Transforming High-Poverty Urban Middle Schools Into Strong Learning Institutions: Lessons From the First Five Years of the Talent Development Middle School

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The Johns Hopkins Talent Development Middle School model aims to transform high-poverty, urban middle schools into strong learning institutions that reliably provide every student with a standards-based education and every teacher with the training, support, and materials she or he needs to deliver it. Two of the model’s developers discuss 10 lessons learned from implementing, refining, and evaluating this model in 5 high-poverty middle schools in Philadelphia and discuss obstacles they have encountered and breakthroughs they made in developing the knowledge base, materials, and infrastructure needed. Taken together, the lessons suggest that “improvement now” in curriculum and instruction and in student achievement is a realistic goal even in high-poverty, urban middle schools. However, such improvement requires multiple layers of sustained technical assistance and implementation support and also requires local partners who can help the model to become integrated into the fabric of the school district.

In many respects, it is during the middle grades that the battle of urban education is lost. It is here that the absence of strong curricula and the lack of well-prepared teachers are most severe (Cooney, 1998; Schmidt, McKnight, & Raizen, 1997). It is also during the early years of adolescence that students become disengaged from school and fail to receive the academic preparation that they need to succeed in high
school. Alienated, unsure, and having received a very uneven and substandard middle grades education, up to half the students in the nation’s largest cities are unable to make a successful transition to high school (Neild & Weiss, 1999; Wilson & Corbett, 1999).

During the past 5 years, researchers and practitioners at the Johns Hopkins University as part of the Center for Research on the Education of Students Placed at Risk (CRESPAR) have worked in collaboration with the Philadelphia Education Fund and the School District of Philadelphia to develop a solution to the problem of middle grades education in the nation’s cities. Our efforts are two-pronged. First, we are working to develop a powerful but flexible whole-school reform model for urban middle schools that will reliably provide every student with a standards-based education and every teacher with the training, support, and materials she or he needs to deliver it. Second, we are working to develop the knowledge base, materials, and infrastructure needed to help urban school districts systematically create middle schools that work for all of their students.

Currently, the Johns Hopkins Talent Development Middle School (TDMS) model (Mac Iver, Mac Iver, Balfanz, Plank, & Ruby, in press; Mac Iver & Plank, 1997) is being implemented, refined, and evaluated in five high-poverty middle schools in Philadelphia. In addition, we have begun a national field test of the TDMS model that will involve three additional middle schools in Philadelphia and four to six middle schools in two school districts (Detroit, MI; and Memphis, TN) chosen to represent some of the diversity of urban middle schooling in the United States (Mac Iver, Balfanz, Plank, & Ruby, 1998). In this article, we summarize the major lessons we have learned over the past 5 years, highlight the major obstacles we have faced, and discuss our next steps.

BUILDING ON PRIOR MIDDLE GRADES REFORM EFFORTS

The TDMS program builds on the foundation of prior major middle school reform efforts begun in the 1980s (California State Department of Education, 1987; Carnegie Task Force on the Education of Young Adolescents, 1989; Children’s Defense Fund, 1988; Dorman, 1984; Lipsitz, 1984; Maryland Task Force on the Middle Learning Years, 1989). These efforts have helped create a consensus concerning the kinds of structural and organizational changes needed in middle grades schools to make them more caring and more supportive institutions. These efforts have been successful in helping many middle schools change their climates and structures to become “warmer, happier, and more peaceful places for students and adults…. [However, most of these schools] have not moved off this plateau and taken the critical next step to develop students who perform well academically, with the intellectual wherewithal to improve their life conditions” (Lipsitz, Mizell,
Jackson, & Austin, 1997, p. 535). That is, despite evidence that a comprehensive implementation of the recommended reforms results in encouraging gains in student achievement and well being (Felner et al., 1997), high-performing middle schools are still quite rare (Cooney, 1998; Johnston & Williamson, 1998; Killion & Hirsh, 1998) because few schools move far enough “along the developmental continuum from changing climate and structure toward changing curriculum and instruction” (Lipsitz et al., 1997, p. 540).

In short, although structures and practices that are in keeping with the best of the middle grades reform documents are an essential foundation for middle grades reform, dramatic improvements in student performance result only if teachers also provide all students with markedly better learning opportunities every day. In other words, the structural foundation provided by the “signature practices” of middle grades reform must be combined with an instructional edifice of a demanding core curriculum for all students accompanied by instructional strategies that maximize “teaching for meaning,” motivation to learn, and peer support for learning. This instructional edifice must be supported by ongoing, high-caliber, curriculum-specific professional development that is accompanied by extensive follow-up support for teachers in their classrooms by experienced curriculum coaches.

FIVE CRITICAL COMPONENTS OF THE TDMS MODEL

The TDMS model is based on the philosophy that students are “at promise,” not “at risk” (Boykin, 1994). It brings together five critical elements that are needed to turn low-performing, high-poverty middle schools into strong learning institutions that take a “no excuses” approach toward student success (Wilson & Corbett, 1999). In a Talent Development (TD) middle school:

- A communal organization of schooling is combined with research-recommended forms of instruction, standards-based curriculum, and student assessment in each of the major subject areas.
- Teachers receive four tiers of intensive and continuous support. This includes ongoing grade- and subject-specific staff development (38 hr a year for at least 2 years), sustained in-classroom implementation support from respected peers, and opportunities to network with teachers in other schools using TDMS instructional programs.
- Students receive a wide array of learning supports and extra-help opportunities that increase their motivation to learn and enable them to succeed in high-level, standards-based courses.
- Research, evaluation, and refinement are ongoing and multileveled.
- There is a deep commitment to develop the local capacity needed at the school, district, and community level to sustain and spread strong imple-
mentations of the TDMS model. The TD team works intensively with a school for 3 to 5 years to implement these elements and build the school’s and district’s capacity to sustain them. Our aim is to create schools in which every student has a world-class education that includes the study of high-quality literature, algebra, hands-on science, and the use of primary sources in history. In working alongside teachers, administrators, and our local partners in Philadelphia and elsewhere to reach this aim, we have learned a number of lessons and confronted several major obstacles. This has greatly increased our understanding of what it takes to successfully turn high-poverty middle schools into strong learning institutions and provided us with what we believe are important insights into the comprehensive whole-school reform process.

LESSONS LEARNED

Lesson 1: Low-Performing, Urban Middle Schools That Serve High-Poverty Populations Can Realize Substantial and Systematic Improvements in Student Learning and Academic Achievement Even During the First Year of Comprehensive Whole-School Reform

In some circles, it has almost become an article of faith that it can take up to 3 to 5 years before comprehensive whole-school reform results in significant achievement gains. We have found that this does not have to be the case.

We have worked closely with five urban middle schools to develop and implement the TDMS model. Each of these schools serves high-poverty populations (their poverty rates range from 75% to 90%) and are broadly representative of the middle schools found in the large urban and northeastern school district of Philadelphia. On a district-wide performance index that measures the achievement of eighth graders in mathematics, English, and science (based on Stanford 9 results) and takes into account student and faculty attendance and promotion rates, three of the schools (Central East, Cooke, and Clemente) ranked slightly below the midpoint of the district’s 42 middle schools prior to the implementation of TDMS, one (Shoemaker) ranked near the bottom, and one (Beeber) ranked in the top quartile.

Taken together, these schools face most of the strains associated with urban schooling, including large size (the schools range from 750 to 1,500 students); high rates of teacher and administrator turnover; large numbers of apprentice teachers, uncertified teachers, and long-term substitutes; substantial ESL and/or bilingual populations; low faculty morale; limited student expectations; and poor academic performance. Prior to the implementation of TDMS, the typical student entered four of our five schools testing approximately 2 years below grade level in math and reading and completed the eighth grade testing 3 years below grade level.
Despite these strains, the three schools for which posttest data are available\textsuperscript{1} experienced significant and systematic gains in student learning during their first implementation year of the TDMS model.

Since becoming a TD middle school, Central East has experienced strong, broad-based, and sustained achievement gains in all achievement areas assessed by the district’s testing program. Gains at Central East during its first year as a TD school were particularly impressive in reading, English, and language arts. This was not surprising because Central East did not begin phasing in TDMS’s math and science programs until its second year as a TD middle school. All TD middle schools use Student Team Literature, a middle school language arts curriculum and instructional program that is designed to improve students’ skills in reading, vocabulary, literary analysis, and student collaboration by using outstanding literature, higher level questioning, and working with other students. It includes (a) curricular materials (partner discussion guides) to assist students’ study of high-quality fiction and nonfiction books; (b) recommended instructional practices, peer assistance processes, and assessments; and (c) staff development, mentoring, and advising for teachers to support the curricular and instructional reforms. The National Staff Development Council recently selected the Student Team Literature program for inclusion in their \textit{Consumer’s Guide} of effective staff development programs that meet national standards in language arts (Killion, 1999). After 1 year of implementation of the Student Team Literature program, a significant advantage in reading comprehension improvement was observed in 21 classes at Central East Middle School relative to 25 classes in a closely matched comparison site selected by the school district. The improvements in reading comprehension at Central East were substantial (Mac Iver, Plank, & Balfanz, 1997). In analyses that controlled for prior achievement and current grade level, the typical Central East student outperformed his or her counterpart at the comparison school on the Stanford 9 multiple-choice test of reading comprehension by almost 12 scale score points. The observed effect size of .51 is large compared to the impact of other educational reforms and is of the magnitude needed to achieve serious academic gains (Mosteller, Light, & Sachs, 1996).\textsuperscript{2}

\textbf{Achievement gains at Cooke Middle School during its first year as a TD school.} Stanford 9 achievement test data indicate that large and systematic achievement gains were made at Cooke Middle School during its first year of im-

\textsuperscript{1}Two of the schools (Shoemaker and Clemente) have just completed their first year as TD schools and the posttests from these schools have not yet been scored.

\textsuperscript{2}Recent reports (Plank & Young, 1999; Mac Iver, Mac Iver, Balfanz, Plank, & Ruby, in press) indicate that Central East continued to outgain its district-selected comparison school in subsequent years. For example, in reading comprehension, the average effect size each year was .29.
plementing the TDMS model. These gains were significantly higher than at a district-selected, demographically similar control school. Effect size estimates from simple HLM models indicate that Cooke outperformed its comparison school by .24 standard deviations in reading (Plank & Young, 1999) and .52 standard deviations in math on the Stanford 9 achievement tests (Balfanz, Mac Iver, & Ryan, 1999). In total math achievement on the Stanford 9, the average national gain between fall and spring is 12 scaled score points, and nearly all the class sections at Cooke (97%) met or exceeded this average. In contrast, only 77% of the class sections in the comparison school gained at least 12 scaled score points. The gains are even more dramatic when considering the percentage of class sections that gained 24 points, which is double the national average, or roughly equivalent to 2 years of learning. At Cooke, 59% of the class sections gained over 24 scaled score points as compared to only 13% of the class sections at the comparison school (Balfanz et al., 1999).³

Achievement gains at Beeber Middle School during its first year as a TD school. The only data available to gauge Beeber Middle School’s accomplishments during its first year as a TDMS school were summarized in the school district’s official performance index for Beeber eighth graders before and immediately after beginning implementation of the TDMS model. These data are more limited than the data available for Central East and Cooke Middle School. However, as shown in Table 1, it suggests that during its first year as a TD school, Beeber Middle School also showed substantial gains in all subject areas (reading, math, and science) assessed by the school district of Philadelphia and met its performance index “growth target” (an official target established by the district’s accountability system).

In sum, results from the nation’s first three TD middle schools suggest that “improvement now” is a realistic goal even in high-poverty, urban middle schools.

Lesson 2: Inattention to the Technical Core of Schooling is a Major Source of Poor Student Performance in High-Poverty, Urban Middle Schools

Many prior attempts to improve urban schools have operated under the assumption that the root causes of low performance are found in economic, social, cultural, and bureaucratic factors that are difficult to change and usually beyond the control of an

³The outstanding gains of Cooke’s students continued in its second year as a TD middle school. For example, for sixth graders at Cooke, the average 2-year gain was 48 scale score points in math (an NCE gain of 16) and was 59 scale score points in reading (an NCE gain of 18).
individual school. There is considerable truth in this assumption, but it leaves a critical source of poor performance unrecognized. In high-poverty secondary schools, low student achievement is actively manufactured. This occurs, often unacknowledged or unknowingly, when inattention to the technical core of schooling (curriculum, instructional materials, academic learning time, professional development, etc.) severely limits students’ opportunity to learn (Balfanz, 1997, in press; Balfanz & MacIver, 1998).

Achievement suffers when students are not provided a coherent, consistent, and increasingly complex standards-based curriculum in each major subject area that builds year upon year in a systematic and thoughtful manner (Balfanz et al., 1999). Achievement suffers when students are not provided with organized and sustained extra-help opportunities that are linked to their classroom experiences (MacIver, Balfanz, & Plank, 1998). Teachers’ ability to teach is limited when they are not provided ongoing subject- and grade-specific professional development that gives them the content knowledge, instructional strategies, classroom management advice, and hands-on experience they need to successfully implement new standards-based instructional programs or to teach a subject with which they have limited experience (Balfanz & MacIver, 1998). Teachers’ ability to teach is also limited when they do not know what their teaching assignment is going to be until the start of the school year and/or their teaching assignment is switched from a subject for which they have been recently trained to one for which they have not (Ruby, 1999). It also suffers when they are not provided with instructional materials they need until well into the school year. Students’ and teachers’ ability to function at a high level is undermined when poor planning and lack of attention help create an unruly and disrespectful school climate (Balfanz, in press). All of these problems commonly occur in high-poverty middle schools and work together to manufacture low levels of student achievement. In short, in trying to address the myriad of problems and larger social context that confront high-poverty middle schools, it is often the fundamentals that get overlooked.

<table>
<thead>
<tr>
<th>Subject Area</th>
<th>Performance Index Score Before TDMS Implementation</th>
<th>Performance Index Score in the 1st Year Following TDMS Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>64.3</td>
<td>67.8</td>
</tr>
<tr>
<td>Mathematics</td>
<td>48.3</td>
<td>52.7</td>
</tr>
<tr>
<td>Science</td>
<td>44.2</td>
<td>52.3</td>
</tr>
</tbody>
</table>

Note. Performance index scores based on the Stanford 9 achievement of eighth graders. TDMS = Talent Development Middle School.
Lesson 3: An Initial Focus on the Technical Core Combined With Effort to Create a Communal Organization of Schooling Is Therefore Both Essential and Strategic

Low-performing, high-poverty middle schools need to be thoroughly transformed. The organization of teaching and learning, the nature of classroom practice, the roles and responsibilities of students and teachers, and belief systems regarding what constitutes success often need to be fundamentally altered (Wilson & Corbett, 1999). This requires hard and sustained work by the school’s faculty, administration, and students. To summon the energy needed to achieve this, to let down protective layers of cynicism about reform, and to risk changing established work patterns, teachers and students need to see an immediate benefit from reform efforts.

We have found that this can be achieved by placing an initial emphasis on the teaching and learning tools that students and teachers have to work with (e.g., curriculum, instructional materials, academic learning time, and professional development) and creating conditions that personalize, improve the quality, and increase the depth of student–teacher interactions. Teachers notice when, in some cases for the first time in their careers, they are provided with (a) coherent curriculum that is coordinated and builds grade by grade, (b) the essential supplies and learning materials they need to teach, (c) staff development that is immediately useful because it is linked to the instructional program they are using and the grade they are teaching, and (d) in-classroom implementation assistance from a respected peer who is there to support rather than to evaluate (Darling-Hammond, 1998; Useem, 1998b). Students notice when, often for the first time in their educational experience, they are provided with organized extra-help opportunities during the school day and a curriculum that challenges and engages them (Wilson & Corbett, 1999). Students and teachers notice when a variety of organizational approaches (such as small learning communities, semi-departmentalization, looping) are used to create a communal organization of schooling that enables (a) teachers to be both more caring and daring (MacIver & Prioleau, 1999), (b) students to receive the individual attention they need (McGrath, 1998), and (c) students and teachers to develop respectful and supportive attitudes toward each other (Wilson & Corbett, 1999).

In the middle schools we have been working with, there is strong evidence that both students (Wilson & Corbett, 1999) and teachers (Useem, 1998b, 1999) draw strength and inspiration from these improvements. They recognize that it leads to a better learning environment and—in their words—to becoming a “real” school. It also provides the energy, hope, and belief needed to deepen and sustain the implementation of comprehensive school reform.

Wilson and Corbett (1999) interviewed 210 eighth graders from six high-poverty middle schools in Philadelphia to document these students’ perceptions of their educational experiences in the middle grades. They found that students at
Central East Middle School (School no. 6 in their report) were much more likely to report that quality instruction and engaging pedagogy occurred regularly in the major subject areas than were students in the five comparison schools. Further, the students at Central East reported that their teachers consistently (a) “stayed on” students to complete assignments; (b) went out of their way to provide help; (c) explained things until the “light bulb went on” for the whole class; (d) provided students with a variety of challenging hands-on activities through which to learn; (e) gave students frequent and meaningful opportunities to write, revise based on feedback, and then “publish”; (f) were able to control student behavior without ignoring the lesson; and (g) understood students’ personal situations and factored them into their lessons. Wilson and Corbett credit the communal organization of the TD school and the “outside support” of professional development and technical assistance provided by the TDMS program for helping Central East “scale up” higher quality instruction and more engaging pedagogy to encompass virtually the whole school. This is not to say that visitors to Central East are always impressed by every lesson they observe in every classroom but rather to say that serious learning opportunities are provided in every classroom. The students are spared the watered-down and below-grade-level learning opportunities so common in high-poverty, urban schools.

Useem (1998b, 1999), who belongs to the Philadelphia Education Fund, has completed several rounds of focus groups with teachers in TD middle schools to learn about teachers’ evaluations of TDMS’s training, materials, and professional development. She reports that TDMS’s content-specific training and classroom support was commended by all focus group participants. The participants noted the initiative’s openness to and encouragement of teachers’ refinements, adaptations, and suggestions. The multiple levels of support—from TDMS instructional facilitators, teacher leaders in the school, and curriculum coaches (teachers on special assignment)—appear to provide a highly effective package of professional development services. Teachers’ assessments confirmed findings from the research community that teacher learning is effectively nourished when multilayered opportunities embedded in the school and classroom are readily available. Useem’s reports (1998, 1999) are encouraging because they stress that most aspects of the TD model are being well received in the schools and that teachers are committed to moving forward with the effort.

Lesson 4: The Most Effective Way to Systematically Achieve High Standards Is to Implement and Support High-Quality, Research-Based Instructional Programs in Each Major Subject Area on a Schoolwide Basis

In a recent series of lectures (Dyson, 1999), the eminent physicist Freeman Dyson argued that the driving force behind scientific revolutions are not con-
cepts but tools. From our experience, we have come to believe that the same is true for educational revolutions. The notion that all students can and should achieve at high levels in multiple subjects is a revolutionary idea, particularly for high-poverty middle schools. This revolution, however, will not be achieved by exhortation, the publication of district-wide standards, or even the study of student work alone. For high standards for all to become a reality, the tools teachers and students need are research-based, high-quality, instructional programs that have embedded within them standards-based work and the means to overcome poor prior student preparation. By instructional programs, we mean a coordinated and comprehensive set of student and teacher materials that provide students and teachers with the resources they need to engage in standards-based lessons everyday. These include daily classroom activities, longer term projects, and practice exercises, as well as extra help and academic recovery components. These instructional programs need to be implemented schoolwide and across all grades in each major subject area. This does not have to occur in a rigid and lockstep fashion. There must be room for teacher innovation and individuality. But what is needed are the tools that will enable a baseline of good instruction to happen in every classroom. Establishing benchmarks, providing examples, and even identifying best practices are simply not strong enough interventions to systematically overcome both the realities and associated beliefs (and misbeliefs) that exist regarding student achievement in high-poverty middle schools. These interventions leave the hard work of creating a coherent, consistent, and increasingly complex set of standards-based activities to individual teachers working mostly in isolation (Bol et al., 1998; Glennan, 1998; Newmann, Lopez, Gudelia, & Bryk, 1998). This can result in some islands of excellence but it does not typically lead to the consistent, day-to-day, standards-based instruction in all grades and classrooms that students need to overcome poor prior preparations and to perform at high levels (Balfanz, 1997, in press; Balfanz & MacIver, 1998; Ruby, 1999).

We have also observed that when standards-based, high-quality instructional programs are implemented schoolwide they have positive effects on teacher’s self-conceptions and the expectations they hold for their students. We have seen this particularly with the TD mathematics program, whose goal is to prepare all students to succeed in a standards-based algebra class in eighth grade. Many of the teachers we have worked with have expressed initial skepticism about their students’ ability to do high-level work in mathematics. The experience of implementing a high-quality, research-based instructional program and working with us to customize and localize it to their student’s needs, however, has changed many of their minds. This can be seen in the following statement made by a teacher in a reflection paper written for a graduate course she took as part of the professional development offered through the TDMS.
The Everyday Math series (the standards-based mathematics curriculum used in fifth and sixth grade in TD middle schools) has restructured my approach to teaching mathematics. I am more aware of the thinking process students use to solve problems than I was before. My job takes more time now since I am looking at the entire process and not just a final answer. Since I’ve seen such incredible results, I’m not complaining!

If someone asked me last year if they thought my students would be able to conquer a math program such as Everyday Mathematics, I would have laughed and said, “Yeah, right!” I am astonished at how far my students have come since September. They actually look forward to math class! Who would have thought?

Her sentiments were echoed by a number of teachers in the course.

Having said all this, our experience has also taught us that it is easier said than done. Complete high-quality, standards-based instructional programs in the middle grades are rare. In subjects such as science, standards-based modules exist that often require additional materials, professional development, or adaptation to make them implementable and to construct a comprehensive curriculum that is systematic and coherent across the middle grades (Ruby, 1999). In other subjects, like social studies, there are high-quality student materials (e.g., Hakim’s A History of Us, 1994) but not complete instructional programs. Even in mathematics, where there are several new standards-based mathematics programs available, we have found that they still need to be supplemented to provide bridges and supports for students with poor prior preparations. Over the past 5 years, we have (and for at least the next 5 years we will continue to) put significant effort into developing examples of the standards-based instructional programs that are needed (e.g., see Dangel & Garriott, 1999). But this is an area that is too important to be left to the developers of whole-school reform models alone. School districts, foundations, and governments also need to become involved in helping to provide teachers and students with the tools (instructional programs) they need to move the standards movement from rhetoric to reality in high-poverty schools.

Lesson 5: Implementing a Comprehensive Whole-School Reform Model in High-Poverty Middle Schools Requires Multiple Layers of Sustained Technical Assistance and Implementation Support

We have learned that few significant reforms or interventions are effectively implemented and take hold in low-performing, high-poverty secondary schools unless they are accompanied by on-site and often intensive technical assistance and implementation support. Successful and sustained whole-school reform in high-poverty
middle schools is labor intensive. It requires continual work and attention. Providing low-performing, high-poverty secondary schools with a vision, a planning process, and even a blueprint accompanied by initial training and assessment tools is typically not enough. The “managed” chaos, day-to-day stress, and high faculty and administrator mobility rates that are characteristic of low-performing secondary schools continually sap the energy, divert the focus, and undermine the follow-through needed to implement and sustain reforms. Through our ongoing work, we have learned that each significant intervention requires multiple layers of implementation support. When we have been able to provide this support, we have seen significant success even in the most difficult schools. When we have not, the interventions have faltered (Useem, 1998b).

To achieve systematic improvements in teaching and learning, we have learned that it is necessary to provide teachers with four layers of support. The first layer is ongoing subject- and grade-specific staff development that is intimately linked to the curriculum they are enacting. This professional development needs to have three primary focuses. First, on a monthly basis in a very hands-on and concrete fashion, it models upcoming instructional activities for teachers. Second, it provides both the content knowledge required by these activities and demonstrates effective instructional strategies tied to the activities. Third, it provides teachers with the opportunity to network and learn from each other.

The second layer of support is nonevaluatory in-classroom implementation assistance provided by a respected peer. This curriculum coach, who is often a school district teacher on special assignment to the TDMS model, performs a wide range of support functions including modeling, troubleshooting, helping the teacher customize the curriculum to his or her classroom, and making sure that the teacher has all the materials he or she needs.

The third layer of support is provided by lead teachers in the school who receive intensive training in the instructional programs being implemented. The final and fourth layer of support is provided by TDMS instructional facilitators who work closely with both the curriculum coaches, lead teachers, and principals to design the ongoing staff development, customize and localize the instructional programs, and keep the instructional intervention on track. At one time or another, each of these layers of support has proven critical, and together they have proven robust enough to enable substantial and systematic achievement gains in high-poverty middle schools (Balfanz et al., 1999; Plank & Young, 1999).

Intensive instructional support, however, is not enough. We have also learned that high-poverty, low-performing middle schools often need organizational assistance as well. This may involve helping schools reorganize their scheduling, staffing, and budgeting to support comprehensive whole-school reform. This assistance can involve ordering and delivering materials to teachers or helping schools to diagnose the source of school climate problems (i.e., students in the halls, lack of respect between students and teacher, tardiness, and misbehavior)
and then working with them to develop and implement effective interventions. Lastly, schools may need assistance in how to re-conceptualize leadership roles and responsibilities to provide teachers and students the support and guidance they need to achieve at high levels.

The greatest challenge is when schools need high levels of support in all areas. When this occurs, as it often does in the most troubled and low-performing schools, it can be necessary to simultaneously provide technical assistance, implementation support, and the organizing energy required to begin and initially sustain significant reforms. We have learned that, in these cases, the only way to make a significant impact is to gather the resources necessary to help schools in these multiple areas. Any less of an intervention, or even a phased approach, is not enough to overcome the chaos and malaise.

Lesson 6: Faculty Buy-In and Ownership are Essential, But Can Be Achieved Through the Customization and Localization of Proven Whole-School Reform Models

Significant and transformative reforms will not be fully implemented and sustained without the support of a large segment of the faculty and administration. It is very difficult to reform schools by fiat. At the same time, many low-performing, high-poverty, urban secondary schools do not have the wherewithal to invent and follow through with their own reform agenda, even if they are provided with a facilitated planning process.

We believe that middle ground can be found. Our strategy is to present faculties with a proven comprehensive model designed specifically for high-poverty middle schools and then achieve buy-in and ownership by inviting them to customize and localize it. Customization occurs when schools incorporate existing success and strengths into the model. Localization occurs when the model is adapted to support ongoing school, district, and community initiatives and requirements. This process begins with an up to 1-year-long information sharing and planning process, which culminates with faculty approval to move forward, and then continues throughout the implementation years.

Two examples from mathematics will illustrate the importance of localization and customization. The TDMS model’s mathematics curriculum is built around materials developed by the University of Chicago School Mathematics Project (UCSMP). These materials are research- and standards-based with a proven track record and are particularly well suited to achieving Algebra for All in the eighth grade. They are used in the first four TD schools. The fifth school to become a TD middle school, however, had made a large investment in another mathematics series called Math in Context the year prior to becoming a TD school. This curriculum was endorsed by the district as an effective program and
supported by the local urban systematic initiative. Because the curriculum also met our criteria of being research- and standards-based, we did not require the school to abandon their investment and year of training and adopt our preferred curriculum. Instead, we built on an existing strength and worked with the school to develop professional development and in-classroom support for the curriculum. In Philadelphia we have also worked to customize the UCSMP mathematics materials to both meet local standards and the local assessment system that is built around the Stanford 9 achievement test. For example, it is customary for many schools in the district to spend the month prior to the administration of the Stanford 9 test having students use test preparation materials developed by the tests publisher in lieu of the ongoing mathematics curriculum. In order not to lose nearly 6 weeks of instructional time, we have worked with teachers to blend the test prep materials throughout the year and place them in points of the curriculum where they reinforce rather than detract from ongoing instruction. In both these cases, by involving teachers in a process of customization and localization, we signaled that the TDMS model is willing to recognize their prior investments in school reform and is responsive to the pressures they feel to meet local standards and perform well on district assessments. Both gestures, in our view, have helped to achieve and sustain faculty buy-in and support of the TDMS reform effort.

Lesson 7: The Pervasive Mobility of Teachers, Administrators, and Students Continually Threatens the Sustainability and Institutionalization of Even Proven Reforms

The biggest obstacle to implementing and sustaining the whole-school reform in high-poverty, urban schools is the pervasive mobility of administrators, teachers, and students. Central East Middle School, the initial pilot site for the TDMS model, has had five principals in 5 years. This year, there is a strong likelihood that up to three of the seven middle schools we will be working with in Philadelphia will have new principals. Administrative turnover is not limited to principals. Next year, we will be working with at least two new cluster leaders and multiple new assistant principals.

Each new principal is a challenge. Each brings his or her own vision and was not part of the initial buy-in process that brought the whole-school reform model to the school. As a result, working and supportive relationships need to be built anew and each new principal has to be educated about the reform model and convinced of its merits.

We have found that a key to surviving high rates of principal turnover is to build a strong relationship with the faculty. For example, one new principal was considering fundamentally altering the TDMS approach to extra help in mathe-
matics. The principal listened to our arguments about its proven success (Mac Iver, Balfanz, & Plank, 1998). It was the passionate defense of the extra-help program and general support of the school’s partnership with TDMS mounted by several key faculty members, however, that convinced the principal to maintain its current form.

Consequently, a critical lesson we have learned is that it is a mistake to put too much faith in the ability of the principal to carry out and sustain whole-school reform initiatives. In low-performing, high-poverty middle schools, principals have a short tenure. This is especially true for strong and effective principals who often use their success in a middle school as an immediate stepping stone to a better-paying, less stressful job in the suburbs, a high school principalship, or leadership of a cluster of schools. Deep and lasting reform in high-poverty middle schools will take hold only if significant numbers of the faculty are committed to them.

The problem here, of course, is that low-performing, high-poverty, urban middle schools tend to have high rates of teacher mobility as well. The impact and sustainability of reforms are undermined by both high rates of teachers leaving the school and constant shifting of teaching assignments within the school (Useem, Christman, Gold, & Simon, 1997). Low-performing, high-poverty, urban middle schools are among the toughest places for teachers to work. This leads to two types of mobility. Because it is often not possible to fill all of the teaching positions with fully certified and experienced teachers, these schools employ significant numbers of novice and provisionally certified teachers, as well as long-term substitutes. Many of these teachers do not stay in teaching. Some leave on their own accord and others are asked to leave. The ranks of these teachers are also affected by shifting enrollment patterns.

The second type of mobility affects experienced and certified teachers. Here there is almost a "culture of transfer." As soon as teachers acquire enough seniority to transfer to a stronger school, many seize the opportunity. There is also recruitment both within and from without the school district. In many respects, low-performing schools serve as a farm system for stronger schools. As soon as teachers gain the experience and know-how to be effective teachers, they are sought out by other, often higher performing schools. This process is abetted in school districts that use a cost-averaging system, in which all middle schools are charged a district-wide average salary for each teacher they employ. In practice, this means that lower performing schools with young and less educated staff provide a subsidy to strong schools with veteran and highly trained staffs.

A less visible but still significant threat to successful reform is the high rate at which teachers have yearly changes in their teaching assignments. This is in part a reaction to the high rate of teacher mobility out of the school. Teachers with seniority are often given more say in their assignments and as a result tend to pick the subjects and grades with which they are most comfortable. Because this phenomenon is greatest in districts that have primarily elementary certified teachers teach-
ing in middle schools, it tends to have its greatest impact on mathematics and science instruction. These are the subjects that elementary certified teachers tend to feel least prepared to teach in middle school. As a result these assignments are often given to the newest and least experienced teachers. For example, at two of our TD schools, half of the science faculty was new last year. A second source of constant shifting of job assignments is that principals are juggling many competing staffing priorities. Developing strong mathematics and science staffs historically has not been given high priority (Balfanz, 1997; Ruby, 1999).

This turnover due to transfers and to changing teaching assignments even affects those teachers who have been designated science resource leaders and have received special training. By Spring 1999, half of the teachers who went through an intensive 3-year Science Resource Leader training program ending in June 1995 were no longer teaching science at four of the TD schools in Philadelphia (Ruby, 1999).

We have found that the only practical antidote to high rates of teacher mobility in TDMS is for us to work with the school to (a) create a better environment in which teachers feel a strong sense of community and receive the support they need; (b) establish a permanent professional development and in-classroom implementation support infrastructure; and (c) develop a relatively stable corps of teachers who are comfortable, skilled, and trained at teaching standards-based mathematics and science.

Lesson 8: You Can Get the Technical Aspects of School Reform Right and Still Be Undone by Getting the Relationships Wrong

The simple fact is that, in large multilayered school districts, there are more people in a position to block reforms than to provide active support and assistance. This occurs in large part because each layer is thinly staffed (often by very capable people). It is not atypical, for example, for the Curriculum and Instruction Department to have as few as two staff people for each major subject area, one person for the secondary grades and one person for the elementary grades. As a result, except for a few generally small initiatives, the central office departments are pushed into a compliance role. All they can do with the resources at hand is monitor the extent to which a reform is in accordance with district mandates and goals.

This becomes particularly apparent when attempts are made to scale up a whole-school reform model to multiple schools. Because we believe that reforms need to be substantial, designed to have immediate impact, robust enough to survive in the real-world environment of urban schools, and focused on the technical core of schooling, there are few divisions of the school district with which the TDMS model does not eventually intersect. In Philadelphia, for exam-
ple, we have had to coordinate our efforts with the Office of Curriculum and Instruction, Office of Assessment, Office of Best Practices, research department, Urban Systematic Initiative, Teaching and Learning Network, Office of Equity, Chief of Staff, three cluster leaders, and one school support team. Moreover, because coordination and compliance are often in the eye of the beholder, acquiring school district support requires a lot of face time. Positive relationships must be built with many individuals, at the same time that being pulled into school district politics must be avoided. This is one reason why a local partner with deep knowledge of the school district can be essential (see Lesson 9). It is also why comprehensive whole-school reform is closer to a craft than a mass production enterprise. Each school and district is to some extent unique and requires constant attention (Balfanz & MacIver, 1998).

Lesson 9: To Succeed in Large, Complex School Districts, You Need Local Friends and Partners Both In and Out of the School District

In our view it will be difficult for externally developed, whole-school reform models to go it alone on a significant scale in large urban school districts (Balfanz & MacIver, 1998). Localism is very much alive at the school-district level. Over time the model needs to become integrated into the fabric of the school district. This, combined with the high rate of administrator turnover and the multiple reform initiatives that occur simultaneously (Hess, 1999), means that there is a constant need to introduce and reintroduce the reform to multiple audiences, convince them of its merits, demonstrate its accordance with local initiatives, and show that you are willing and able to work with and in the best interests of the school district. This requires a lot of work and navigation. Without friends and supporters both inside the school district and in local reform organizations who are well-versed in the model and its accomplishments, it is difficult to accomplish and maintain the necessary level of interaction with the school district at multiple levels.

Local friends both inside and outside the school district also can play an essential role in the long-term localization and institutionalization of the reform model (Balfanz & MacIver, 1998). In this regard, we have found that local education funds can be excellent partners (Useem, 1998a). They typically have a long history of involvement with the school system and can provide a stabilizing force to offset the turbulence that accompanies the constant shifting of school district personnel in the central office. Local education funds also often have a deep knowledge of the school district and can use this to serve as an effective go-between of a model’s developers and central office personnel by helping each to understand the other’s needs and priorities.
Lesson 10: A Key to Scaling-Up Will Be Getting Schools and Districts to Understand and Fund the True Costs of Transforming Low-Performing, High-Poverty, Urban Middle Schools Into Strong Learning Institutions

The five core research and development TD middle schools with which we are currently working in Philadelphia, along with the four to six national field test schools we will be adding this year, are not bearing the full cost of implementing the model. To varying degrees, each school is receiving subsidized support and materials through grants provided to CRESPAR and/or directly to the schools from the federal government and private foundations. This is appropriate for a research and development effort. For the TDMS model or any other successful, comprehensive whole-school reform model to become widespread, however, schools and districts will have to be willing to pay the true cost of reform. In the case of the TDMS model, these costs are not overbearing, but in many cases will necessitate the schools and districts reconceptualizing their funding habits and priorities.

The major costs of the TDMS model can be broken down into three categories: instructional materials, professional development, and instructional facilitators/curriculum coaches. The instructional material costs are no more or less than schools traditionally spend. In each major subject area, the TDMS model uses research- and standards-based materials that are commercially available, as well as materials produced by TDMS. Schools can stagger their purchase of these materials (buying one subject per year) to spread their costs over time (much as they would do in the absence of adopting the TDMS model). Professional development costs will vary by school district depending on the extent to which teachers must be paid to attend professional development, the local rate of pay, and the amount of professional development time built into the school’s calendar. Philadelphia has a relatively high rate of a little more than $20 per hour. This means it costs approximately $700 per teacher per subject to provide the recommended 35 hr of professional development per year (for 2 years). In Philadelphia, however, we have been able to dramatically reduce these costs by forming a partnership with a local university to provide teachers three graduate elective credits for 35 hr of professional development for a reduced rate of $175.

The biggest, and perhaps most essential cost of implementing the TDMS model, is the expense of providing sustained in-classroom implementation support. We have learned that, at a minimum, each school needs to receive 1 day a week of support in each core academic subject they are implementing. We have also learned that the instructional facilitators/curriculum coaches providing this support can successfully work with no more than three schools at a time. From this we have developed a basic formula for providing in-classroom implementation support. It requires each of three schools to fund one position. These three schools then share the services of three subject-specific instructional facilitators/curricu-
lum coaches (e.g., one English, one math, and one science coach). In this way, the schools can be implementing up to three core subjects at one time and each instructional facilitator/curriculum coach can spend 1 day a week at each school; have a flex day to spend at the school in most need during a given week; and a day to plan, develop materials, and organize. In addition to this basic support, we have learned that schools also often require supplemental support to launch effective extra-help programs in math and English and/or to help organize the school for change (i.e., scheduling, improving school climate, etc.). Taken together, this implies that schools will need to budget from $60,000 to $90,000 per year to fund the in-school support we have found is needed to bring about and sustain transformative change and improvement.

All in all, we estimate that it will cost approximately $100,000 to $150,000 a year for about 5 years to successfully turn low-performing, high-poverty, urban middle schools into strong learning institutions. Part of the challenge in the near term will be convincing schools and districts that this is not a large sum. If a middle school of 1,000 students spends about $5,000 per student per year, then $100,000 represents 1% of the school’s budget. Finding 1% to 2% for effective reform is an achievable goal. But it will take work. Schools and districts will need help and encouragement to find ways to reallocate existing funds or raise additional money.

For some schools this will be relatively painless. Many large, high-poverty, urban middle schools receive $100,000 to $150,000 in Title I funds. For other schools, making student achievement and teacher learning the overriding goal may necessitate changes in the school’s staffing model. In many of the Philadelphia schools we work with, for example, there is almost a 1:1 ratio between teaching and nonteaching positions. Part of the challenge will be in convincing schools that are used to supporting multiple piecemeal initiatives that they need to husband their resources and apply them all to one proven comprehensive reform effort.

Another challenge will be pointing out that some of the obvious cost-cutting measures do not work. When initially presented with the true costs of reforms, several schools have proposed giving their own teachers partial release time to serve as in-school instructional facilitators. The problem with this is twofold. First, these teachers are often pulled off task to work on short-term administrative chores such as administering Title I tests, providing extra discipline support and, most commonly, class coverage (when substitute teachers cannot be found). As a result, they are unable to provide a regular schedule of teacher support. Second, these teachers are often veterans who are used to doing things in certain way and, as a result, do not become strong advocates or experts in the TDMS research- and standards-based curriculum programs. Rather, they see their role as providing teachers with their own wisdom born of experience. Sometimes this wisdom is good, sometimes it is not, but in either case it often does not support the systematic implementation of the TDMS instructional programs.
WHERE DOES THIS LEAVE US?

After 5 years of working to develop and implement a comprehensive whole-school reform model, specifically in low-performing, high-poverty schools, we are both hopeful and sobered. We are hopeful because we have seen schools achieve substantial and systematic improvements in both student learning and achievement and teacher support and performance. This tells us that it can be done and done much more quickly than is commonly assumed. At the same time, we are sobered by how much constant attention, energy, and hard work this progress has required from the developers, the instructional facilitators and curriculum coaches, the administrators, the teachers, and our local partners. We are hopeful because many of the key reforms are broadly reproducible. We are sobered, however, by the fact that few school districts are creating the infrastructure needed to support such reforms.

In closing, we agree with Wilson and Corbett (1999) that, in order for high-poverty middle schools to become strong learning institutions, they will need to move from an ethos that seeks to do the best that can be done under difficult circumstances to a “no excuses” mentality that relentlessly finds ways to help all students succeed. What remains unknown is how this can be accomplished on a large scale in multiple settings and be sustained over time. These are the questions to which we will turn our attention over the next 5 years.

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REFERENCES


Useem, E. L. (1998b). Teachers’ appraisals of Talent Development Middle School training, materials, and student progress: Results from six focus groups at Central East Middle School and Cook Middle School. Baltimore: Johns Hopkins University, Center for Research on the Education of Students Placed at Risk.

