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# Aligning Mental Models of District and School Leadership Teams for Reform Coherence

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School and district effectiveness studies show that high levels of student achievement are possible when schools and the district act as coordinated units of change. There is also a growing recognition that principals cannot lead alone and that school leadership teams (SLTs) are essential to the improvement process. Limited studies have explored the mental models of central office, principals, and teachers who are members of SLTs. We hypothesize that when SLTs and the central office engage collaboratively in professional development about the tasks of leadership, shared mental models are more likely to develop. A case study methodology is used and multiple sources of data are analyzed through two theoretical lenses: tasks of leadership and mental models. Findings indicate a growing congruence between the district and SLTs' mental models regarding the tasks of leadership. This study is significant in showing that with professional development, SLTs could serve as an important bridge between the central office and the schools in ways that can enhance coordination, depth, spread, and commitment to district reforms.

**Keywords:** *school leadership teams; school and district reform; mental models*

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## **Introduction and Purpose**

There is growing recognition that the principal cannot lead alone (Smylie, Conley, & Marks, 2002). Marzano, Waters, and McNulty (2005) argue that the complexity of the task and the array of leadership skills required are substantial and beyond the scope of one individual to master. These authors urge that a first priority for principals is to establish a leadership team that works collaboratively to carry out the multifaceted leadership roles needed for effective schooling. However, often leadership teams are established with little discussion of their purpose or formal training or support to fulfill their tasks (Burke, 2004). The purpose of this study is to explore initial and evolving mental models of teacher team members, principals, and central office administrators regarding the tasks of leadership teams as the teams were provided with professional development. By exploring mental models, this study offers the opportunity to understand how leadership teams might be developed to serve as a vital link between schools and the central office and enhance school–district coherence in the process of reform. There is also a need to understand how a match or mismatch of mental models may support or constrain the work of leadership teams. We begin by presenting the literature on schools and districts as units of change and effectiveness. We then discuss the theoretical constructs of leadership tasks (Leithwood, Louis, Anderson, & Wahlstrom, 2004) and mental models (Argyris, 1985, 1993; Senge, 1990) and use these as organizing frames to present the findings. In the discussion, we surface ways in which mental models of school leadership teams (SLTs) shifted as the teams received a year of professional development and the implications of alignment and misalignment in mental models for coherent school reform.

## **Evolving Understanding of the School Improvement Process**

### **Schools as the Unit of Change**

In the past four decades, the general focus of school improvement has been on the school as the unit of change (Harris & Chrispeels, 2006). Hopkins and Reynolds (2001) in a review of the field of school improvement highlighted three phases in the evolution of school reform efforts during this time period. In the first phase (1960–1970), the federal government channeled funds through local educational agencies to individual schools to

support teachers who worked with high needs students, almost bypassing the central office. In the second phase (1970-1999), the school as a whole emerged as a significant factor as research on school and classroom effectiveness work was brought together (Harris & Chrispeels, 2006). This phase surfaced a deeper understanding of critical schoolwide variables that contributed to overall school effectiveness (Edmonds, 1979; Levine & Lezotte, 1990; Teddlie & Stringfield, 1993). In the late 1980s, as educators and policy makers grasped the significance of whole-school reform, a third phase of school improvement and restructuring began. This phase saw a plethora of reform models, such as Accelerated Schools (Levin, 1987), Coalition of Essential Schools (Sizer, 1986), Success for All (Slavin, Madden, Karweit, Livermon, & Dolan, 1990), and School Development Model (Haynes, Comer, & Hamilton-Lee, 1988) to name a few (Stringfield, Ross, & Smith, 1996). These school reform models, which continue to dominate the reform landscape, were designed to bring about significant and substantial changes in operating norms, organizational structures, curriculum and instruction, and relationships between students, teachers, and community. A leadership team of teachers, principal, and in some cases parents often played a key role in implementation. When fully implemented, these models have all shown potential for raising student achievement (Felner et al., 1997; Stringfield et al., 1996). Yet schools often found themselves operating under either school or district conditions that prevented full implementation (Prestine & Bowen, 1993). Furthermore, the models were designed for the individual school, and therefore taking reform efforts to scale was “unexplored” territory.

### **Role of the District in School Reform**

The challenge of scale and the pressing need for increased student achievement in large urban districts ushered in a new phase of school improvement: districtwide reform (Harris & Chrispeels, 2006). In the late 1990s, although most funding for school improvement was still allocated to individual schools, researchers began exploring the district’s role in school improvement (Chrispeels, 2002; McLaughlin & Talbert, 2003; Togneri & Anderson, 2003).

These studies identified several consistent findings: setting a clear focus on student learning, aligning curriculum and instruction with identified student needs, using data to guide instructional improvement, and providing coherent professional development necessary for teachers to succeed instructionally. There are many parallels between research on effective schools and effective districts, suggesting an alignment of key variables.

These similarities in factors of effectiveness at different levels of the system are not surprising given the school and district together represent a part-whole relationship. District effectiveness factors indicate that a balance is needed between district control and site-level autonomy. However, what is less well understood is how to achieve and sustain that balance. In two studies of San Diego City schools' reform focusing on implementing a systemwide coherent literacy initiative, Darling-Hammond et al. (2006) and Hubbard, Mehan, and Stein (2004) suggested that although gains in student learning had been made, the top-down approach used by the central office could inhibit organizational learning by preventing teacher discretion or flexibility to meet diverse student needs.

Although a district and its schools may share a common focus on improving achievement, they frequently hold different mental models about how this is accomplished. Negotiating potentially competing beliefs of the central office and teachers through the narrow linkage of the principal often leads to limited understanding and lack of coherence in how to achieve goals. This reality indicates a need to explore ways in which school leadership teams might serve as a wider bridge between schools and the central office in the reform process to facilitate the development of shared mental models by teachers within schools and between schools and the central office (Argyris, 1993).

## **Linking District and School Effects**

Although both district- and school-effects research are significant in helping to explain the structures and processes that contribute to student achievement, little empirical work has explored the linkages between the two that would optimize the functioning of each (Chrispeels & Gonzalez, 2006; Coburn, 2003; Datnow, Lasky, Stringfield, & Teddlie 2007; Lasky, 2005). As Leithwood et al. (2004) argue, "The chance of any reform improving student learning is remote unless district and school leaders agree with its purposes and appreciate what is required to make it work" (p. 7). In particular, few studies have investigated the theories of action or mental models that the central office holds regarding the work of school leadership teams. Agullard, Huebner, Goughnour, and Calisi-Corbett (2005) studied the theories of action of superintendents and effects of these theories when they are shared or not shared by the rest of the central office staff members. They found that the potential to enact more consistent reforms were enhanced when all members of the central office operated with a shared theory of action (Agullard et al., 2005). This study expands on their work by exploring the

theories of action or mental models held by central office and school leadership team members about team tasks for school improvement.

## Theoretical Constructs

The framework of Leithwood et al. (2004) regarding the four primary tasks of leadership—setting direction, developing people to build organizational capacity, redesigning the organization, and leading for social justice— informed the design of the professional development intervention as well as guided data analysis. Although these key instrumental tasks were presented in reference to those in formal leadership roles, we interpret that they are equally applicable to SLTs, which have been established as part of a system of distributed leadership (Spillane, 2006). Therefore, we hypothesize that the greater the congruence of perceptions between central office and school leadership teams regarding these leadership tasks, the more effective the leadership teams will be in achieving organizational goals.

A second theoretical construct draws on the work of mental models as articulated by Senge (1990). “*Mental models* are deeply ingrained assumptions, generalizations, or even pictures or images that influence how we understand the world and how we take action” (Senge, 1990, p. 8). According to Leithwood et al. (2004), they also “serve as guides to making both big and little decisions,” and “present constraints because they are the first screen through which new information must pass” (p. 76). Although mental models generally are considered at the individual level, we argue that mental models can also operate at a team or group level over time as members continue to work together. For purposes of this study we are interested in the aggregate perspectives that emerged over a year from the teacher team members, principals, and central office staff that seemed to be guiding their actions.

Senge, Kleiner, Roberts, Ross, and Smith (1994) contend that mental models often reflect undisclosed assumptions and images that exist below the surface and lead to different interpretations of the same evidence, decreasing the potential for organizational coherence. Because a key component of both school and district effectiveness is coherence, it is critical to explore how coherence may be supported or undermined by differing mental models of the leadership tasks of teams. Furthermore, members of an organization tend to advocate their position, evaluate others’ positions, and attribute causes (Argyris, 1993). These attributions and evaluations may be more dysfunctional if there are no shared mental models, yet it is often difficult to share mental models because they are unrecognized. A hypothesis guiding this study is that the more widely mental models are

shared, the more easily information and ideas can be shared and acted on in ways that increase system coherence (Agullard et al., 2005; Argyris, 1993).

## Methods

To address the research questions, we used a case study design (Yin, 2003) as it both captures the complexity of relationships and allows for deeper examination of the central office and SLT perspectives. The specific research questions that guided this study are as follows.

What is the mental model held by each of the key players (central office, principal, and leadership team members) regarding tasks of school leadership teams in the process of school improvement?

In what ways do similarities and differences in mental models of leadership tasks influence the potential of SLTs to serve as a bridge between the central office and school sites engaged in the process of reform?

## Context of the Study

The study involves one K-8 school district in southern California that serves 19,654 students in 19 elementary and 5 middle schools and 1 special needs center. The California Department of Education (CDE) classifies the district as an urban fringe of a large city because the student population demographic reflects more of an urban area. The ethnic and linguistic diversity of the district includes Hispanic (64%), White (27%), African American (3%), Asian (3%), Filipino (2%), American Indian (0.5%), and Pacific Islander (0.4%). In 2005-2006, 8,638 students (44%) were classified as English Language Learners and 11,571 (59%) received free or reduced-price lunch. In 2006-2007, the district was in its 2nd year of failing to make Adequate Yearly Progress (AYP) in English language arts and math for English learners (ELs) and students with disabilities (source: CDE, 2006).

*Leadership team professional development context.* Five elementary schools agreed to participate with four other school districts in a national study entitled *Effective Schools for the 21st century* (ES21; Lasky et al., 2005). Table 1 summarizes the demographic and achievement data for each school participating in the professional development intervention. In each study district, schools were paired with similar schools matched by demographics and prior achievement. One school from each pair was randomly

selected to participate in 3 years of professional development for their leadership teams. A district liaison was assigned to work with the professional developers and the leadership teams. In this case district, the SLTs are composed predominantly of teachers who represented each grade level, the principal, and in two cases support staff members. The SLTs ranged in size from 10 to 15 members. The teams have completed the 1st year by participating in six full-day professional development sessions. The professional development was based on effective-school correlates and team development processes and informed by strengths-based inquiry (Daly & Chrispeels, 2005), high-reliability organizations (Stringfield, 1995), and high-quality learning-focused grade-level work (Chrispeels, Andrews, & Gonzalez, 2007). It was designed to help each SLT become a guiding force in developing what Marzano et al. (2005) call a purposeful community able to use its assets to accomplish goals.

### **Data Collection and Analysis**

We drew from a variety of data sources, including 45 individual interviews of leadership team members (fall of 2006), five principals (fall of 2006 and spring of 2007), the superintendent and six central office staff members (winter of 2007), a brief survey of team tasks given to SLTs and six central office staff members (winter of 2007), two focus groups of SLT members at each school (spring of 2007), and six observations of SLT seminars. In addition, we reviewed professional development documents and evaluations collected at the end of each SLT seminar.

Three researchers independently coded the interview and focus group data using the four leadership tasks (Leithwood et al., 2004) as an overall framework. As data were coded, subthemes emerged relevant to the tasks that illuminated the mental models held by teacher members, principals, and central office personnel. There was high interrater reliability, and any differences were resolved through discussion. Through constant comparative analysis of teacher team members, principals, and central office staff, similarities and differences were noted. Triangulation of data and member checking were carried out to develop data trustworthiness. For example, 4 months after interviews were conducted regarding the tasks of leadership teams, responses were incorporated into a brief survey and redistributed to team members to reassess at this point in time how important they felt these tasks were and how frequently the team engaged in them. The same survey was given to six central office staff members, allowing for comparison of mental models.

**Table 1**  
**Demographic Data of Participating Schools**

School (K-5)	Enrollment	Ethnicity	Reduced-Price or Free Lunch	English Learners	API Score	Met AYP (Language Arts and Mathematics)
School A (Non-Title I)	840	68% Latino 20% White 12% Other	62%	49%	706	No (EL) Yes
School B (Non-Title I)	729	22% Latino 64% White 14% Other	12%	13%	883	Yes Yes
School C	789	70% Latino 24% White 6% Other	65%	46%	759	Yes Yes
School D (Title I, PI, Reading First)	764	84% Latino 10% White 6% Other	80%	65%	657	Yes No (EL)
School E	761	59% Latino 24% White 7% African American 10% Other	55%	44%	707	No (EL) and Sp Ed Yes

Note: API = Academic Performance Index, a state measure of academic growth from year to year; AYP = Annual yearly progress computed using state formula agreed to by federal government to measure percentage proficient in language arts and mathematics; PI = Program improvement classification for failure to meet AYP for 2 years in a row; EL = English learner; Sp Ed = special education.

## Findings: Mental Models of School Leadership Team Tasks

### Setting Direction

As the words imply, this task involves generating a sense of shared purpose and goals through “creating high performance expectations, monitoring organizational performance, and promoting effective communication throughout the organization” (Leithwood et al., 2004, p. 9). Two subthemes emerged relevant to this task: shared purpose and goal setting and serving as communicators.

*Shared purpose and goal setting.* Unanimously across the schools, team members and their principals expressed that raising student achievement was the most pressing issue facing their schools and district. However, at the time of the first interviews, neither expressed a shared mental model regarding the task of *setting direction*, especially in terms of raising student achievement. In contrast, the central office explicitly stated that the task of the SLT was to improve student learning.

As the professional development seminars continued, the SLTs’ mental models evolved regarding this task. The catalyst for the shift in their mental model seemed to be the adoption of a focus goal (termed ACE goal) during the second ES21 seminar. All teams adopted a short-term goal using seminar-generated self-study data. Two chose improving home–school relations, two focused on identifying the best instructional practices of their teachers to share schoolwide, and one selected developing an agenda to guide grade-level team meetings. As one teacher (School B) said, “I see the role of our leadership team at our school taking our ACE goal . . . best practices from teaching” and making sure that strength is shared.

The first interview data indicate that 35% of the teacher members spread across all the schools perceived that the team had a role in decision making. As the teams gained an understanding of their task of setting direction, more began to see their role as making decisions, which, as one member stated, “is kind of a new thing” (School C). This shift in mental models brought the teacher team members in alignment with their principals, who from the beginning saw the team as decision makers. One principal defined *team* as “a school leadership team [where] there is a back-and-forth kind of collaboration [and] decision making” (School B). Another stated, “[These] are the leaders who can really motivate, influence other members based on the decisions that are being made within the SLT” (School E). Only two of

the six central office staff members perceived the teams as having a decision-making role.

*Serving as communicators.* The divergence in views regarding the task of developing a shared purpose and goals was not found in regard to the task of communication. Across all teams, members unanimously agreed communication was their primary task, one that was a critical component of setting direction (Leithwood et al., 2004). Many described it as serving as the “go between,” “sharing information from the principal with their respective grade-level team members” and “gathering input from colleagues” that would be presented at the next team meeting. Principals concurred that a critical task of the team was to facilitate communication with their grade-level colleagues. Principal A described the team’s task this way: “The role of the site leadership team is really to get information out there. . . . And so each leader represents their grade level and they will come back and share information they gather with other members of the leadership team.” Central office administrators also indicated that the facilitation and communication tasks of the SLT were critical. Most of the administrators agreed with the one who said, “They’re the key communicators.”

## Developing People

In discussing the practices of this leadership task, Leithwood et al. (2004) highlighted actions such as “offering intellectual stimulation, providing individualized support and providing appropriate models of best practice and beliefs considered fundamental to the organization” (p. 10). Two subthemes emerged through the data analysis in regard to this leadership task: (a) facilitating grade-level meetings and (b) modeling best practices. Before discussing these, it is important to note that the principals were unanimous in stating that they saw the development of their leadership team as an important task that had been accomplished in the 1st year, and that with the capacity building provided by ES21 their teams were beginning to move toward fulfilling the *developing people* leadership task. Teacher team members agreed with the principals and indicated that developing team norms and understanding team roles such as facilitator, time-keeper, process observer, and recorder had been important steps in their development and enhanced their ability to lead their grade levels. They also reported that the opportunity to get to know each other’s strengths, explore beliefs, and work together away from their school site had facilitated their

bonding and development as a team. The data indicated that through the ES21 seminars, across all teams, members were gaining a shared mental model of what it meant to be a leadership team. The district liaison also acknowledged a shift in her thinking when she stated, “The influence for me has been seeing a greater importance of what school leadership teams can be . . . having a more rapid impact on change, if you understand how to really facilitate and work with the SLT.” Other central office staff did not seem to share this perspective at the time of the interviews.

*Facilitating grade-level teams.* All three groups of key players agreed that working as grade-level leaders was a major leadership task. One central office member stated: “Their role would be to take the information that is coming to them . . . and work in grade levels.” As the team members across all the schools developed their leadership skills, they in turn used these to facilitate grade-level meetings. As one team member stated, “We are facilitators at our grade level” (School C), and another said, “The [school leadership] team acts as a guide to keep the grade level on target” (School A). In addition, SLT members indicated they led their grade levels to “score writing together,” discuss the “90/90/90 study” (Reeves, 2000), and examine student work to prepare for a lesson study. As summed up by one principal, “So they’re working with their colleagues each and every day . . . sharing ideas and thoughts” (School A). Another added, “Everybody is building capacity in each other and in themselves as a grade level” (School B).

*Modeling best practices and coordinating professional development.* There was much less convergence in mental models in regard to modeling best practices. Initially across all schools, only seven teachers specifically mentioned modeling best practices as one of their tasks. Two leadership teams, however, chose modeling best practices (e.g., identifying instructional skills of staff members and finding ways to share with other teachers) as their ACE goal during the second SLT seminar. In March, when team members and the central office were surveyed regarding team tasks, the overwhelming majority of central office staff members, principals, and teachers saw modeling best practices as an important task, indicating the emergence of a new mental model. However, there was limited evidence that teacher team members were ready to act on their beliefs (i.e., although 80% of SLT members said modeling best practices is important, only 20% said they were frequently doing it).

## Redesigning the Organization

This task as conceptualized by Leithwood et al. (2004) is focused on “redesign of organizational cultures and structures to facilitate the work of organizational members, and that the malleability of structures should match the changing nature of the school’s improvement agenda” (p. 10). In the initial (October) interviews across all schools, only three teachers mentioned redesigning the organization as part of their tasks. However, in the survey administered 4 months after the start of ES21, all SLTs indicated it was very important (ranging from 77 to 100% respondents across the five schools) and in all but one school, the majority of members (60-77%) indicated that it was a practice they were engaging in frequently. This shift in perspectives could be expected as the SLTs reported that they were learning how to work as a team and were engaging with their colleagues as grade-level leaders. Two subthemes were identified that capture the nature of the redesign work: (a) supporting collaborative processes and (b) implementing technology for gathering and using data.

*Supporting collaborative processes.* By the end of the 1st year, principals and teacher team members agreed that developing collaborative processes first in the SLTs and then in grade-level teams to address school and student needs was an important redesign outcome. Undertaking these changes seemed to modify organizational structures (Schools A, B, C, and E). For example, School C teachers shared that the previous principal had a leadership team but he made all the decisions, whereas now they felt they had a role in the decision-making process. Even School D, which had worked for 2 years in teams with a coach prior to start of the ES21 project, acknowledged learning new leadership skills that were allowing the school to refine grade-level meetings and spread leadership beyond the coach (field notes, January 29, 2007). All five principals agreed with teacher team members that having a “strong, inclusive, and cohesive leadership team representing all the grade levels, where opinions could be expressed openly and input was respected,” was an important redesign that had occurred at their schools. These findings illustrate that small refinements in existing practices can lead to improvements in student learning (Chrispeels et al., 2007) and captures Leithwood et al.’s (2004) concept of creating flexible structures.

Central office staff indicated that it was particularly important for teachers to collaborate in “data-driven instructional conversations with grade-level colleagues; integrating components from the district provided professional development.” Although wanting collaboration, the central

office did not articulate a mental model of the need to develop leadership and collaborative skills. As one administrator acknowledged, “We don’t train leadership teams.”

*Implementation of technology for gathering and using data.* The district’s recent implementation of Edusoft, the technology for scoring benchmark assessments, and the development of the benchmarks represented systemwide structures that team members and principals recognized were reshaping the practices and culture of the schools. Across four teams, members expressed both support and frustration with the increased focus on testing and the Edusoft system. Several members recognized the value of continuous assessment for knowing their students’ achievement levels and sorting them into flex groups. However, more than half the teacher members in schools A, B, C, and E expressed concerns that although data were being collected, there was no time to accurately analyze the data and reteach. One summed up the opinion of many saying, “We’re just test administrators.” In contrast, School D’s SLT, which as a Reading First school had been doing 6-week assessments for 3 years in grades K-3, did not express these same concerns. Three of the five principals understood that looking at the data was important but agreed with teacher members that they were experiencing data overload. They all agreed that grade levels needed to learn how to discuss and use the data to set growth targets, as School D’s SLT and grade levels were already doing. The central office was less ambivalent in their support for Edusoft and the testing regime that was being implemented, with all agreeing that looking at data was priority work for the team. Their mental model seemed to reflect a strong technical focus.

## Leading for Social Justice

According to Leithwood et al. (2004) and Leithwood and Reihl (2003), a *leading for social justice* agenda explicitly addresses the needs of students who have been underserved by schools, especially low-income children who are ELs. They also argued that paying attention to the racism that exists in schools both structurally and in teacher beliefs is essential. The designation as a Program Improvement district brought these social justice issues to the foreground. In the October interviews, 80% of teachers interviewed recognized that meeting the needs of ELs was a critical issue facing the district. Nevertheless, across the five schools only a few teacher team members initially mentioned it as a priority for the leadership team’s work. The teacher members seemed to define the problem as “our population . . . our struggle,

it's the English language learners." Another added, "It's a whole lot easier to teach a little class of English-speaking students than it is to handle an entire class of second-language students." A shared concern across all schools was the new districtwide focus on testing and the "pacing guides," "being fair to the students," "giving them time to be kids," and "having enough time to do everything that seems to be needed" such as PE or art. In addition, the team members assumed that the primary mental model guiding the central office was testing and raising achievement. As one member stated, "The first issue on everyone's mind is test scores—the performance of students." These concerns did not initially translate into direct team action; however, as the year progressed both survey and focus group interview data indicate the teams began to use assessment data more systematically to look at English-learner (EL) student learning needs. School D was featured at one of the ES21 seminars so that other teams could learn how they had been trained through Reading First to use 6-week assessment data to guide team and grade-level actions to meet the needs of EL students. The openness to this presentation and ongoing cross-school conversations suggest an evolving SLT mental model about addressing a pressing social justice need (ES21 Seminar field notes, January-June 2007).

Principals were unanimous in understanding that finding ways to help ELs be more successful was a critical task for their teams. One principal captured this concern by stating, "They [SLTs] look at their data and they are seeing that many of our students are stuck, our English learners" (School E). Principals with a broader perspective recognized that although the data had helped their SLTs realize that their ELs were stuck, they also saw that their staff members were struggling to cope with the new Edusoft technology, the increased number of assessments, and time demands for entering data and reteaching. As one principal stated, "Well, my understanding is that they are expecting the teachers to effectively be able to disaggregate and look at the data and decide where students need remediation . . . so that that child will, on the next assessment, be improved. But that's easier said than done." (School B).

The superintendent acknowledged that putting in the pacing guides, benchmark assessments, and Edusoft had been a lot to do in 1 year, yet indicated that this level of change was needed to improve student learning and move the district out of program improvement. One administrator captured the superintendent's urgency, saying, "It is not acceptable to only have 20% of your kids at proficiency." Another administrator added, "So there has to be equal access for all kids no matter what levels of literacy they have. . . . And with the core curriculum, there are so many ways to enhance the teaching and learning for all the different levels of kids." These quotes suggest the central

office holds a mental model that recognizes the urgency for change and the need to focus on instructional practices as the way to raise EL achievement.

## Discussion

Findings from this study suggest that teacher team members and principals began to develop a shared mental model of the SLT leadership tasks as they engaged in dialogue, collaborative work, and shared experiences. During the course of the year, the district liaison recognized the importance of her involvement in the ES21 seminars, the significance of SLTs to the district's reform process, and the need to provide leadership teams with professional development, indicating a shift in her mental model about SLTs.

### Alignment of Mental Models

We hypothesized that SLTs have the potential to serve as leaders who broaden the bridge between district- and school-level reform. Two important shared mental models were identified that seem to support this potential. First, there is a strong agreement that the SLTs serve as a significant communication link relaying information from the principal (district) to grade-level colleagues and then bringing input and ideas back to the team for consideration and action. Team skills as well as pedagogical knowledge learned in the ES21 seminars seemed to have enabled these teams to move from transmitters of information to interactive communication and engagement with ideas and with colleagues. These changes during the 1st year fostered a stronger shared mental model about the communication task of the leadership teams at the school level. What is not found in the data is a collective, team sense that SLTs need to be part of a broader communication bridge with the central office. Interestingly the district liaison's shifting mental model led in the fall of 2007 to a new systemwide theory of action. The district initiated a leadership team development program for all schools while maintaining a strong communication link with principals. The creation of a more formal linkage and communicative relationship may allow for more explicit discussions of team and district theories of action, thus increasing an important opportunity for collective dialogue and greater coconstruction of the reforms (Datnow et al., 2006; Hubbard et al., 2006).

Second, SLT members and central office staff shared a mental model in regard to the task of developing people. Both agreed that a critical role was leading and guiding the work of grade-level colleagues during designated

collaboration time. Through the capacity building provided by ES21, by the end of the year, the SLTs in their grade-level leader role seemed to be serving as a potentially strong bridge for helping colleagues learn how to implement the 6-week assessments, which only one team had been doing prior to the ES21 intervention, plan intervention strategies for low-performing students, and look at student work. These grade-level activities have all been shown to be important in changing teaching practices (Chrispeels et al., 2006). As two principals noted, however, not all team members were finding facilitating the work of their grade level an easy task. This suggests that aligned mental models may be helpful but insufficient if capacity for leadership is not also developed.

### **Misaligned Mental Models**

We found less alignment in mental models in three leadership tasks: setting direction to focus on student achievement, redesigning the organization to use testing to drive instruction, and leading a social justice agenda to close the gap for ELs. The concept of setting direction for the school is relatively new for these SLT members. There is an inherent tension in the “setting direction” task at the school level compared to the direction set by the district. Implicitly, SLTs knew that their job was to improve student learning, teach the adopted curriculum, assess students with all the required tests, and meet the needs of ELs. Yet interestingly, at the initial stages of formation, no team explicitly stated “improving student learning” as a leadership task for the team. One explanation for this absence could be that the team members felt this goal was already stated in the Single Site Plan and did not need to be rearticulated by the team. The ACE focus goal set at the second seminar seemed to help give the teams direction and purpose.

The literature on effective teams (Larson & LaFasto, 1989), however, suggests that this lack of explicitness in seeing the leadership task as setting direction and shaping a shared vision may be critical in terms of success in raising achievement. It is noteworthy that in the fall of 2007, for the first time, the district set an explicit districtwide instructional focus to improve reading comprehension—“Every school, every teacher, everyday for every child.” In addition, they set a cultural goal of collaboration to achieve the instructional goal. Given a year of team building and collaboration at the site level, data suggest these five SLTs are well poised to respond to these new district goals in ways that will enhance system coherence, shared purpose, and student learning.

What has not been negotiated or made explicit is if the teams are to be merely conduits of information from the district to the schools or if they are

to have an active role in problem solving and decision making for their own sites within the broad framework of the district instructional focus. Research by David (1995) and Talley and Keedy (2006) indicates that effective teams actively engage in making curricula and instructional decisions to facilitate bottom-up problem solving. Other research suggests that a failure to reach agreement on decision-making roles can have negative consequences (Chrispeels, 2004; Martin & Chrispeels, 2004). Thus, a critical tension exists between school and district in maintaining the balance between school autonomy and district coherence and control. Although this tension is likely to always be present, the data from this study suggest that central office staff and teams may benefit from more clearly articulating a theory of action regarding leadership teams and their role in the improvement process (Agullard et al., 2005).

Another point of divergence between central administrators and SLTs is not around the goal—improved student learning—but around the constant measurement of student learning with standardized tests, a key redesign component for this case district. Although the interview data indicate SLTs are acknowledging the purpose of these testing demands, at the same time, there is a genuine concern with too much focus on standardized testing and insufficient time to plan and reteach. School D provides an interesting contrast to the other four teams. For 3 years, it has been implementing assessments every 6 weeks and developing an action plan based on data. Team D's frustration with testing is substantially less than other teams'. This suggests the importance of sustaining an initiative with sufficient support if teachers are to see the potential benefits, in this case, of systematically tracking student progress and using the data to plan instruction, which all teams are now beginning to do. Thus, this mismatch in mental models may ease over time, as was the case with School D. Alternatively, as this study suggests, increased dialogue between the central office and SLTs could more immediately enhance coherence and create aligned theories of action.

Finally, mental models of team members and central office perspectives of the task of leading for social justice seem to reflect the area of greatest potential tension. All agreed that meeting the needs of ELs is the most pressing challenge. By spring 2007, the SLTs were beginning to look more carefully and systematically at the EL data and how they could better meet student needs. Teachers, however, still feel concerned about the shifting demographics of the community, which has resulted in increased numbers of EL students, and feel constricted in their teaching by the prescriptive curriculum and pacing guides that allow less time for reteaching. Mintrop (2003) in his studies also found similar frustrations on the part of teachers. Principals and the central

office, in contrast, seemed to frame the gap in EL student achievement as an urgent social justice issue and expressed concern that teachers needed to differentiate instruction and more closely follow the curriculum. This clash in locus of control regarding the social justice issue of closing the achievement gap for ELs is substantial and perpetuates mutual blaming. Research suggests the need for teachers to perceive they have the collective and individual efficacy (Goddard, 2004; Tschannen-Moran, 2004) to help all students achieve and that changes in their instruction make a difference. The tensions make it more difficult to engage in dialogue and collaborative problem solving, which can lead to a shared mental model of social justice. Furthermore, these contrasting perspectives unless discussed may lead to what Ingersoll (2003) and Little and Bartlett (2002) have found to be teacher burnout from reform efforts.

## Concluding Thoughts

Many reform initiatives require or rely on leadership teams as a structure to guide the process, yet limited attention has been given to the mental models held by the central office and the SLTs about the tasks of leadership. The design of the ES21 intervention to have a district liaison at the seminars acknowledged the importance of coordinated school and district reform efforts. The initial areas of agreement about aspects of the tasks of setting direction and developing people grew stronger as the professional development proceeded. This convergence in mental models seemed to enable the SLTs to serve as a bridge between the district and the larger school community, especially as the SLTs learned strategies for working with grade-level colleagues.

In the areas of divergence, especially the task of leading for social justice, the evidence indicates a continuing lack of alignment in mental models. This study suggests that teams and the central office may need more time for dialogue and protocols that specifically help them surface the assumptions and beliefs that underlie their mental models and shape their actions. Without attention to these contrasting mental models, the district and its schools are likely to continue in their struggle to meet the needs of its ELs. Significantly, this study shows that with professional development, time, and safe space to surface assumptions that enable SLTs and the central office to align mental models, SLTs could also bridge previously uncharted waters between the central office and the schools in ways that can enhance organizational effectiveness, coherence, and goal attainment.

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