies they learned the previous day and received feedback from the researchers. Subsequently, the teacher coaches scheduled times to either model or observe the remaining teachers apply the reading strategies in their own classrooms. Session 3 focused on introducing vocabulary maps. In this case, the coach observed as many of the teachers as possible applying the strategy in their own classrooms and provided

¹⁵ Refers to the number of the MSM instructional principle as listed in Table 1 above.

feedback to each as she went. All teachers attended the PD sessions during the MSM site visits. Substitute teachers covered classes for three hours so the teachers were free to attend. Math and science teachers received PD for both reading strategies and math strategies. Other core teachers received only the reading training.

These training sessions were generally viewed as highly effective, especially compared to other PD teachers have received. One teacher's experience was shared by many others: "[The MSM staff] have been wonderful. They've been very responsive when we have questions, etc. We were able to calibrate and adjust as we've run into questions."

At the same time, teachers provided some feedback regarding the delivery of PD by the MSM team. The biggest frustration was that the training covers a lot of information in a short period of time; many teachers felt they were "drinking from a fire hose." After teachers learned the strategies in an initial session, they expressed a desire to receive follow-up trainings on the same topic with multiple opportunities to practice the new skills. In addition, some teachers expressed a desire to understand the broader scope and arc of the program before focusing on individual pieces like a particular strategy or even an individualized observation session.

Implementation Infrastructure

In conjunction with its participation in the MSM program, on their own initiative, leaders at Middle School A established a new, two-part structure to increase the likelihood of a successful implementation. While MSM provided guidance surrounding implementation plans, Middle School A set up its own internal coaching structure after returning from the summer conference to ensure that implementation would work while MSM was not on campus. First, they organized an onsite team of 'teacher coaches' that provide observation and coaching to other teachers in their same grades and subject matter weekly through

professional learning communities (PLCs). For example, all math and science teachers in a specific grade meet together weekly to talk about the curriculum and PD, including MSM strategies, that should be used to teach the curriculum that week. The onsite teacher coaches model lessons for the other teachers approximately once a month. They conduct observations and provide feedback to the other teachers so that each is getting MSM training. In addition, each teacher has a partner teacher in another subject area that they check in with regularly. Despite different subjects, partner teachers can discuss ideas for using MSM reading strategies because both apply them in their

classes.

The district's role in MSM has been one of encouragement and observation but not of direct, additive involvement in developing capacity or ensuring adoption. The district staff regularly comes to Middle School A to observe the teachers implement the MSM strategies. The district also checks in periodically to see how MSM implementation is progressing, but there was no formal process for monitoring or measuring implementation from a district standpoint.

While adoption and mastery of the MSM strategies is still on-going, leaders and teachers believe that the establishment of this implementation structure and accompanying learning practices among educators have been central to their success to date and, especially, any improvement they see in the future. As the Middle School A principal said: "I have found that this whole process is transforming our school culture for breaking down barriers for those teachers who wanted to be left alone and didn't want people to come into their classrooms. We are now hearing teachers soliciting feedback. That has been the shining star for the year—for teachers to offer help and accept help from colleagues. It's about teachers helping teachers and colleagues helping colleagues. So when you see those people starting to help each other, that's huge."

*"The students are engaged more. We already do a lot to get them engaged. But using the manipulatives and the leveled questioning, which I like to do with partners, has gotten them more engaged. I've seen higher test scores, even within this year compared to before we started leveled questioning."
(Teacher)*

School District B

School District B has a high rate of English-Language Learners and came to MSM seeking extra support to help these student succeed more quickly. The district, demonstration school, and pilot school leadership worked together to identify six reading MSM principles on which it would focus—three in reading and three in writing.

- Reading 2 – Teach word-meaning strategies within content area classes
- Reading 4 – Teach students to use reading comprehension strategies while reading complex text
- Reading 6 – Guide students during text-related oral and written activities that support the interpretation, analysis, and summarization of text.
- Writing 1 – Establish consistent schoolwide practices for using writing as a tool to support student learning in all content areas
- Writing 2 – Explicitly and systematically teach students the processes, knowledge, and skills of effective writing
- Writing 7 – Improve teacher capacity to teach writing and use it as a tool for learning

The PD focused the following instructional strategies - stemming from those six principles - that were introduced at the summer conference:

1. Increase student vocabulary through vocabulary maps and Frayer models
2. Increase reading comprehension through leveled questions

3. Guide students through reading activities using Rigorous Readers

The first visit from the MSM team was primarily introductory and consisted of observations, introductions between MSM staff and school and district staff, discussions with school leadership about student performance, and discussions about expectations for MSM delivery. Prior to the second visit, the MSM team

sent website links to the district so they could access and begin using the questioning strategies. The district's dean of instruction and district coordinators disseminated the information to the teachers by modeling the strategies in CLCs based on what they learned from the MSM materials and website links.

Webinars were primarily used to deliver training on instructional strategies, while site visits were primarily focused on answering questions, modeling lessons, and providing feedback. Because it was supported by teams at both the district and school level (see below), this "flipped" approach to PD accelerated the pace of learning and coverage of different topics. In Session

2, the MSM team answered questions about Level 1 questioning, introduced Level 2 and 3 questioning, taught vocabulary with graphic organizers, and gave examples of how to teach students to write essay introductions. The PD for Level 2 and Level 3 questioning was delivered in a webinar prior to Session 3, which focused on leveled questioning, but training was primarily spent answering questions, modeling lessons, observing classes, and providing general feedback to groups of teachers in CLCs.

*"One of the things we did in the January PD session was provide a standards booklet for each of our students, and I had teachers read it with me. Then I modeled a Level 1 question to give them a reminder of what we're trying to accomplish. Then I modeled a Level 2 and then a Level 3. I had each campus teacher practice developing the different leveled questions as a group. MSM sent us a video link of a teacher modeling Level 2 questioning, which gave me an idea of where it was going. All of the campuses I support receive this training."
(District Coordinator)*

Implementation Infrastructure

Relative to others participating in Cohort 3, School District B was unique in the role the district played in the implementation of MSM. Prior to beginning MSM, School District B had established a role, called district coordinators, to provide PD to principals and teachers. The coordinators are responsible for delivering curriculum and training to content-area teachers through collaborative learning communities (CLCs), while school administration is ultimately responsible for enforcing MSM implementation.

The district coordinators, who are each assigned to a specific content area, visit schools weekly to model lessons, observe classes, and clarify how teaching strategies should be used. Since the district is responsible for engaging teachers in curriculum and associated training through district-led PD, each school in the district receives the same training. Building on this infrastructure and practice, School District B district coordinators attended MSM training and incorporated it into the PD they delivered to all middle schools in the district.

In each school the teachers meet several times a week in CLCs by subject area. They receive training from the district coordinators in these meetings and share ideas regarding how to incorporate teaching strategies into the curriculum to best meet the needs of their students. This multi-level, integrated learning and implementation structure was highly effective for rolling out and adopting new initiatives such as MSM.

The district coordinators and administrator of middle schools have regular meetings to analyze student data and determine which strategies—MSM or other—and curriculum to introduce, continue, or discontinue. The only area where the district keeps track of the effectiveness of the strategies is through discussions in CLCs, where department heads provide training and support for the teachers when the district coordinators

are not available. As a result, it is difficult for the teachers as well as school leadership to accurately measure how often or how well MSM strategies are implemented.

Innovation or Departure?

One of School District B's primary areas of focus was on a strategy the district labeled Rigorous Readers. The primary purpose of Rigorous Readers was to help students analyze complex texts in a way that mimics

the standardized exam. The Rigorous Readers strategy was created to address MSM's Reading Principle 6: Guide students during text-related oral and written activities that support the interpretation, analysis, and summarization of text—as well as to combine several MSM strategies into one instrument. It includes both a reading and writing component, which allows teachers to evaluate student comprehension. Rigorous

Readers was not prescribed by MSM as a research-based instructional strategy, but was adapted from another conference attended by district administrators after the MSM Summer Institute.

While teachers and administrators felt it was an effective and innovative strategy, the Rigorous Readers strategy was broadly but incorrectly identified as an MSM research-based strategy. On one hand, this type of innovation should be welcomed as the educators were adapting tools to their context. On the other hand, the identification of Rigorous Readers as an MSM strategy illustrates the potential for educators to depart from the high standard of relying exclusively on approaches proven by high-quality research. Going forward, both MSM and other efforts to improve middle school education will need to grapple with this challenge.

*"I think my students feel more confident. Even as adults, we sometimes find words we don't know, but we use context clues to figure it out, but the students sometimes struggle with that process. But now they better see the clues, and they aren't intimidated by words as much."
(Teacher)*



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George W. Bush Institute at the George W. Bush Presidential Center
2943 SMU Boulevard | Dallas, Texas 75205 | 214.200.4300
www.bushcenter.org | educationreform@bushcenter.org