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Dilemmas of Prescriptive Practices and Perceived Alignment in Program Implementation

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This paper studies the early implementation of a school improvement effort in two high schools. We examine what explains variation in the teacher adoption of program practices. Our findings highlight the tension between encouraging immediate adoption of program practices and the longer term goals of schoolwide culture change. We find that highly structured practices and those that are already aligned with teachers' extant beliefs and classroom practices can be implemented with little preexisting capacity. These conditions could also lead to more consistent and quicker initial adoption. However, this type of implementation might not encourage sufficient understanding of program goals and may inhibit the diffusion of practices into the school culture. Findings highlight dilemmas associated with program practices when the goal is to bring educational reforms to scale.

DILEMMAS IN THE IMPLEMENTATION OF A SCHOOL IMPROVEMENT REFORM

Teachers are the primary implementers of most school improvement efforts. As such, the degree to which teachers adopt specific program practices is critical to the long-term success of these programs. Extensive research indicates that teachers are not passive participants in the implementation process; instead, teachers play a crucial role in determining how a program's practices are understood, interpreted, and enacted in their school (McLaughlin, 1976; Spillane, Reiser, & Reimer, 2002; Weatherley & Lipsky, 1977). How school improvement efforts are implemented may depend on the characteristics of both the program practices themselves and of the teachers and schools implementing them (Coburn, 2001; Cohen & Ball, 1990; Desimone, 2002).

Much of the knowledge base on school-level implementation focuses on how teachers respond when presented with new state or federal policy, or specific externally developed reform programs, and suggests that improvement efforts are rarely successful "at scale" (Cohen-Vogel et al., 2014; Datnow, 2005; Elias, Zins, Graczyk, & Weissberg, 2003). Highlighting the struggle of these policy-driven efforts to meaningfully influence the teaching and learning that occurs in schools, Coburn (2003) argues that improvement efforts should reconceptualize scale to comprise four interrelated factors: (a) depth of change, (b) sustainability, (c) spread, and (d) shift in reform

ownership to practitioners. In this analysis, we consider the initial stages of a high school improvement effort that was designed with scale in mind. In doing so, we highlight the implications of the teachers' early experiences with program practices toward the goal of achieving "deep and consequential change in classroom practice" (Coburn, 2003, p. 4).

We examine the early stages of implementation of re-culturing programs schoolwide that were designed with scale in mind through a continuous improvement approach in two urban high schools. Unlike the replication model in which schools try to duplicate the success of an externally developed program, a continuous improvement approach emphasizes the importance of local context and adaptation. In this approach, educators, researchers, and external reform organizations work together to identify areas for school improvement, design school practices with those areas in mind, and continually test and improve those practices at the school level (Bryk, Gomez, & Grunow, 2011; Cohen, Peurach, Glazer, Gates, & Goldin, 2013; Cohen-Vogel et al., 2014). Because many decisions regarding program design and implementation are made locally within individual schools, this approach seeks to minimize the pitfalls associated with scaling externally developed programs.

The core components of this school improvement program were determined at the district level by a team of researchers, curriculum developers, district leaders, and teachers. School-based teams of teacher leaders were then tasked with designing and implementing specific practices at each school. Thus, the programs implemented in the two schools differed somewhat in both design and implementation process, especially as they pertain to program structures and levels of prescription. These differences allowed us to analyze the degree to which program structures, including the degree of prescription and time available for implementation, influenced teacher adoption of program practices within the first few months of implementation. We also considered variation within each school to explore why some teachers initially adopt program practices and others do not. These considerations led us to address the following research question: How do program characteristics influence early teacher adoption?

Educators face a myriad of choices when introducing a new program or practice intended to improve schools. Oftentimes, these choices involve timelines or schedules, which tend to dictate decisions. In this paper we track the first months of program implementation, and we highlight the tension between encouraging immediate adoption of program practices and the longer-term goals of deep diffusion of new program practices into the daily experience of teachers and students as part of an effort toward scale. In particular, we find that highly structured practices and those that are already aligned with teachers' beliefs and perspectives about teaching can be implemented with little preexisting capacity. Such circumstances may lead to more consistent and quicker initial adoption. However, this type of implementation may not afford educators the opportunity to fully grasp an understanding of the program goals and may inhibit the diffusion of practices into the school culture moving forward. Although increased structure and alignment might have short-term payoffs, they could potentially hinder the quality and sustainability of implementation at scale.

TEACHER ADOPTION OF SCHOOL REFORMS

Teachers ultimately determine the degree to which new programs or practices are carried out within their classrooms. Numerous factors may influence whether a teacher adopts a certain

practice as part of a school improvement or reform effort. Research on curricular reform suggests that both the nature and structure of the reform itself and characteristics of teachers implementing the reform influence whether teachers implement changes in their instructional practice that are consistent with the reform (Coburn, 2004; Cohen & Ball, 1990; Spillane, 1999). Similarly, studies on comprehensive school reform have found that the interplay between the structure of the reform model, local conditions in schools, and individual teacher characteristics may influence whether or not the reform model is successfully implemented or sustained at the school level (Bodilly, Glennan, Kerr, & Galegher, 2004; Datnow, 2005; Desimone, 2002; Supovitz & May, 2004). Researchers have found that a number of commonly identified factors influence teacher adoption of school improvement efforts. We briefly introduce four factors—will, prior practice, capacity, and program structures—that are often cited as influential in the implementation process.

Will. Teachers are more likely to implement a new practice if they think it will work. As defined by McLaughlin (1987), “motivation and commitment (or will) reflect an implementer’s assessment of the value of a policy or the appropriateness of a strategy” (p. 172). Teachers may reject a policy idea or new practice if they feel it does not apply to their students’ needs, does not fit with their style of instruction, will not lead to improvement, or seems burdensome or inappropriate (Coburn, 2001; Muncey & McQuillan, 1996). Research on externally developed reforms has noted the importance of teacher buy-in in creating conditions for successful adoption and sustainability of new programs (Bodilly et al., 2004; Desimone, 2002; Nunnery, 1998). However, a belief in the value of something does not necessarily have to precede its adoption; indeed, changes in behavior or practice may precede changes in belief (Fullan, 1985; Guskey, 2002; McLaughlin, 1990). School improvement efforts may be able to target teachers’ will to adopt a new program through a combination of pressure and support (McLaughlin, 1987; Spillane, 1999).

Prior practice. Teachers have to see a need to learn about a new program and change their practice. Spillane (1999) explains, “teachers’ beliefs, dispositions, and knowledge about students, subject matter and teaching, as well as their prior practice, influence their willingness to change their practice in response to reform and their ability to practice in ways suggested by reformers” (p. 157). In his work on mathematics reform, Spillane (1999) finds that reform ideas will get more attention from educators if they align with their existing ideas, but that differences in prior knowledge and practice do not necessarily explain willingness and ability to adapt to instructional reform. As part of a study on teacher response to changing policies in reading instruction, Coburn (2004) identifies congruence—“the extent to which the content of a message about reading corresponds to [teachers’] preexisting worldviews or practices”—as a key factor in explaining whether teachers incorporated new messages into their instruction (p. 218). Coburn concludes that when there are higher levels of congruence between policy messages and their preexisting practices, teachers are less likely to outright reject those new messages; however, teachers are also unlikely to substantively change their practice and instead assimilate the policy into what they already do. Teachers develop their practices and beliefs about teaching over time, and their prior methods influence how they make sense of new programs and policies. When faced with new curriculum, standards, or instructional practices, teachers filter these new ideas through what they already do, which can result in a mishmash of new and old practices (Cohen & Ball, 1990).

Capacity. Much of the research on program implementation suggests that local capacity is a central factor in determining the degree and quality of implementation. Durlak and DuPre (2008) define capacity as “the necessary motivation and ability to identify, select, plan, implement, evaluate, and sustain effective interventions” (p. 335). Research on school improvement programs

in low-performing schools indicates that contextual factors (e.g., resources, efficacious attitude toward change) influence the level of capacity of schools to engage in implementation (Datnow, 2005; Peurach, Glazer, & Lenhoff, 2012; Teddlie, Stringfield, & Reynolds, 2000) and that sufficient levels of capacity are critical to school improvement efforts (Bryk, Sebring, Allensworth, Luppescu & Easton, 2010; Spillane & Thompson, 1997). On an individual teacher level, capacity can be conceptualized as the knowledge and skills to enact reform as well as the ability to take ownership over reform efforts (Coburn, 2003; Newmann, King, & Youngs, 2000). Teachers' preparation for enacting reform practices may increase the extent to which they implement those practices (Frank, Zhao, Penuel, Ellefson, & Porter, 2011) and ultimately affect student outcomes (Supovitz & May, 2004).

Program structure. The nature of program practices and how they are introduced to teachers may influence the degree to which these practices are adopted. Programs with greater specificity and more prescription are easier to implement as intended, and these characteristics may be particularly useful at the beginning of the implementation process (Coburn, 2003; Peurach & Glazer, 2012). More prescriptive programs can bolster initially weak capacity and help teachers build knowledge and understanding through experience (Desimone, 2002; Peurach & Glazer, 2012). However, teachers must have an opportunity to learn about the core elements and practices of a school improvement program. Professional development has long been identified as a primary means to build the knowledge and skills of educators, as well as the organizational capacity of schools, when introducing new curriculum or instructional practices (Newmann et al., 2000). Studies have found that teachers are more likely to adopt programs when they are offered program-aligned professional development, have time to plan for implementation, and have access to technical support and resources (Cohen & Hill, 1998; Kisa & Correnti, 2014; Penuel, Fishman, Yamaguchi, & Gallagher, 2007; Spillane, 1999). Also, teachers are more likely to embrace reform ideas if they are given time to practice and an opportunity to collaborate with their colleagues on reform-oriented practices (Cohen & Hill, 1998; Frank et al., 2011).

Much has been written about teacher adoption and instructional practice in the context of externally imposed curriculum, standards, and accountability reforms. It is not clear the degree to which these findings hold for school improvement efforts in which teachers serve as both the designers and implementers of program practices. This study contributes to the gap in the literature by examining how the actual practices that teachers are asked to design and implement may facilitate or impede initial adoption within the context of a collaborative, research-based, and locally developed school improvement program. In particular, this study evaluates the factors that explain variation in the teacher adoption of program practices during the initial stages of implementing a locally adapted school improvement program. Understanding the factors that encourage and inhibit early adoption has important implications for bringing educational reforms to scale.

THE CONTEXT OF THE STUDY

The research presented here is part of a larger multiyear project that brought together researchers, program developers, and practitioners to design and implement school-based re-culturing programs. This collaborative approach utilizes principles of continuous improvement to design high school reforms with the explicit goal of achieving Coburn's four elements of scale—depth,

sustainability, spread, and reform ownership (see Cohen-Vogel, Cannata, Rutledge, and Socol (2016) for complete information on the approach). A collaborative team consisting of district-level personnel, school-based administrators and teachers, researchers, and curriculum designers identified three district high schools to develop and implement a program whose goal was to develop students' sense of ownership and responsibility for their learning and overall academic success (SOAR). The core components of the SOAR program included developing growth mindsets (or a belief in malleable intelligence) (Dweck, 2007; Yeager & Dweck, 2012), problem-solving skills, and goal setting.

Starting in June 2013, three school-based design teams of teachers, one representing each school, were tasked with designing the specific program practices that would be implemented at their individual schools to promote these three core components. Consequently, each school's design team emerged with somewhat different versions of the SOAR program, which was implemented at the beginning of the 2014–2015 school year. This paper is based on the initial stages of implementation during the first semester of schoolwide adoption of SOAR.

District and School Contexts

This reform effort took place in a large, predominantly urban district in the southwestern United States. This school district serves over 80,000 students, who are predominantly Hispanic (approximately 60%) and economically disadvantaged (approximately 75%). The district serves a substantial percentage of English Language Learners. Although the school district's performance scores on state assessments are lower than statewide averages, the school district had met their state's accountability standards for the four years prior to the 2014–2015 academic year, the focal year for this study. Table 1 presents demographic information for the district and the two high schools where implementation was studied.

The district has approximately 15 comprehensive high schools. District officials, with the consent of each school's principal, selected three of these schools, which ranked toward the bottom of all high schools in the district according to academic performance indicators (student achievement, student progress, closing performance gaps, and postsecondary readiness, graduation, attendance, and dropout rates), to participate in the initial design and implementation efforts. Though we initially started our work in three high schools, one school lagged behind the others throughout the design and implementation process. Although they began to implement some SOAR practices in the beginning of the 2014–2015 school year, there were not sufficient program components to study. We therefore restrict our analysis to the two other schools.

SOAR at Each School

As noted above, the district design team identified three core components of SOAR: (a) teaching about growth mindset, (b) developing a schoolwide problem-solving process, and (c) working with students on goal-setting skills. Because each school was asked to tailor the design of SOAR to their local context, each school design team developed their own version of SOAR. Table 2 briefly describes the similarities and differences in how the two schools approached these three core components. The most notable difference is how the schools incorporated the SOAR lessons

TABLE 1
Demographic Profile of District and Case Study Schools

	District totals	Desert Grove	Forest Glen
Student demographics			
Total enrollment	>80,000	>1,500	<1,000
Enrollment by race/ethnicity			
Percent Hispanic	60%	50%	90%
Percent African American	20%	20%	5%
Percent white	10%	30%	5%
Percent economically disadvantaged	75%	40%	90%
Percent English Language Learners	30%	5%	10%
Teacher demographics			
Total number of teachers	~5,000	>100	<75
Teachers by race/ethnicity			
Percent Hispanic	20%	10%	20%
Percent African American	20%	10%	10%
Percent white	60%	80%	70%
Avg. years of experience	10 years	10–12 years	12–14 years

Source: State accountability data from the 2014–2015 academic year.

Note. School names are pseudonyms and have been changed for the purpose of confidentiality. Counts and percentages are rounded to protect identity of district and schools.

into the school day. Forest Glen created a weekly advisory period during which teachers worked with a group of 10–15 students from the same grade and implemented lessons related to SOAR concepts that had been developed by the design team and other teachers within the school. In contrast, Desert Grove integrated SOAR practices into their existing class structure and did not create a separate class period to implement SOAR lessons.

DATA AND METHODS

We collected data during field research visits to schools in late October 2014. Teams of three researchers spent four days in each school conducting in-depth, semistructured interviews and focus groups with teachers, administrators, students, and members of the schools' design teams. We interviewed 21 teachers at each school who were not part of the design teams. These teachers were selected using convenience sampling with parameters developed by the researchers encouraging variation across subject and grade levels taught. Design team members in each school recruited the selected teachers to participate in the interviews.

The purpose of this first visit was to explore the state of early implementation from the perspectives of teachers. The primary data for this analysis are drawn from the 42 teacher interviews. These interviews were designed to capture teachers' perceptions of SOAR, their feedback on SOAR-related practices, whether or not they had been engaging in the practices, and if and how they adapted or extended upon the specific program practices. In addition, interviews with

TABLE 2
The SOAR Program at Each School

	Both schools	Desert Grove only	Forest Glen only
Growth mindset	Design teams created set of lessons to introduce growth mindset to students.	Teachers participated in half-day training focused on growth mindset. On the second day of school, teachers taught a sequential set of lessons on growth mindset for every period of the day. Teachers were encouraged to promote growth mindset within their classrooms.	Teachers participated in training focused on implementing advisory lessons (including lessons on growth mindset) Teachers taught growth mindset lessons as part of their advisory period.
Problem-solving	Design teams created a step-by-step problem-solving process. Design teams created a behavioral reflection form to encourage problem-solving to address student misbehavior. Teachers were encouraged to use the behavioral reflection form rather than writing discipline referrals, but there was no formal expectation that teachers had to use the form.	The design team introduced the problem-solving process to their teachers through a professional development session. Teachers were asked to integrate the process into an academic lesson of their choosing during a two-week time period.	The design team introduced the problem-solving process to teachers and students as one of the advisory lessons. There was no expectation that teachers incorporate the process into their content classes.
Goal setting	The design team created student reflection forms that focused on goal setting around grades. Schools created time every three weeks (when students received progress reports or report cards) for classes to complete these grade tracking forms.	The administration extended the homeroom period for an extra 20 min every three weeks for students to complete grade-tracking forms.	Advisory period focused on this grade-tracking process every three weeks. Teachers were asked to make calls home to parents of students in their advisory to discuss students' grades and goals.

the teachers on the design team were analyzed to understand the program as it was designed, their methods of introducing SOAR and training the faculty, and the goals of each of the specific practices.

Interviews were audio recorded, transcribed verbatim, and then analyzed with the assistance of the qualitative data analysis software, NVivo. The coding framework used to analyze the transcripts was developed through a multistage iterative process. Members of the research team worked first individually and then in small groups to develop a baseline framework of codes to capture specific elements around program implementation. These elements included teacher

practices, supports received, and feedback regarding their experiences of implementing SOAR. After developing the initial set of codes, researchers independently read a subset of transcripts and coded them according to the list developed, while also adding codes as themes emerged from the data. We then met, compared our coding, clarified discrepancies, and discussed emergent codes. This process led to the revision of the coding framework. We then chose another set of transcripts to code and repeated the process of application, additions, and comparison. After this small group process, this refined coding schema was brought to a larger group of researchers. The entire team then engaged in a process similar to that outlined above using the revised framework. We repeated this process an additional three times to refine the framework and achieve agreement among all members of the team. Members of the research team were assigned transcripts to code according to the master framework that emerged from the process.

For this paper, we drew on analytic codes capturing teachers' understanding of the program, their perceived capacity to implement program practices, the training received, and the degree to which teachers reported implementing specific program practices in their classes and regular teaching routines. We also drew upon codes capturing teachers' feedback on practices they were asked to implement, and their beliefs about whether the program would be effective. We first read within codes by school and then compared the codes across the two schools to identify areas of commonality and divergence. We identified both unique and similar characteristics of program implementation between the schools, and we identified themes related to particular practices, levels of initial and ongoing adoption, capacity, training, and perspectives on implementation.

RESULTS

The overarching goal of the SOAR program was to increase student ownership and responsibility for their learning. Though the schools differed in their approaches, they share certain concepts and practices. We leverage these similarities and differences to examine variation in the implementation of SOAR practices within and between schools. Because capacity is key to the successful implementation and ongoing delivery of new programs, we focus on two overarching findings that emerged from our analysis of initial implementation of SOAR: (a) highly structured practices, although they were quickly adopted, often limited teachers' deeper engagement with practices; and (b) alignment between SOAR and teachers' preexisting practices and beliefs increased the likelihood of their initial adoption but did little to promote schoolwide culture change. Taken together, these findings about program structure and alignment demonstrate that although each program's characteristics may have encouraged initial adoption of new program practices (an important first step in achieving scale), they did not foster sufficient understanding of and ownership over the programs as a whole for them to be diffused into teachers' daily practice and impact the schools' cultures.

Characteristics of Quickly Adopted Practices

Data suggest that a number of program characteristics, including the degree of prescription and whether time was allotted for teachers to implement practices, influenced the levels of adoption. When teachers were tasked with developing their own lessons around more abstract concepts of

the program, they often struggled to implement those components of the program. Conversely, when practices were more structured, whether due to increased prescription or because time was formally allotted to implementing them, they were adopted more consistently. Still, there were drawbacks to this high degree of structure, such as a lack of ownership or an inability of teachers to infuse similar practices and program components within their own lessons.

Prescription

Prescribed practices, such as scripted lessons or worksheets, required little to no baseline capacity for teachers to implement. As a result, across both schools, teachers reported that practices that were prescribed, especially when bounded in time and space, were implemented more fully. The design teams were able to provide basic introductions to such practices during initial trainings and through e-mail, and teachers were then able to implement them in their classes. Desert Grove's design team introduced practices that were highly prescribed, but flexible. Some program components offered little room for freedom of interpretation, while others provided teachers significant autonomy for them to develop independently. Grade tracking was the most highly prescribed practice teachers were asked to introduce, and it was also the practice that teachers discussed implementing most uniformly and frequently. As conceived by the design team to encourage goal-setting, grade tracking simply required teachers to distribute a worksheet to students in which they charted their grades and then responded to reflective questions. In contrast, problem-solving and growth mindset practices were considered more abstract and complex concepts, and the design team gave teachers greater freedom in deciding how to introduce these concepts in their content classes. As one teacher described, "[the design team] said just do a problem-solving lesson and go for it, and they gave us some autonomy with it and said go do it and make sure it meets the problem-solving guidelines." Whereas some teachers had incorporated the design team's problem-solving process into their lessons, other interviewed teachers reported that they had not yet used the problem-solving process, or that they did not use the particular steps given to them by the design team.

Meanwhile, almost all of Forest Glen's SOAR practices took the form of highly prescribed lessons delivered during the weekly advisory period. Teachers repeatedly referred to the implementation of SOAR lessons as "easy" or "smooth." The lessons were highly prescribed, and the design team provided all of the materials necessary for implementation. As one teacher explained, "I think it goes back to ... the lessons being easy to follow ... there's a PowerPoint and then the handouts are provided for us. So it's just a matter of doing the steps that they've given you, so it's easy to implement." Some teachers saw this prescription as especially helpful in the early stages of implementing a new program. For example, one teacher noted,

Since this is the first time we're doing this, I'm not sure it's necessarily a bad thing. We need to start at some point. So my assumption is that in the future we will be able to have more liberty in introducing [SOAR concepts] or using some extra resources or anything like that. But so far, I mean, I don't have a problem with following what they send me. But it's structured ... it's scripted, basically.

Although prescription may be an effective initial step in the implementation process, it has shortcomings as well. Not all teachers at Forest Glen appreciated the scripted lessons, and some

interviewed teachers reported that they did very little to prepare for their advisory lessons ahead of time. One teacher admitted in her interview that she typically does not preview the lessons before advisory starts.

There's a lot of times where the Thursday comes, I haven't even opened up the binder to look at what we're doing. So then I open up the binder to look at what we're doing and I'm like, "Oh, okay, I'm supposed to have a PowerPoint to show them this week." And this is all when the class has already started, because I mean, it's not on the forefront of what I need to get done.

This suggests that while the high level of prescription may alleviate the capacity needed for teachers to design lessons to teach SOAR-related skills and knowledge, it may also have the unintended outcome that some teachers put little time or effort into preparation, thereby affecting the quality of content delivery.

Dedicated Time

We found that teachers had an easier time implementing SOAR practices when there was a specific time allotted to do so. Teachers in both schools regularly reported that they faced tremendous time constraints to deliver the required content outlined in district curricula and pacing guides. This was especially true for teachers in core content areas in which their students faced state-administered End of Course exams or Advanced Placement exams. When dedicated time to deliver SOAR content was specifically allocated, teachers were more likely to implement practices. This time alleviated the pressure to integrate practices and lessons into daily lessons.

The initial implementation of SOAR at Desert Grove included a full-day of seven sequential lessons focused on growth mindset that were taught by all teachers in the school. The design team worked with the school administration to schedule this set of lessons during the second day of the school year. As one teacher explained,

Within the first week we had our growth mindset lesson day, where the kids were introduced to the whole concept, what it meant, and in every class period ... it was hit just very, very hard from all different levels, from all different sides, all different perspectives.

All of the teachers who mentioned the sequential set of lessons during their interviews indicated they had taught them. Most teachers saw growth mindset as the crux of the SOAR program and repeatedly referred to the growth mindset lessons in their interviews.

Similarly, the grade tracking at Desert Grove also occurred in a specific time and place set aside for this express purpose. The practice was carried out during second period every three weeks in tandem with the release of progress reports and report cards.

My second period class is where we're plotting their grades on the chart and all that stuff, and at first [students] were kind of like, "Oh, we have to do that again?" ... but then, once they did it, especially

now that they've had a report card, they could see where their problems were, and I even asked them, I said, "Well, are you seeing a trend here?"

Having a specific place and time (second-period class each time progress reports and report cards were released) allowed teachers to follow up with the same group of students about their grades in a way that reinforced the goal of student ownership.

Although certain components of the SOAR program at Desert Grove were intended for a specific time and space, almost all of the SOAR practices at Forest Glen occurred in advisory period. During this period, teachers presented SOAR lessons on growth mindset, problem-solving, goal setting, grade reflection, and organization. Teachers at Forest Glen consistently reported teaching their advisory lessons and commonly described the lessons as easy to implement. However, few teachers reported that SOAR practices were being integrated into classes outside of advisory. As one teacher at Forest Glen noted, "Everything so far has been through the advisory period, one short period, about 45 min. . . . That's the only time I have been asked to share the goal-setting and the problem-solving techniques. That's the only time that I've been doing that." Only a few teachers reported implementing SOAR-related practices outside of advisory, suggesting that having a bound time and space may encourage greater initial adoption, but may also discourage teachers from extending and integrating the practices throughout their teaching.

Despite this ease of implementation noted by most teachers at Forest Glen, some teachers suggested that they did not feel ownership over the SOAR practices, and that they would like to delve deeper and receive more training on the SOAR components. Teachers expressed the need for a deeper understanding beyond the ability to execute a predeveloped lesson if they were going to incorporate practices and approaches central to SOAR into their routine work. For example, this teacher stated,

I want to see how to implement it more into my content. Because I can tell—I can show the kids in SOAR like this is goal setting, but how does that look in my English class? . . . I need examples. I need time to talk with my colleagues about it, planning time. Like you know, we're starting to do [professional learning communities] so if we talked about these ideas with the English department, like how do you implement this.

Similarly, another teacher expressed, "I think we should get a little deeper inside of what's the purpose of the lessons we are doing. What are the outcomes that we expect from them?" The highly prescribed lessons, and the creation of a specific time set aside during the week to teach them, also did not encourage deeper understanding, especially in the case of more complex concepts like growth mindset and problem-solving. As a result, teachers often struggled to take the lessons they taught in advisory and incorporate them into their content classes. In fact, the idea that SOAR approaches and practices should be incorporated into everyday teaching routines, as SOAR was meant to be a whole-school reform, escaped many teachers completely.

Alignment as a Facilitator of Adoption

Alignment between SOAR concepts, most notably growth mindset and problem-solving, and teachers' existing practices and beliefs about teaching, facilitated adoption of SOAR practices.

Alignment helped to explain within-school variation of teacher adoption of SOAR practices. At both schools, teachers whose preexisting practices and beliefs about teaching were more closely aligned with those of the program could more easily incorporate growth mindset and problem-solving practices into their content classes. For teachers whose practices did not align with the new reform, implementation took more effort because they had to learn the principles and practices that comprised SOAR before they could adopt and integrate them into their work.

While alignment was associated with adoption of practices, it often presented dilemmas as well. Some teachers who believed their own practices were the same as those they were being asked to do as part of SOAR often lacked an understanding of the rationale undergirding the SOAR practices. Therefore, they did not change what they were doing, believing that they were already “doing SOAR.” In fact, there was often incongruence between teachers’ extant practices and SOAR practices. But since teachers thought what they already did aligned with SOAR, they did little to adapt their teaching practices, leading to no real change in practice or reflection on the part of teachers about the intent of practice.

Often, teachers who reported adopting SOAR practices identified an alignment between what they had always done and what they were being asked to do as part of SOAR. Across both schools, some teachers felt that growth mindset was a natural fit with the tenants of teaching their content area or with their existing practices. An English teacher at Desert Grove expressed ease at infusing growth mindset into how they supported students in the writing process.

I’ve also been trying to use [growth mindset] with students who say, “I cannot write. I don’t know what to write.” Especially with essay assignments, I would just tell them, “It’s not that you can’t write. It’s that maybe right now you’re not writing as well as you would like to, and that’s why we do this now. We’re going to do several essays and we’re going to get better each time. That’s why we do multiple drafts for each essay.” And I explain why we do it in that context, and it seems that it makes sense to them.

This teacher could easily articulate how growth mindset fit into her content area and made a specific connection between growth mindset and how she taught the writing process. In another example, a teacher mentions that she had incorporated growth mindset in their classes prior to implementing SOAR when asked about whether she would like more training on the concept:

I was already using [growth mindset] in my class. But [training] was reiterating what I was already doing, so if somebody was brand new to it, I could see where [training] could be helpful. But given that it was what I had already implemented in my class, I didn’t necessarily need the training. . . . I’ve used it for years. . . . I’m fully behind the idea of the growth mindset. . . . You don’t give up on a child, period.

This teacher believed they had used growth mindset in their classroom for years and did not need any additional training, yet at the same time within her explanation of growth mindset demonstrated a flawed understanding of the concept itself; growth mindset is not merely about not giving up on a child. The importance of persistence is related to the fact that aptitude can be developed and is not fixed. This highlights the pitfall of people believing they are already doing what they

are being asked to do as part of a school improvement effort, when in fact they are doing something different. This teacher has not changed his practices and may mistakenly believe that his practices were in line with the goals of SOAR.

English teachers were not the only ones who saw connections between SOAR and their current practices. Many math teachers also identified connections between how they teach problem-solving in class and SOAR's focus on problem-solving. As a teacher from Forest Glen explained, it is natural for math teachers to focus on problem-solving, and this can reinforce the problem-solving skills introduced in advisory.

We had a little lesson on [problem-solving], also, in the advisory classes, and then I think a lot of teachers are trying to carry that over into their classroom and, you know, in math it's easy to talk about problem-solving, so that part's easy.

This teacher believed teaching problem-solving was central to his work as a math teacher, even prior to the introduction of SOAR, and connected teaching problem-solving in the content area to the goals and practices of SOAR. However, when asked whether they had used the problem-solving process introduced as part of SOAR in their math class, the same teacher explained, "as far as problem-solving, we actually in math use ... a strategy called UNDER, and it is not schoolwide." The commonalities in problem-solving practices between SOAR and this teacher's extant practices were at the surface level (a general focus on problem solving), with little evidence that this teacher will incorporate the specific problem-solving process developed through SOAR into their math classes.

In addition, we found a relationship between teachers' perceived alignment or congruence (or lack thereof) between the goals and practices of SOAR and their own beliefs about teaching. When this alignment or congruence was greater, teachers seemed more willing or more able to incorporate SOAR practices into their classrooms because the practices were aligned with their worldview about teaching. In contrast, when SOAR practices were not aligned to teachers' existing beliefs, teachers often lacked the understanding for why the specific practice was useful, suggesting that a deeper understanding and more training could be necessary for teachers to embrace new practices.

At Desert Grove, teachers' use of the behavioral reflection form developed by the design team seemed to depend on teachers' beliefs about classroom discipline. Teachers were given a standard procedure for using this behavioral reflection form and were provided with the worksheets that students were expected to complete when misbehaving in class. Some teachers outright rejected this practice. One teacher explained that she did not use the form because she did not believe it was how discipline issues should be handled. She explained, "When I go out into the hall with a kid, I'm just going to say, 'Stop doing that.' ... It's not a negotiation. I don't really want to know what you think even." This teacher's vision of discipline did not align with the behavioral reflection form's deeper purpose as a tool to encourage students to reflect upon and take ownership over their own actions.

At Forest Glen, the advisory period seemed to align naturally with what some teachers believed was part of their roles. For example, one teacher at Forest Glen explained that she constantly checks in and talks with her students in and outside of class in an effort to build relationships. For

this teacher, her comfort with building relationships with students is apparent in her description of advisory:

I understand it to be like a mentorship ... where you can say, “Hey, I’m not your English and math teacher, so I might not be taking a grade for your math assignment, but I’m here as a support system for you.” ... And I love that—I think that what I love about advisory is just being that additional support system for these kids.

Conversely, some teachers did not feel as comfortable building more personal relationships with students. One teacher at Forest Glen described how she was having trouble during a recent advisory lesson in getting her students to engage in a more personal discussion around problem-solving and explained, “If it’s my content, I can ask questions all day long, but when it gets more personal, it’s a little harder for me I think.” This may suggest that she views her primary role as a teacher as presenting content rather than connecting with students on a more personal level.

Overall, our findings suggest that when teachers perceive there to be alignment between their practices and beliefs and what they are asked to do as a part of SOAR, they are more likely to adopt those practices, but often the underlying intention of the new practices does not align with teachers’ extant practices and pedagogy. Still, deeper knowledge and more training may have further fostered teachers’ capacity to allay misconceptions about the intent of practices such as the behavioral reflection form. At both schools, additional training was needed to build upon the original content presented to students so teachers could build their own skill sets and apply that knowledge within their classes and informal interactions with students. Training could also leverage the forms of alignment discussed. Ensuring that teachers understood “the what” and “the why” of program components and practices would help them to identify how practices already aligned with their own pedagogical approaches and beliefs, challenge them to think deeply about practice in general, and assist them in understanding why new practices might benefit students as compared to their standard methods.

Conclusion—Capacity Building to Leverage Early Adoption to Achieve Scale

Our research suggests that two factors significantly influence the extent to which SOAR was adopted by teachers in our two case study schools. However, each of these factors presents a dilemma; whereas early adoption of the practice may be increased, the depth or spread of the implementation may be in jeopardy. The first factor is the extent to which the program practice is highly structured. Interviews with teachers suggest that program practices that were prescribed could be implemented with ease because minimal capacity was required. However, this created a “teacher-proof” program where teachers then did not see themselves as invested in the program and were not motivated to adapt and contextualize the program for their classrooms or take ownership of the program. As a result, these prescribed practices, although easier to implement, might not lead to the diffusion of practices into the culture and daily routines of a school. Similarly, implementation was enhanced when teachers had clarity about when to implement the program components and when time was specifically set aside for these purposes. However, this increased the likelihood that the practices were not integrated into the teachers’ regular classrooms, and

instead relegated the program components to extras or add-ons. Thus, it is unlikely this approach will bring about school re-culturing, as the program aims to do.

Another factor is the programs' alignment with teachers' existing practices and beliefs. Practices that teachers saw as consistent with their typical work could most easily be implemented by teachers. For example, emphasizing problem-solving in math was seen as quite straightforward. However, if the practice did not align with the teacher's existing stance or viewpoint, implementation was less likely if teachers did not understand the rationale for doing something they considered new or different from the norm. The dilemma here is that preexisting alignment of new practices to existing practices and beliefs suggests no change. If the goal of school improvement is to engender change in teacher practice, this presents a problem.

Prescription, dedicated time, and alignment with extant practices and beliefs promoted the adoption of SOAR practices. Although the more consistent adoption of these highly structured practices provides a mechanism to spread SOAR quickly through the school, the dilemmas presented raise serious concerns about other indicators of scale such as depth, shift in ownership, and sustainability (Coburn, 2003). For programs such as SOAR, which are intended to be diffused throughout the school as a re-culturing mechanism, changes in discrete practices are not enough. Teachers need to understand the overall aims of the program and often need to incorporate abstract and complex ways of thinking and teaching into their daily interactions with students. This would suggest that building capacity is imperative to bring school improvement efforts such as SOAR to scale.

Our findings suggest that those designing and implementing school improvement programs could leverage the adoption of prescribed practices to build further capacity among teachers (Desimone, 2002; Peurach & Glazer, 2012). For instance, once teachers become familiar and comfortable with carrying out these initial practices, implementation leaders could work to build teachers' understandings of more complex program concepts and practices. Similarly, part of capacity building might entail ensuring that teachers have an understanding of how to bridge time-bound practices into their own independent classroom planning and practice. Otherwise they risk setting these practices on the sideline, rather than diffusing and embedding them throughout the school culture over time. Additionally, more abstract practices, which work best when teachers are given the freedom to determine how to integrate them into their classrooms, may require greater initial capacity or capacity building through teacher training.

Just as capacity building can help teachers integrate highly structured practices into classroom routines and later develop deeper understanding to incorporate underlying abstract approaches into their own work, our findings suggest that professional development can leverage teachers' willingness to adopt practices that align with their current work and how they envision their roles. Exploring with teachers the similarities between their existing practices and those that are part of new reforms can assist teachers in identifying and understanding the intent of what they are being asked to do.

To move beyond the surface toward school re-culturation, improvement efforts require increased capacity building through training and need to address practices that do not necessarily come easily (e.g., prescriptive practices). Because teachers have been found to reject reform efforts they feel do not fit with their style of instruction, many efforts at school improvement typically do not lead to change, or are considered burdensome or inappropriate (Muncey & McQuillan, 1996). In addition, authentic implementation seems to require the willingness of teachers to first, bring to the forefront, articulate, and understand current beliefs that drive current

practices, and then highlight the ways in which new practices are at odds with current beliefs and practices. Without these difficult conversations and avenues for inquiry, it is doubtful that change will occur beyond the coalition of the willing.

Our findings are consistent with those of other researchers. Cohen et al. (2013) in their seminal study of implementation of three programs concluded that "... new educational tools would only be effective if they were used well. That would depend on how clear and accessible the tools were, how committed school staff were, and whether they spent time and effort to understand the tools, worked hard to make them function in practice, had ample opportunities to learn, and had sustained support" (p. 179). Although we identify quick wins in early implementation efforts, a recurring theme is that supporting the development of teachers' capacity to implement program practices and deeply understand the intent of reform efforts is an essential mechanism in ensuring that teachers are able to implement them with depth and understanding. Our study suggests that the conditions to support authentic implementation must address the later stages of implementation that require a deeper understanding and ownership of the project at hand and that are necessary to scale programs that lead to real, sustainable change in schools.

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