

Model
Demonstration
Coordination
Center

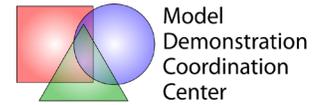
Tiered Writing Intervention Models for Secondary School Students

Project Findings in Brief

May 2015

Debra Shaver
Mary Wagner
Sarah Greene

SRI International



Suggested citation:

Shaver, D., Wagner, M., & Greene, S. (2015). *Tiered writing intervention models for secondary students: Project findings in brief*. Menlo Park, CA: SRI International.

The findings presented in this brief were generated from data collected by the participating model demonstration projects:

Hawaii Model Demonstration Project on Tiered Approaches to Improve the Writing Proficiency, Application, and Transfer Skills of Ninth-Grade Students

Robert Stodden, Ph.D., Principal Investigator
University of Hawai'i at Manoa
Center on Disability Studies

The Strategic Writing Model (SWM): Secondary Writing Instruction Through a Three-Tiered RtI Model

Suzanne Robinson, Ph.D., Co-Principal Investigator
Beverly Colombo, Co-Principal Investigator
University of Kansas
Center for Research on Learning

The Model Demonstration Coordination Center has been funded with Federal funds from the U.S. Department of Education, Office of Special Education Programs, under contract number ED-CFO-10-A-0133. The content of this publication does not necessarily reflect the views or policies of the U.S. Department of Education nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. government.



Overview of the Model Demonstration Coordination Center

The Research to Practice Division of the Office of Special Education Programs (OSEP), U.S. Department of Education, is charged with addressing the gap between what research demonstrates to be effective programs and practices for improving outcomes for children and youth with disabilities and what schools and programs implement. An important part of that pursuit is the technical assistance, model demonstration, and dissemination activities OSEP has been supporting since 1970. Since 2005, OSEP has funded seven cohorts of model demonstration projects (MDPs), each of which has focused or is focusing on a single new and promising (or perhaps poorly understood or implemented) practice, procedure, program, or technology that is deemed to have high potential for improving outcomes for children and youth with disabilities. Each project implements its model in typical settings and assesses its impacts.

Also since 2005, OSEP has funded the Model Demonstration Coordination Center (MDCC) at SRI International. MDCC staff members have worked with the MDPs to establish consistent design elements, such as sample definition and selection, data collection methods and timing, and instrumentation; for some cohorts, MDCC staff members also have synthesized cross-MDP data. Consistent data collection within a given cohort permits comparison of the relative ease with which the models were implemented with fidelity and supports comparison of the relative outcomes achieved when the unique approach of each model was implemented. Comparing and contrasting implementation experiences within and across cohorts also enables MDCC to distill from MDPs their insights into factors that hinder and promote full and sustained implementation of their models.

Contact Information

Mary Wagner, MDCC Co-Principal Investigator
SRI International
mary.wagner@sri.com

Debra Shaver, MDCC Co-Principal Investigator
SRI International
debbie.shaver@sri.com

Patricia Gonzalez, Project Officer
Office of Special Education Programs
U.S. Department of Education
Patricia.Gonzalez@ed.gov

Additional reports and information about the Model Demonstration Coordination Center are available at:
<http://mdcc.sri.com/>

Contents

Introduction	1
MDCC Conceptual Framework, Evaluation Questions, and Data Sources	1
A Conceptual Model of the Model Demonstration Process	1
Evaluation Questions	3
Data Sources	3
The MDPs and Their Implementation Experiences.....	3
Core Intervention Components.....	3
Kansas MDP	6
Hawaii MDP	6
Core Implementation Components.....	7
Kansas MDP	7
Hawaii MDP	8
Characteristics of Participating Schools	8
Kansas MDP	8
Hawaii MDP	9
Characteristics of Teachers and Classrooms	9
Kansas MDP	9
Hawaii MDP	9
Implementation Experiences	10
Kansas MDP	10
Hawaii MDP	12
Implementation Outcomes	13
Core Intervention Components.....	14
Core Implementation Components.....	15
Characteristics of Implementing Schools and Districts	16
Characteristics of Implementing Teachers and Classrooms	17
Student Outcomes	17
Implementation fidelity.....	18
Destination Organizations	18
Lessons Learned	18
Components of MDPs' Models.....	19
Components of MDP Implementation Strategies.....	19
Characteristics of Implementing Organizations	20
Contextual Factors	21
Learning Paths.....	21
References	22

Tiered Writing intervention Models for Secondary School Students: Project Findings in Brief

Introduction

The purpose of model demonstration projects (MDPs) is to develop new practice, procedure, or program models on the basis of theory and/or evidence-based research. Recognizing the challenges of improving the writing proficiency of secondary school students, as well as the importance of writing skills for success in high school and postsecondary education and employment, the Office of Special Education Programs (OSEP), U.S. Department of Education, requested applications for grants to develop models that incorporated evidence-based writing interventions within a tiered instructional framework. Grants were awarded in 2010 to the University of Kansas, Center for Research on Learning in partnership with the Strategic Learning Center, and the University of Hawaii at Manoa, Center on Disability Studies.

These tiered writing intervention MDPs were the fourth cohort of grantees facilitated by OSEP's Model Demonstration Coordination Center (MDCC) at SRI International. MDCC worked with cohort 4 MDPs to establish consistent design elements and to synthesize cross-MDP data. The findings regarding the MDPs' implementation experiences and their student outcomes have been synthesized by MDCC staff and are reported here.

MDCC Conceptual Framework, Evaluation Questions, and Data Sources

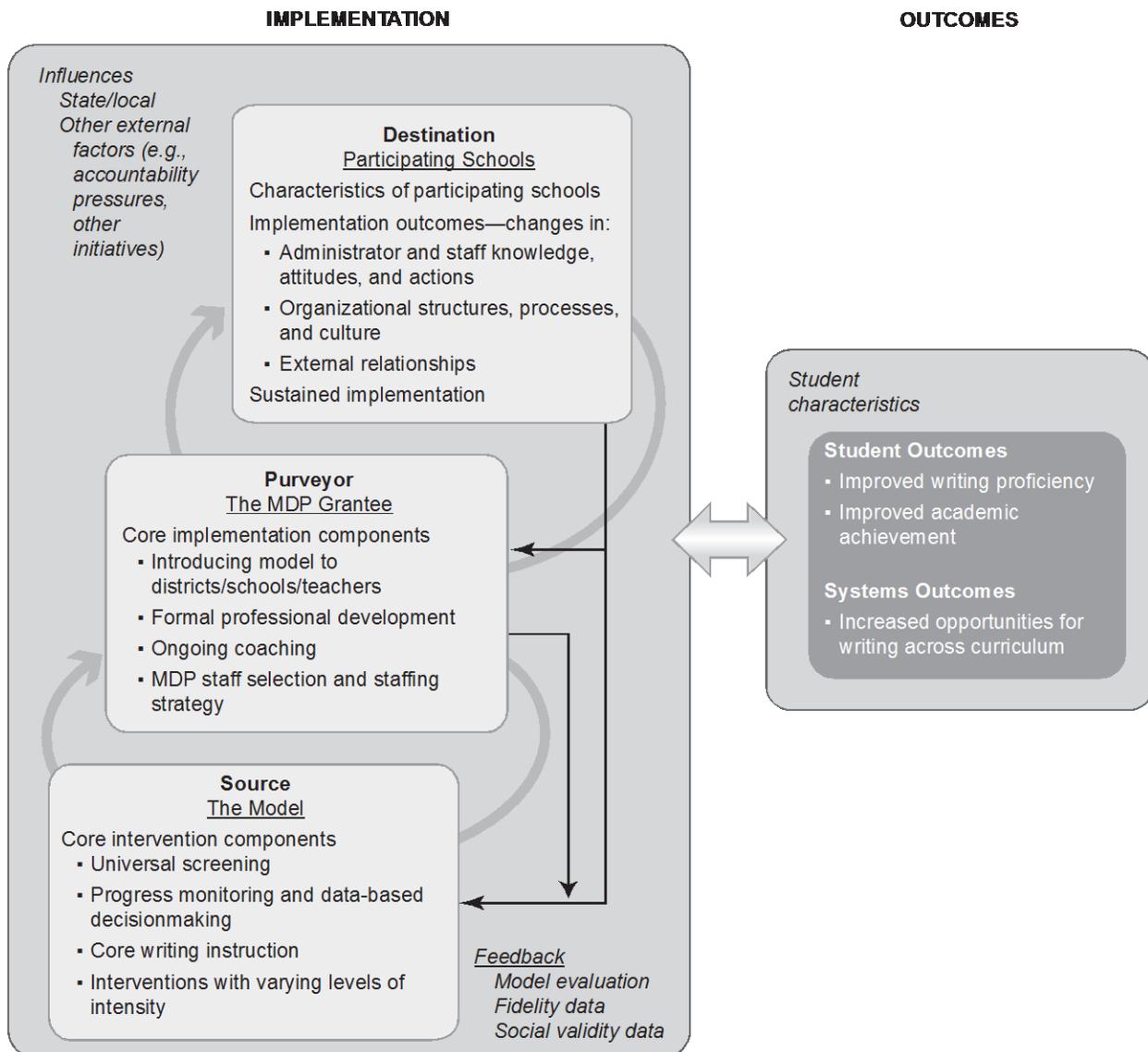
A conceptual framework and a set of evaluation questions guided MDCC's work.

A Conceptual Model of the Model Demonstration Process

MDCC adopted a conceptual model from the National Implementation Research Network (NIRN) that has four major elements (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005, Figure 1). **Source** is the model being implemented, which has **core intervention components**. These refer to "the most essential and indispensable components of an intervention practice or program" (Fixsen et al., 2005, p. 24). The **purveyor** of the model is the MDP grantee, whose model has **core implementation components** of the process of putting the model into practice. These include strategies for selecting demonstration sites, providing professional development and training, offering ongoing coaching and support, and determining MDP staff selection and staffing strategy. The framework posits that these actions of the MDPs are the mechanisms through which the models are transmitted to participating schools (the **destination**) and the staff in them, who are the intended implementers of the model. A fourth element involves the model development context, or the **influences** on the implementation process, such factors within the state or local educational system and other external factors, such as district financial instability, the influence of unions on teachers' participation in project activities, and accountability pressures.

The conceptual model also includes the desired outcomes of model implementation, including implementation and intervention outcomes. Three implementation **outcomes** that would be expected within the destination organization if implementation is successful are: (1) changes in the knowledge and skills of teachers and other key staff members, (2) changes in organizational structures and cultures to bring about and support the changes in teacher behavior, and (3) changes in relationships with consumers, stakeholders, and systems partners. A fourth

Figure 1. Conceptual Framework for Cohort 4 Model Demonstration Implementation and Outcomes



Note: Adapted from *Implementation Research: A Synthesis of the Literature* (Fixsen et al., 2005).

implementation outcome critical in the model demonstration context is the sustainment of the model after the MDP ends. The MDCC framework added intervention outcomes to reflect the full intention of the MDPs to improve outcomes for children, youth, and families. Finally, the conceptual model includes feedback loops—the learning paths through which implementation experience informs iterations in core intervention and implementation components.

The relationships between conceptual framework components and implementation and intervention outcomes are the focus of this summary. It describes variations in the core intervention and implementation components of the models and the characteristics of the destination schools and their contexts. The MDPs' implementation stories are then told and their

implementation and intervention outcomes described. The final section summarizes the primary lessons learned from the experiences of the tiered writing intervention models.

Evaluation Questions

MDCC developed a three-level series of evaluation questions. Level 1 questions were specific to each MDP within a cohort and were suggested to the MDPs as a focus for their individual evaluations of their own projects. Level 2 questions pertained to the process of developing and implementing models across the MDPs within a cohort and are addressed here. Level 3 questions were addressed by the MDCC across the MDPs in all the cohorts (Wagner et al., 2010). Table 1 presents the level 2 cross-MDP questions for the tiered writing intervention models.

Data Sources

Much of the data reported here are descriptive and qualitative and came from the templates and profile tools that the MDP teams used to document their models' features and design elements, record the story of their model development and implementation processes, and describe the contexts within which they implemented their models. MDP teams also provided results of quantitative assessments of classrooms to augment the information gathered in the profile tools. In addition, MDCC drew on information from grantees' proposals and notes from cohort conference calls. Quantitative data on implementation fidelity and student outcomes also were analyzed and are summarized here.

The MDPs and Their Implementation Experiences

The Kansas and Hawaii tiered writing intervention MDPs began their model development and demonstration work in January 2010. Each MDP began implementation in the 2010–11 school year and used that experience to adapt the model, which was implemented in one or more additional schools in the 2011–12 school year. The Hawaii MDP completed its work with its schools at the end of the 2012–13 school year, and the Kansas MDP completed work in its schools at the end of the fall semester of the 2013-14 school year.

At the beginning of implementation, the MDP teams documented the features of their core intervention and implementation components as initially designed. They also documented characteristics of the participating schools and teachers at the start of implementation. The next four sections summarize these initial model features and school and teacher characteristics. A summary of implementation experiences and implementation and intervention outcomes follows.

Core Intervention Components

As stated, the *source* element of MDCC's conceptual framework is the model itself, which has core intervention components. The core intervention components of the cohort 4 models were

- universal screening,
- high-quality core instruction,
- progress monitoring and data-driven decisionmaking, and
- interventions with varying levels of intensity.

Table 1. Cohort 4: Secondary School Tiered Writing Intervention Models—Level 2 Evaluation Questions

Intervention Components
<p>1a. How do the core intervention components of the tiered writing intervention models differ?</p> <p>1b. How do differences in intervention components relate to the models' perceived relative advantage, complexity, and compatibility with the destination organization and contextual environment?</p> <p>1c. How do differences in perceptions of the models' relative advantage, complexity, and compatibility relate to the fullness/fidelity of model implementation, social validity, and establishing conditions supportive of model sustainment?</p>
Implementation Components
<p>2a. How do the core implementation components of secondary school tiered writing intervention models differ? How do they differ with regard to</p> <ul style="list-style-type: none"> • Strategies for recruiting destination organizations and introducing models • Professional development approaches • Approaches to ongoing support • MDP staffing strategies • Ways of learning from implementation experiences and adapting components? <p>2b. How do these differences in implementation components relate to the fullness/fidelity of model implementation, social validity, and establishing conditions supportive of sustainability?</p>
Destination Organizations and Contexts
<p>3a. How do destination organizations differ with regard to key characteristics, including students served, history with model-related practices, organizational functioning, staff and leadership, resources relevant to model, climate/culture, and acceptance of and support for the model?</p> <p>3b. How do destination organizations differ with regard to implementation outcomes—their ability to establish the following in support of implementation with fidelity and the potential for sustainability:</p> <ul style="list-style-type: none"> • Staff knowledge, attitudes, and actions/behavior • Organizational structures, processes, and culture • External relationships? <p>3c. How do differences in the characteristics and implementation outcomes of destination organizations relate to the fullness/fidelity of model implementation, social validity, and establishing conditions supportive of sustainability?</p> <p>4a. How do model contexts differ with regard to</p> <ul style="list-style-type: none"> • District and state support for/alignment with the model • District resources provided for model implementation and sustainability • External circumstances that exert some control over implementation and/or sustainability? <p>4b. How do differences in district and other influences relate to the fullness/fidelity of model implementation, social validity, and establishing conditions supportive of sustainability?</p>
Outcomes
<p>5a. How do models, districts, and schools differ with regard to individual and systems-level outcomes?</p> <p>5b. How do differences in core intervention and implementation components, destination organizations, and influences relate to differences in individual- and system-level outcomes?</p>

Both MDPs' writing intervention MDP teams worked to improve schools' and school staff members' capacities to implement and support core writing instructional strategies and practices, use data to inform instruction and identify students' needs, and provide intensive supports for students and teachers. Their models' characteristics are summarized in Table 2. They differed in the nature and emphasis placed on several components.

Figure 2. Features of the Kansas and Hawaii Tiered Writing Intervention Models

<p>Kansas Strategic Writing Model (SWM): Secondary Writing Instruction Through a Three-Tiered Rtl Model</p>	
<p>The Kansas MDP applied a three-tiered response to intervention (Rtl) approach to the instruction of complex writing skills in low-performing high schools. SWM combined previously validated interventions and placed them in three tiers. General education English teachers provided instruction to all ninth-grade students using the Learning Strategies Curriculum strategic writing model; other content teachers taught students how to apply the writing strategies and processes to discipline-specific writing.</p>	
<p>The curriculum includes four writing strategy programs: Sentence Writing Strategy, Paragraph Writing Strategy, Error Monitoring Strategy, and the Theme Writing Strategies. Additional strategies were taught to students needing prerequisite skills in mechanics and spelling.</p>	
 <p>KU CENTER FOR RESEARCH ON LEARNING The University of Kansas</p>	<p>The model included a variety of assessment tools for universal screening, continuous progress monitoring, and outcome evaluation. In addition, ongoing professional development and coaching were integral to the model.</p>
<p>Hawaii Model Demonstration Project on Tiered Approaches to Improve the Writing Proficiency, Application, and Transfer Skills of Ninth-Grade Students</p>	
<p>The Hawaii MDP featured specific writing strategies, including the six writing traits, writing processes, writing structures, and meta-cognitive and self-regulation strategies through explicit instruction, consistent and meaningful practice, and feedback provided by teachers to increase student writing proficiency. Ninth-grade English language arts teachers and academic content teachers participated in the model. The MDP team used several assessments for universal screening and an online writing assessment for continuous progress monitoring.</p>	
<p>This MDP focused on providing tiers of support to ninth-grade teachers through a highly structured professional development approach. The model assisted teachers in improving the quality of their pedagogy in areas of instruction, practice, and feedback, while improving the quality and increasing the quantity of writing opportunities in their classroom. Critical pedagogical elements were taught during an introductory teacher institute and reinforced during follow-up professional development sessions. Teachers also participated in ongoing cycles of instructional observations, feedback from observers, and self-reflection. After a review of observational and student data from each cycle, observers and teachers used a problem-solving approach to determine where improvements could be made.</p>	
 <p>UNIVERSITY OF HAWAII UNIVERSITY OF HAWAII 1907 UA MAU KE EA O KA 'AINA I KA PO'ONO</p>	<p>UNIVERSITY of HAWAII® MĀNOA</p>

Kansas MDP

The Kansas MDP featured a writing instructional program based on the Strategic Instruction Model (SIM) learning strategies curriculum developed by the University of Kansas-Center for Research on Learning. Although SIM had been developed over 25 years ago, this was the first time it had been incorporated into a tiered approach to improve writing proficiency. The MDP team used two writing instruments for universal screening, the Test of Written Language-4 (TOWL-4) and the SIM scoring tools for sentences, paragraphs, and themes. The model's core writing instruction had four components: sentence writing, paragraph writing, theme writing, and error monitoring. As students moved through each component, they were expected to learn how to write complicated sentences, create well-organized paragraphs with the use of a graphic organizer, and proofread their own work. Strategy use and self-regulation were key features of core instruction. The initial Kansas model specified a schedule for continuous monitoring of progress through a variety of assessments of students' writing using rubrics, scoring instruments, and written scoring guidelines developed as part of the SIM curriculum. On the basis of progress monitoring, students would be placed into tiers. The MDP team expected that supplemental instruction (tier 2) would take place within the general education classroom and that intensive interventions (tier 3) would be provided outside the general education classroom.

Hawaii MDP

The Hawaii MDP developed a model based on best practices for improving student writing through instruction. This MDP team chose several screening tools, including a pretest using the computer-based writing tool MY Access!, the Diagnostic On-Line Reading Assessment (DORA), and a student survey. Information gathered from these tools, as well as students' performance on state assessments, was to be used to inform teachers and program staff of students' writing-related proficiencies and attitudes so that instruction could be designed to address their strengths and weaknesses. The Hawaii MDP team developed core writing instruction based on specific writing strategies coupled with metacognitive and self-regulation strategies. Core writing instruction also featured scaffolding by the teacher, opportunities for practice, and descriptive feedback on students' writing. This MDP planned to use the MY Access! computer-based progress monitoring system that automatically assessed and provided feedback on students' writing to help teachers assess students' instructional needs. After initial conversations with its first implementing school, the Hawaii team decided to place teachers, rather than students, into tiers based on their demonstrated need for intensive coaching to support students in their classrooms. This decision was reportedly made because students were already stratified by ability: special education for students with IEPs, an academy for students at risk of academic failure, and general education for the remaining students. MDP leaders believed that this structure was not conducive to a problem-solving approach for student interventions within a standard tiered support system. In addition to identifying teachers who needed more intensive coaching and support, My Access! data were used to help teachers develop solutions when students did not make adequate gains, including adapting core instruction and providing differentiated instruction to address varying student needs.

Core Implementation Components

Core implementation components are the processes purveyors (i.e., grantees) use in their efforts to get the models implemented in the destination organizations (i.e., the participating schools). Based on the NIRN model, the MDCC conceptual framework posits the following four implementation components as important for successful implementation:

- **Site/practitioner selection**, the choice of the districts and schools in which the tiered writing models were implemented,
- **Training in core intervention components** to implement them with high fidelity,
- **Ongoing coaching** offered to those implementing the model, and
- **Facilitative administrative support** within the schools and districts.

These core implementation components of the tiered writing intervention models, as initially designed, are summarized here.

Kansas MDP

The Kansas MDP initiated recruitment at the district level as a strategy to gain access to and the participation of multiple schools within a district. Selection criteria were high need for improved academic outcomes, including writing proficiency; location in a state with a respected statewide achievement test that included a writing assessment; a previous relationship between the district/school and MDP staff or its professional developers; interest in improving writing and support for explicit writing instruction; and commitment by district and school staff to implement the model.

Training involved a blend of formal (i.e., large group) professional development (PD) and one-on-one coaching throughout the school year. Initial training for the implementation of the SIM writing model was to be conducted in the summer. In year 1, all ninth-grade English language arts (ELA) teachers, special education teachers, and selected tier 3 teachers in the first implementing school attended a 3-day training session in June and a 1-day session in early September and received stipends from the project for their participation. Administrators participated in selected sections and received additional instruction about their role in monitoring teachers' implementation of the model. Delivered by a team of certified SIM professional developers, the June training session consisted of a variety of instructional practices designed to provide teachers and administrators with hands-on experience in using the SIM writing model. The formal training approach involved teachers and administrators attending several additional PD sessions throughout the school year.

The plan for ongoing coaching was to have three certified SIM professional developers provide individual coaching for each project teacher once or twice a month, on average. Teachers were to be observed at least monthly, fidelity of implementation was to be recorded, and feedback given by the professional developers during debriefing meetings with the teachers.

The Kansas team's implementation approach was to work with district and school administrators to integrate project activities into the schools' structures and other initiatives. Ongoing coaching and support for administrators and teacher leaders included guidance on what to look for during classroom observations and walk-throughs, how to support teachers as they

shifted instruction across the tiered systems, how to conduct data team meetings, and how to encourage fidelity and accountability.

Hawaii MDP

The Hawaii MDP targeted its recruitment at the school level, a process required by the Hawaii Department of Education because decisionmaking authority rests primarily with school principals. The Hawaii team looked for schools with a previous relationship with MDP staff, the presence of significant needs (e.g., high poverty, high percentage of English learners, schools in restructuring under *No Child Left Behind* [NCLB]), and a strong willingness to participate among school personnel.

Like the Kansas MDP, the Hawaii MDP staff provided both formal PD and individualized coaching. Initial training was a 4-day summer institute. In year 1, all project teachers from the school selected for implementation attended—general education and special education ELA teachers and academic content teachers—as well as the school’s curriculum coordinator. Institute sessions featured a writer’s workshop format to encourage participants’ active involvement in the learning process. Teachers practiced teaching writing instruction modules to their peers, wrote and reflected on their writing daily, and reviewed scoring of their writing by MY Access! The MDP provided stipends for attendance. The PD approach also incorporated quarterly half-day follow-up sessions during the school year.

The Hawaii MDP planned to provide ongoing coaching through weekly teacher observations. Observational data were to be recorded on a standard observation form and feedback was to be provided to each teacher. The intended process was to observe all components of a lesson, from the beginning moments to the conclusion of the class period. During observations, MDP coaches were to track teachers’ implementation of instruction, practice, and strategies. Teachers whose students remained below proficiency or had low fidelity scores were to be identified for tier 2 or 3 support and given additional PD and consultation. The Hawaii MDP approach was also to hold an overview session for the entire school staff at the beginning of the year and provide ongoing support to school administrators to build their capacity to support implementation.

Characteristics of Participating Schools

The conceptual framework that guides MDCC’s work posits that characteristics of the schools and districts with which the MDPs worked can influence both implementation and intervention outcomes.

Kansas MDP

The three participating Kansas schools were in two school districts in two states, an urban New York district and a suburban district in Minnesota. The MDP team originally selected two schools in the New York district and began implementation in 2010 at one of them, K1. After the first implementation year, the Kansas MDP team discontinued implementation in K1, did not begin implementation at the second school in the New York district, and shifted their work to the Minnesota district, initiating implementation in K2 in fall 2011 and in K3 in fall 2012. All three schools had large enrollments, relatively stable leadership, and an experienced and stable teaching force; however, they differed in some ways. K1 served a more economically

disadvantaged student population than K2 or K3 and was in a district with a severe budget crisis, resulting in very limited resources for model implementation. Reported levels of initial buy-in and commitment to the model were reported to be high among all three schools.

Hawaii MDP

The Hawaii MDP had two participating schools (H1 and H2) in two Hawaii districts. H1 served a suburban/rural community, and H2 was in an urban/suburban setting. Both Hawaii MDP schools had large enrollments and served large populations of students identified as Asian/Pacific Islanders. H1 served a more economically disadvantaged population and was a Title 1 school. This school was also in restructuring under *NCLB*. Both schools had relatively stable and experienced leaders and teachers. Initial buy-in for the model was reported to be high among leaders and teachers at both schools.

Characteristics of Teachers and Classrooms

Although schools and districts provided the organizational context for implementation, the characteristics of individuals delivering the interventions to students were expected to influence implementation and intervention outcomes. Across the MDPs 53 teachers were centrally involved in the tiered writing intervention models: 12 at K1, 7 at K2, 9 at K3, 16 at H1, and 9 at H2. Characteristics of these teachers and their classrooms are summarized here.

Kansas MDP

In the Kansas MDP schools, participating teachers represented a mix of general education English language arts, special education, and English Learner teachers. All three schools had relatively experienced teachers involved in the model, with the majority having more than 10 years of teaching experience. K1 teachers reportedly had not received prior PD on the use of tiered interventions or on writing interventions, whereas the majority of teachers at K2 and K3 had received PD related to both topics. Using a measure of teachers' classroom instructional environments at the beginning of their MDP involvement, higher percentages of K2 and K3 teachers had ratings of positive environments relative to K1 teachers. K1 had the most diverse participating classrooms, serving more students with disabilities than the other schools. K1 also had more mixed-grade classrooms; whereas the large majority of K2 and K3 classrooms had ninth-grade students only.

Hawaii MDP

A large majority of teachers participating in the Hawaii MDP were general education teachers, including teachers of academic content such as mathematics and science. At least one special education teacher at each school participated. Most participating teachers had 5 or more years of teaching experience. About three-fourths of participating teachers at H1 had received PD on tiered interventions, compared with less than half the H2 teachers. Roughly half the H1 and H2 teachers had received PD on writing interventions before MDP participation. About half of the H1 teachers had classroom instructional environments that were rated as positive at the beginning of their MDP participation, compared with three-fourths of the H2 teachers. Participating classrooms were primarily for ninth-grade students, with very few mixed-grades classrooms at both H1 and H2. At both schools, a large majority of students in participating

classrooms were general education students; classrooms had two or three students receiving special education services and two English learner students, on average.

Implementation Experiences

Here we summarize the experiences of each MDP and how they varied across districts and schools during the following stages of implementation.

- **Initiation.** Exploring the match between model requirements and the needs, resources, and capacities of potential demonstration sites.
- **Preparation.** Working with sites to identify or develop the resources, administrative support, and policies required for implementation, as well as the knowledge and skills of those who would implement the model.
- **Initial implementation.** Launching implementation of some or all model components, evaluating early implementation experiences, and adapting components to address implementation issues. Descriptions are of experiences, reactions, and refinements during the first implementation year.
- **Full implementation.** Ensuring all model components are fully operational and being implemented with fidelity and integrating model practices and procedures into staff and organizational routines. Experiences, reactions, and model refinements during the second and subsequent years at each school are described.

Kansas MDP

The Kansas MDP team used a staggered implementation approach, choosing one school to be the first to implement the model (K1) and a second school in the same district to begin implementation the next year. As a result of initial implementation experiences (summarized below), this MDP team withdrew from the first school and district at the end of the first year and moved to a new district. This resulted in a second round of staggered implementation during years 2 and 3 (at schools K2 and K3).

Initiation. The Kansas MDP team selected K1, a school in an urban New York district, as the first-year implementation school. When the team members decided to find a new district and schools at the end of the first implementation year in New York, they went back to the model initiation stage. After adding new selection criteria, including district stability and the availability of resources at the schools for intensive interventions, they selected schools in a suburban Minnesota district (K2 and K3).

Preparation. The MDP team began meeting with K1 school personnel in spring 2010. A staff leadership team was formed to provide support for teachers participating in the model through weekly meetings about tiered supports, the literacy curriculum, and data sharing. In the summer and fall, ELA and special education teachers, administrators, and support staff participated in formal PD. Several challenges emerged at this stage, including the loss of a significant MDP champion from the district and the discovery that K1 had very limited technology resources.

MDP leaders began preparation for the first school in the Minnesota district (K2) after they decided to withdraw from K1. Given the relatively late change in implementation sites, preparation activities were condensed into the summer months. MDP leaders used similar

strategies for preparation as they had with K1, including holding meetings with school personnel to build relationships and understand needs and plan for formal PD for participating teachers. Preparation for implementation in the second school in the Minnesota district (K3) began early 2012 and involved the same type of activities as for K1 and K2.

Initial implementation. Initial implementation at K1 began in fall 2010 and continued through spring 2011. MDP staff reported numerous implementation challenges at the school, including a district financial crisis that was said to significantly reduce school resources for implementing model components, poor communication between the MDP and school staff, lack of authentic teacher buy-in, poor teacher foundational skills in writing instruction, and teachers' dissatisfaction with the model. Most important, teachers did not fully implement the core components of the model, according to MDP personnel. Given these challenges, MDP leadership determined that successful implementation would not be possible at K1.

Implementation at K2 began in fall 2011 and continued through spring 2012. Provision of tier 1 and 2 supports, data-based decisionmaking activities, meetings with the school leadership team created to support MDP implementation, and teacher coaching began at the start of the school year. Provision of tier 3 supports was delayed slightly. Initial implementation at K3 began in fall 2012 and continued through that school year. It was similar to that in K2, although it did not involve providing tier 3 supports. In general, Kansas MDP personnel reported that initial implementation went more smoothly in K2 and K3 than in K1. The district was highly supportive, as were the schools' administrators and leadership teams.

Full implementation. Given the implementation problems in year 1 and the MDP's decision to pull out of the first district at the end of that year, the full implementation stage¹ was not reached for K1. K2 had 2 years of full implementation (2012–13 and 2013–14) and K3 had 1 year (2013-14). K2 and K3 ELA teachers successfully implemented core writing instruction, and some were successful in providing tier 2 supports in the classroom. Several attempts to provide tier 3 supports occurred; however, this model component was never fully realized at K2 or K3. In addition, schoolwide data-based decisionmaking was not implemented at either school, although individual teachers reportedly grew in their ability to use student data to guide instruction. In general, school staff were said to be enthusiastic about model implementation.

Factors influencing implementation. The Kansas MDP team identified several factors that facilitated or created challenges to implementation, including those related to the district context, school context, teachers, and the model itself. At K1, insufficient school support, an inhospitable district context, limitations in school technology, and a staff lacking important foundational teaching skills hampered implementation, according to MDP personnel. At K2 and K3, supportive school and district leadership, a stable district context, and adequate staff and technology resources facilitated model implementation. At all three schools, the Kansas MDP experienced challenges with the tiered interventions and the data-based decisionmaking components of the MDP. Identifying feasible tier 3 supports was said to be problematic because of the lack of available school personnel who were sufficiently skilled in writing strategies and the lack of time within students' class schedules. This component was never fully functional at

¹ For the purposes of this brief, full implementation is defined as the second and subsequent years of implementation at each school.

any of the implementation schools. Schoolwide data-based decisionmaking also was not widespread; however, some individual teachers were successful in using data to improve instruction and meet students' needs. MDP leaders cited scheduling challenges as a hindrance to data team meetings.

Hawaii MDP

Like Kansas, the Hawaii MDP used a staggered implementation approach in which the MDP team chose one school to be the first to implement the model (H1) and another school in a different district to be the lag school.

Initiation. Hawaii MDP staff selected two districts within the Hawaii State Department of Education's local education agency with which it had prior relationships. The MDP team members' school selection criteria led them to choose H1, a school they had worked with for approximately 20 years. During the project's first year, MDP leaders decided to discontinue their plans to implement the MDP at the original lag school. With the help of the H1 principal, they decided to do so instead at H2, a school in another district with which the MDP team did not have extensive experience.

Preparation. In the spring 2010, MDP staff members began meeting with H1 staff to explain the project, learn about the school, and begin establishing relationships. They worked with H1 teachers and administrators to determine how the model would work and the supports it needed. It was through this process that MDP leaders concluded that the school's instructional structure was not conducive to the planned problem-solving approach for addressing students' needs. At this point, they decided to apply the model's tiered support component to teachers, rather than students, to address teachers' needs for coaching and support. They trained participating teachers on the model during formal PD sessions in the summer before implementation. The decision to change implementation schools late in the 2010–11 school year limited the time to prepare for implementation at H2; thus, preparation activities in H2 consisted primarily of meetings with administrators and teachers, site visits, and formal PD in the summer of 2011.

Initial implementation. Initial implementation at H1 began in fall 2010 and continued through spring 2011. H2 began initial implementation in fall 2011. At H1 teachers began implementing the instructional modules in the second week of school and were supported by the MDP team through coaching and PD. Team members noted that they considered year 1 to be a model development year as they worked with H1 personnel to define model components, identify PD needs, test model components, and refine them based on feedback and reflection. Throughout the year, MDP personnel developed and refined their teacher observation and fidelity tool, approaches to providing feedback and identifying tiers of support for teachers, and materials to support teachers' instruction. Regular data-based decisionmaking team meetings were planned as part of the project, but only two took place during the first year. All ninth-grade English language arts teachers at H1, as well as several academic content area teachers, participated in the model in the first year.

The model development work conducted at H1 was said to help MDP staff clearly define and articulate expectations for H2 teachers and staff. MDP leaders reported that H2 model implementation went fairly well, but there appeared to be less commitment to and administrative

support for the MDP than at H1. For example, not all H2 ninth-grade teachers elected to participate in the model.

Full implementation. H1 had 2 years (2011–12 and 2012–13) and H2 had 1 year (2012–13) of full implementation. Hawaii MDP leaders continued to refine PD content, tools, and materials during full implementation. Staff at H1 were said to continue to exhibit more commitment to model implementation than H2 staff, and the Hawaii MDP team was reportedly more successful at H1 in having content area teachers implement the model. However, content area teachers at both schools were said to have difficulty teaching the writing strategies. Data team meetings were not fully implemented at either school. Some teachers successfully used student data to inform instruction, whereas others did not embrace this model component. Feedback from teachers on PD, coaching, and their ability to implement model components was said to be generally positive across both schools.

Factors influencing implementation. MDP leaders reported a number of factors affecting implementation, including school context, teachers' background and experience in writing instruction, the MDP team's approach to PD and coaching, and characteristics of the tiered writing intervention model. They considered their history of collaboration with H1, in contrast to their lack of a prior relationship with H2, as particularly important. At the same time, the restructuring environment at H1 was said to create implementation challenges because of competing initiatives. The team cited implementing data-based decisionmaking as its most significant challenge. School staff members' apparent lack of knowledge, experience, and motivation to collectively review and discuss student data, as well as scheduling challenges, were said to hinder this model component.

Implementation Outcomes

The aim of the tiered writing intervention models was to enhance the ability of schools and their staff to implement and sustain high-quality writing instruction and supports that improve students' writing proficiency and academic achievement. The extent to which the two MDP teams were able to achieve desired implementation outcomes is presented here. In addition, at the beginning of model implementation, we developed hypotheses about how variations in the two MDP teams' core intervention and implementation components, as well as the characteristics of participating schools and teachers, would relate to implementation outcomes. Findings related to these hypotheses are also presented.

MDCC analysis of the implementation outcomes achieved by the cohort 4 MDPs addressed the extent to which school staff demonstrated changes in their knowledge, attitudes, and skills related to the tiered writing interventions. At the organizational level, consideration was given to changes in both formal and informal structures, processes, and cultures, focusing on the extent to which district/school leadership provided the "facilitative administrative support" (Fixsen et al., 2005) needed for the model to be implemented and sustained in participating sites. A third implementation outcome that is critical in the model demonstration context is the sustainment of the model after the MDP ends, that is, the extent to which the destination organization can maintain the core intervention components of the model.

In general, MDP teams reported positive implementation outcomes, although the small sample sizes and lack of variation in data limited the utility of fidelity measures for understanding these outcomes. Nonetheless, in general, teachers' fidelity scores improved over

time. Kansas MDP leaders reported better implementation outcomes for K2 and K3 than for K1. Trends in fidelity data, although not statistically significant, were consistent with this assessment. Hawaii MDP leaders stated that implementation went fairly well at both schools but that H1 had better implementation outcomes than H2, an observation that was supported by fidelity data trends. Although model-related skills and knowledge generally increased over time, ratings of teachers' instructional environments did not change.

Not all tiered intervention components were implemented successfully. As mentioned, both MDP teams reported success with teachers implementing core writing instruction, but providing intensive supports for students needing them was said to be problematic. In addition, none of the schools participating in either MDP fully implemented schoolwide data-based decisionmaking, although some participating teachers from both MDPs reportedly improved in their ability to use data to inform instruction.

At the organizational level, the Kansas MDP team reported that it did not observe any changes in K1 as a result of MDP participation, an observation that contributed to the decision to end implementation there. School-level changes were observed in K2 and K3. Strong administrative commitment to and involvement in the tiered writing model were reported, and widespread enthusiasm for the model, particularly the core writing strategies, led to the decision to expand implementation to 10th-grade ELA classes at both schools. Upon the MDP team's exit, the Kansas MDP leaders reported that with strong district support and school staff members certified to provide model-related PD, the schools were well prepared to continue implementation of the tiered writing program. Hawaii MDP staff reported some changes in organizational structure and culture at both schools, including improved attitudes toward external support (e.g., PD and coaching), increased commitment to collaboration among teachers, greater frequency of teachers using student data to inform instruction, and improved understanding of the value of teaching writing across the content courses. The Hawaii MDP team believed that core writing instructional strategies would be sustained among participating teachers; however, it was unclear whether model practices would be sustained at the school level.

The hypotheses developed as the MDP teams launched implementation in their first schools are examined below against the backdrop of the cohort 4 MDPs' implementation experiences and outcomes. Data collected for implementation outcomes are limited in the extent to which they can inform the hypotheses, because measures of implementation strategies and implementation outcomes (e.g., fidelity measures) were not consistent across MDPs.

Core Intervention Components

Hypotheses were generated about how variations in core intervention components may relate to variations in implementation outcomes using three key concepts from research on the diffusion of innovations (Rogers, 2003):

- Relative advantage—"the degree to which an innovation is perceived as being better than the idea it supersedes" (p. 229)
- Compatibility—"the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters" (p. 240)
- Complexity—"the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 257).

Model practices that were perceived to have a relative advantage over the current practices of participating programs and providers and those that were perceived to be both compatible with the implementation context and relatively less complex to implement were hypothesized to generate more positive implementation outcomes (Rogers, 2003). Hypotheses were that

- The level of buy-in and expressed enthusiasm for the model by school and district staff would indicate perceived relative advantage. Schools exhibiting high levels of buy-in and commitment to the model would have better implementation experiences and outcomes.
- MDPs with interventions that were perceived as compatible with the participating schools would have better implementation outcomes. The prior experience of schools and staff members with either writing or tiered instructional interventions could indicate model compatibility; therefore, schools with prior experience with model components were expected to experience more success in implementation.
- MDPs with intervention components that were perceived by school staff as burdensome or complex relative to current practices would experience challenges in achieving desired implementation outcomes.

Some of these hypotheses were supported by the experiences of the MDPs. Findings were generally consistent with the hypothesis about relative advantage as reflected in schools' buy-in and commitment to the model. K1 reportedly had lower buy-in and administrative support among the three schools involved in the Kansas MDP and had the poorest implementation outcomes. Hawaii MDP leaders reported better implementation outcomes at H1, where buy-in was high, than at H2. Some support existed for the impact of perceived time and effort required by the model in implementation outcomes. For example, the lack of success in implementing intensive instructional supports for students across all MDPs may have been due to the perceived burden and complexity of doing so. In contrast, we had posited that the Hawaii approach to progress monitoring in which students' writing was automatically scored by a web-based software program might be perceived as less burdensome than the hand-scoring required of teachers in the Kansas MDP; however, there was no evidence to link these dissimilarities to differences between the two MDPs in implementation outcomes. Finally, the MDP teams reported some issues related to the compatibility of their models with school and district contexts. Specifically, challenges with data team meetings suggest incompatibility of this model component with existing school contexts.

Core Implementation Components

Hypotheses developed at the beginning of implementation addressed how strategies for inviting and selecting schools and districts, training school staff to implement the model, and providing ongoing support would be related to implementation outcomes. The two MDPs did not differ much in some of their implementation strategies, at least in ways that were measured. With this limitation in variability, hypotheses were restricted to the following:

- The selection of schools and districts with prior experience working with the MDP team was expected to facilitate implementation and potentially contribute to better implementation outcomes.

- Although both MDPs featured a combination of formal PD and ongoing consultation, coaching, and support, they differed in the planned frequency and intensity of support. The Kansas team planned monthly weeklong visits to its schools, which were geographically distant, and the Hawaii team planned weekly visits to its local schools. We hypothesized that the different frequency and intensity of support might relate to implementation outcomes.

Findings were mixed on whether having a prior relationship with a school or district facilitated implementation. On the one hand, the Hawaii MDP leaders reported a strong history with H1 and saw higher fidelity among H1 participating teachers than among H2 teachers. The Kansas MDP team, however, did not have an established relationship with any of its participating schools yet was able to achieve high-quality implementation in K2 and K3. The findings did not provide evidence to determine whether the frequency and intensity of ongoing coaching and consultation made a difference in implementation outcomes.

Characteristics of Implementing Schools and Districts

The degree to which schools and districts provided a hospitable environment for model implementation was expected to affect implementation outcomes. Specific hypotheses were that better implementation outcomes would be experienced by schools that

- had greater buy-in and support for the MDP from administrators and leaders;
- were in districts with consistent leadership, fiscal stability, and administrative support for the MDP (i.e., district context);
- had sufficient resources and leadership to support implementation (e.g., technology supports for writing instruction, experienced teachers and stable school leadership, PD opportunities, and sufficient staff time to support implementation components); and
- had positive school climates (high staff morale, good schoolwide student behavior).

In addition, we hypothesized that student body characteristics would influence implementation outcomes. Specifically, schools with high proportions of students in poverty, significant racial/ethnic diversity, or a history of poor academic performance were expected to have more implementation challenges and potentially poorer implementation outcomes than other schools.

As reported above, findings bolstered the hypothesis that schools with greater buy-in and support from administrators and leaders had better implementation outcomes. Findings from the Kansas MDP also generally supported initial ideas about district context. The Kansas team cited fiscal instability and a lack of sustained district leadership as contributors to the poor implementation outcomes in K1 relative to K2 and K3, schools located in supportive, stable district contexts. The availability of resources to support implementation also appeared to be a factor. Kansas MDP leaders reported that resource limitations at K1 contributed to inconsistent implementation. Findings did not support the hypothesis that schools with more positive climates, as measured by reported staff morale and schoolwide student behavior, would experience better implementation outcomes. Findings were inconclusive regarding whether or not differences in implementation were related to differences in the characteristics of the student populations.

Characteristics of Implementing Teachers and Classrooms

Hypotheses on the relationship between teacher characteristics and implementation outcomes were tentative, given conflicting prior evidence on how teachers' educational backgrounds and years of experience influence their motivation and ability to learn and become proficient in new practices such as those required for successful model implementation. Hypotheses on the role of classroom characteristics are not addressed here because available measures of classroom characteristics were not sufficient to illuminate their role in implementation outcomes. With these limitations, findings on the following hypothesized relationships are presented. Specifically, better implementation outcomes would be achieved by teachers with

- high levels of education and experience,
- prior experience in writing and tiered interventions, and
- positive ratings of their classroom instructional environment (at the beginning of implementation).

We also examined whether the types of credentials and teaching assignments teachers had were related to variations in their abilities to implement the model.

Findings provided some evidence that teachers with prior experience in writing and tiered interventions and those who fostered positive instructional environments had better implementation outcomes. For example, among the Kansas MDP teachers, ratings of classroom instructional environments were significantly and positively correlated with their average fidelity scores. No consistent or statistically significant associations were found between teachers' fidelity scores and their education, experience, type of credential, or teaching assignments.

The relationship between various factors and implementation outcomes is necessarily complex. The myriad of factors affecting the ability of school personnel to learn new skills, embrace new knowledge, and engage in new practices and the interrelationship of these factors present challenges in identifying and measuring their role and importance. Nevertheless, the data reveal some consistent trends in some of the factors hypothesized to relate to implementation success and failure, including school personnel buy-in, district leadership and support, and the perceived burden or complexity of model components.

Student Outcomes

The assessment of student outcomes associated with the cohort 4 models focused on improvements in the writing achievement of students participating in the MDPs. MDCC's analysis of student writing achievement included data from the (TOWL-4; Hammill & Larsen, 2011) for both MDPs and MY Access! for the Hawaii MDP. In addition to summarizing student outcome data, we present findings related to hypotheses about factors expected to affect student outcomes.

Overall, students' writing skills improved significantly in most but not all MDP implementation schools. In its only MDP participation year, significant decreases in all measures of writing skills were noted for K1, as well as for its comparison school (which did not participate in the MDP); whereas, significant increases were observed for students in both K2 and K3. Gains were greater for K2 than K3 in this district's first implementation year when K3 served as a lag school, and gains were similar when both K2 and K3 were participating in the MDP.

Generally, students' writing improved significantly at both H1 and H2 as measured by the TOWL-4 and the MY Access! measures; however, scores significantly declined in the first implementation year at H1. H2 achieved significantly greater gains in TOWL-4 scores than H1 in both years 2 and 3 and a larger gain in MY Access! scores in year 3, despite similar baseline scores. Outcome measures were not administered at H2 when it was the lag school in year 1.

We hypothesized that student outcomes would be associated with teachers' ability to implement the model, as measured by fidelity scores, as well as characteristics of the destination organizations—the implementing schools, including student, staff, and classroom characteristics.

Implementation fidelity

As expected, the findings suggested a relationship between student outcomes and implementation fidelity. Weaker implementation outcomes were reported for K1 during its only implementation year relative to K2 and K3, and this school experienced a statistically significant decline in TOWL-4 scores, whereas K2 and K3 experienced statistically significant gains. In the case of Hawaii's schools, the low first year fidelity scores at H1 would suggest weaker student outcomes during that year relative to other years. In fact, H1 TOWL-4 scores significantly declined in that year. H1 fidelity scores improved in years 2 and 3, as did TOWL-4 scores. When comparing implementation fidelity and student outcomes between H1 and H2, this relationship did not hold true. Higher final fidelity among H1 than H2 teachers would suggest better gains in writing skills among H1 students; however, students at H2 had higher gains in writing skills.

Destination Organizations

There was some support for an association between school characteristics and changes in student writing achievement. For the Kansas MDP, the experience of K1 versus K2 and K3 supported the hypothesis that schools serving a smaller proportion of students with demographic risk factors and with relatively fewer instances of poor student engagement and poor student behavior would facilitate better student outcomes. K1 served the most challenging student populations and saw significant decreases in all measures of writing skills, whereas K2 and K3 reported significant student improvement. The findings concerning the potential relationships between staff characteristics of Kansas schools and student outcomes did not confer a particular advantage on either K2 or K3; missing data on staff characteristics for K1 precluded conclusions on staff-related hypotheses for that school.

The patterns of student, staff, and classroom characteristics and implementation outcomes in the Hawaii MDP's two implementation schools did not clearly single out H1 or H2 as more or less likely to achieve positive student outcomes. Both Hawaii schools had significant gains in TOWL-4 scores over their years of MDP participation, although the magnitude of gains was greater for H2; overall MY Access! scores across participation years were very similar for the two schools.

Lessons Learned

This section addresses the overarching purpose of the MDCC: to glean insights into how the model demonstration process can be strengthened as OSEP continues to exercise its model demonstration and technical assistance authority. It also indicates, when quantitative and

qualitative data from the MDPs permit, ways their experiences might inform future efforts to work with teachers, schools, and districts to implement and sustain evidence-based practices.

Components of MDPs' Models

Several lessons emerged regarding some of the models' intervention components.

- **Some tiered intervention components may be incompatible with existing secondary school systems and cultures.** Several components of the tiered writing intervention models, including tier 3 interventions and data-based decisionmaking, were problematic across all participating schools. Even in schools with leaders and implementers who were highly committed to these model components, constraints embedded in the participating schools' structure made these components difficult to implement.
- **Continue to determine which core intervention components are essential for achieving desired outcomes.** Core intervention components are “the most essential and indispensable components of an intervention practice or program” that must be implemented with fidelity if a model is to generate the benefits expected of it (Fixsen et al., 2005, p. 24). Leaders of the tiered writing MDPs determined that group data meetings were not essential to improving writing instruction and shifted their focus to improving the ability of individual teachers to understand and use data for instruction.
- **Allow some model adaptation to meet local needs and gain and sustain buy-in.** MDP leaders acknowledged that allowing adaptations was important for building buy-in and the potential for model sustainment by addressing the needs and priorities of participating schools.

Components of MDP Implementation Strategies

The experiences of the tiered writing intervention MDPs suggest the following insights about their implementation strategies:

- **Prior history with potential sites is not a prerequisite for success.** The Hawaii MDP team's experience demonstrates the benefits of selecting sites that have previously worked with MDP staff. They reported that buy-in was higher and implementation was more successful at H1, a school they had extensive previous experience with, than at H2, a school with which they had no prior relationship. At the same time, the Kansas MDP selected schools that MDP personnel had not previously worked with, yet reported positive outcomes at two of the sites (K2 and K3), demonstrating that although a prior relationship may help implementation go more smoothly, it is not a requirement for success.
- **Pay attention to administrative support when selecting sites.** MDP leaders across the MDCC cohorts have agreed that supportive leaders can make sure that the resources, schedules, and processes required for successful implementation are in place. The tiered writing MDP teams found this to be true. For example, the Kansas team reported that some of the implementation challenges at K1 could have been addressed if administrative support at the school and district levels had been stronger.

- **Build relationships to develop buy-in and commitment to the model.** Leaders of both MDPs affirmed that relationships with destination organization personnel are essential to laying the groundwork for successful model implementation.
- **Provide ongoing PD and individualized coaching to foster change in adult behaviors.** The leaders of the MDPs used ongoing teacher training and coaching to foster the motivation, confidence, and proficiency that would enable them to implement the model successfully in their classrooms. Both provided whole-group training sessions followed by opportunities for practice, reflection, and feedback from coaches.
- **Include administrators in PD and coaching.** Actively encouraging and providing trainings to enhance administrator involvement can directly address the kinds of system changes needed for garnering the model's maximum benefit and for model sustainment. Both MDP teams actively encouraged administrators to attend meetings and trainings with the implementing teachers.
- **Encourage collaborative learning among implementers.** The MDP teams attempted to leverage existing professional learning communities for collaborative model-related learning. They also planned debriefing meetings and focus groups outside formal learning communities to promote collaboration. They cited such collaborative learning as an important implementation strategy but also as potentially difficult to sustain at the high school level because of time constraints and a strong culture of individual content expertise among teachers.
- **Plan early for developing the organization's capacity to support training and facilitation when the MDP ends.** MDP teams provided training, coaching, and other support during early implementation. Thinking about model sustainment from the start suggests that MDPs should have a well-thought-out plan and timeline for developing the capacity within the implementing organizations to continue the needed training, facilitation, and support after the project ends. The Kansas MDP team addressed this by recruiting several K2 and K3 teachers to become certified SIM professional developers, enabling them to take over model-related training and coaching at the end of the project.

Characteristics of Implementing Organizations

The implementation experiences of the MDP staffs suggest the following lessons regarding the destination organizations in which they worked.

- **Authentic buy-in of implementing staff is essential.** Kansas MDP leaders believed that the lack of true buy-in and commitment to the model among K1 teachers was the most significant contributor to poor implementation outcomes at that site and ultimately led them to terminate implementation at K1.
- **There is no substitute for strong leadership.** MDP leaders asserted that their ability to foster changes in school policy and practice requires strong commitment and consistent support from district superintendents, principals, and program administrators. Kansas MDP personnel were confident that model components would be sustained at K2 and K3 in large part because numerous district-level personnel supported the writing strategies.

- **MDPs may need to address gaps in practitioners' skills.** Both the MDP teams worked in schools where teachers reportedly did not have the instructional foundation for building the skills required to successfully implement the tiered writing models. As a result, the MDP leaders created new PD content. The Hawaii MDP added a classroom management module, and the Kansas MDP focused more attention on helping teachers understand writing conventions and principles.
- **Help the schools/districts align the model with other initiatives.** The Hawaii MDP team worked to coordinate with school restructuring efforts to ensure that its model would be sustainable after restructuring was completed. This MDP team also helped its schools align model-related coaching activities with the state's new requirements for teacher performance evaluations.

Contextual Factors

Multiple factors come into play when model implementation occurs in real-world environments, factors that are not always anticipated at the outset of a project. The Kansas MDP leaders had to adjust their implementation expectations to a negative economic environment at K1 and to teacher union requirements at all three schools. Requirements of the school restructuring process at H1 represented the most significant contextual factor for the Hawaii MDP.

Learning Paths

A fundamental purpose of the MDPs is to generate learning about what it takes to establish evidence-based models in real-world contexts. Lessons derived from the Kansas and Hawaii MDP experiences with the “learning paths” created within their projects include the following insights.

- **Collect and use multiple types of data in the formative model demonstration process.** Teacher surveys, observations, meetings, and informal conversations with school staff members provided data that the MDP teams used to strengthen PD and adapt model components. For instance, teacher feedback was reported to have helped the Hawaii MDP team refine its classroom observation instrument and procedures. Both MDP teams adjusted PD content to respond to school staff members' needs.
- **Collaborative learning among MDP staff can support implementation and model refinement.** The tiered writing intervention MDP teams incorporated regular project staff debriefings to better understand implementation successes and challenges and adjust accordingly.

Despite generating these implementation findings, it is important to note that the analyses reported here were limited in several ways, including having different metrics and measures of implementation fidelity across MDPs and a relatively small number of teachers involved in the models. Nonetheless, the information synthesized from both qualitative and quantitative data highlights the lessons learned from the tiered writing intervention MDPs. As MDCC continues its work, the experiences of the other cohorts will be synthesized with those of this cohort to draw lessons that apply to a broad range of interventions and implementation contexts.

References

- Fixsen, D. L., Naoom, S. F., Blase, K. A., Friedman, R. M., & Wallace, F. (2005). *Implementation research: A synthesis of the literature*. Tampa: University of South Florida.
- Hammill, D. D., & Larsen, S. C. (2011). *TOWL-4: Test of Written Language-Fourth Edition*. Austin, TX: Pro-Ed.
- Rogers, E. M. (2003). *Diffusion of innovations* (5th ed.). New York, NY: The Free Press.
- Wagner, M., Gaylor, E., Hebbeler, K., Lenz, K., Levine, P., & Yu, J. (2010). *The Model Demonstration Coordination Center: Final report of the first 5 years*. Menlo Park, CA: SRI International.