Essential Components of
High School Dropout Prevention Reforms

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While no single reform model has yet emerged or is likely to in the future as the best or only way for dropout prevention, it can be argued with research that there are at least three broad categories of changes that should be present in any serious high school reform effort. These are (1) structural, organizational and governance changes to establish the school norms and interpersonal relations for learning, (2) curriculum and instructional innovations to give individual students the necessary time and help for success at a high standards program, and (3) teacher support systems to provide opportunities for faculty input and continuous backing required to implement ambitious changes. This paper reviews the arguments and evidence for why each change category must be included in any reform program that hopes to significantly reduce dropouts. One reform model, the Talent Development High School with Career Academies, will be used to illustrate specific changes in each category and the implementation issues which arise in the practical world.

The case that these components are essential for an effective high school dropout prevention approach can be made through a persuasive theory of action that explains how different reforms touch the major sources of high school student and teacher motivation, as well as with direct scientific evidence that ties specific school improvements to dropout reduction. A theory of action specifies how recommended reforms in manipulable variables, (those aspects of a school's structure and practice that can be directly and purposively changed) will lead to intermediate improvements in the informal school

learning environments (norms, expectations and relationships of students and staff) that in turn directly impact desired student outcomes (staying in school and associated successful student behaviors.) Scientific evidence is usually the result of evaluation studies that show significant improvements following the recommended reforms in dropout rates and their immediate behavioral predecessors such as student absenteeism, course failures and grade retentions in schools, compared to other schools with the same student demographics and size.

A Theory of Action for High School Reform

Figures 1 A-C summarizes a general theory of action for high school reform. It begins on the left with three broad categories of manipulable variables. These are variables that are open to direct purposeful change that can be specified in a school improvement plan. It can be assumed these variables can be altered with reasonable technical expertise of educational officials and with sufficient resources of a practical change budget. The manipulable variables can differ in details of different reform plans, but the desired function to be achieved for dropout prevention should be clear. For example, the manipulable variable to create smaller self-contained learning communities within a high school may take different manifestations under alternative reform plans – some with a separate ninth grade unit, others with a career focus, for example – but the essential need for size reorganization is a common manipulable direction across all models.

On the right of Figures 1 A-C are the desired student and teacher outcomes that are the target of high school reform programs. These variables measure the changes or improvements that are sought as the immediate goals of reform efforts. These desired

changes can be seen in the short run if a reform model is well-implemented and effective. They include observable student behaviors such as improved attendance, discipline, promotion and completion rates and upward trends in achievement test scores and grades. These may lead to further longer run improvements after high school completion, such as college entrance, occupational success, and adult citizenry, which could be included elsewhere in an expanded theory of action.

The middle category of variables in this theory of action are the intermediate causal mechanisms, that focus on the informal and intangible elements of the social and motivational conditions of the learning environment. These are called intermediate causal mechanisms because they link the purposeful manipulable changes to the desired student and teacher outcomes through explicit explanations based on social science evidence on the sources and consequences of student and teacher motivations. A well-developed theory of action will provide an understanding of the causal steps that produce desired improvements in student and teacher outcomes by linking changes in the manipulable variables to improvements in the intermediate informal learning environment that research has shown will produce positive trends in student learning and behavior in school. The scientific and practical value of a theory of action is determined by the specificity, richness and persuasiveness of the links in this causal chain: between manipulable variable and intermediate conditions and in turn between intermediate variables and student outcomes.

There are also conditioning variables that are the context which can determine the strength and endurance of the causal chains at different levels of the manipulable variables. The conditioning variables usually include the social demography of the school and neighborhood (such as the concentration of family poverty among the students to be

served), and the external resources for change (such as the funds available to move manipulable variables to new levels and the readiness for innovations of the faculty based upon previous experiences at the school and recent involvement in the change process). The conditioning variables can affect either the implementation prospects or the levels of change of the manipulable variables that must be attained to set in motion powerful causal sequences. Successful implementation of recommended reforms will be conditioned by resources and readiness available to the particular school. The degree to which major school restructuring is needed will be conditioned by the seriousness of the school's current problems that usually is a direct function of the student poverty levels.

The Talent Development High School (TDHS) reform model uses categories of schools based on conditioning variables to determine how prescriptive recommended changes will be and how much external technical assistance will be required. There are some less troubled schools where the student problems are localized within a subgroup of the school population and the school climate is not out of control in terms of safety, absenteeism or staff turnover. We have found that many of these schools can reform themselves with a good plan that covers some but not all of the major reform categories using only modest technical assistance from external sources if at all. But another category of seriously troubled schools, where the student outcome problems are more severe and pervasive and many of the staff feels overwhelmed by the negative conditions of the school, will require strict adherence to recommended changes in each reform category and a high-intensity of expert external assistance to carry off effective reforms. We find the high-intensity category is frequent in large urban high schools with a high poverty concentration of students, where high absenteeism and dropout rates affect more than half

of the students. We will return to this distinction in our discussion of implementation barriers and strategies.

Organizational, Structural and Governance

The first category of essential high school reforms covers changes in manipulable variables of the structure of the school building, the organization of the school schedule for teachers and students, and the governance of management decisions. These changes sum up to restructuring the large size and differentiated staffing of the traditional high school into a set of much smaller self-contained units that each occupy a particular space in the building and include an exclusive group of students and teachers under the direction of a dedicated and empowered local leadership. Under the Talent Development Model, this translates into (a) a separate Ninth Grade Success Academy with teams of 4 to 6 teachers who share the same 120 to 180 students and have a common planning time to work on individual student problems; (b) several separate self-contained upper-grade Career Academies enrolling 250 to 350 students with an adult mentor identified for each student for grades 10 through 12, and (c) an on-site after-hours alternative program called the Twilight Academy for the short-term assignment of a small number of students with the most serious discipline and attendance problems. Under this model, each Academy has its own management that controls most decisions for student discipline and instructional sequences, including an Academy Principal and a dedicated counseling staff, as well as its own teaching faculty who provide all or most instruction exclusively to students in the Academy.

The reorganization into smaller units will produce the desired outcomes through specific improvements in school <u>logistics</u> and <u>relationships</u>, <u>responsibilities</u>, and <u>faculty teamwork</u> that largely define the learning environment.

Logistics: As any experienced administrator of a large urban high school knows, school safety and positive climate can be destroyed if the mundane matters of managing student behavior in the halls, stairways, and cafeteria are not well under control. The academy structure serves to simplify and encourage good logistics for managing student behavior. The logistics of controlling possible unruly and disrespectful student behavior becomes easier when student traffic flow is contained within small areas and the enforcement of rules is on a personal basis. When all students in an Academy are well-known to the adults in charge, no offender can escape unknown into the crowd. Authorities can establish credible behavior codes where students know that misbehavior will hold dependable consequences. For example a credible after-school detention program for student lateness can be conducted when there are dozens of cases per day, but becomes logistically questionable in larger-sized units where hundreds of daily lateness cases could overwhelm enforcement and follow-up.

Other aspects of the Academy structure and schedule also improve the logistics of managing good student behavior. The climate of the upper-grade Career Academies becomes more easily controlled because the more problematic students in the ninth grade have been located in their own Academy and the most serious discipline cases have been assigned to Twilight Academy. The 4x4 schedule of extended class periods, described more fully later, reduces the number of class changes during the day so less time is lost between periods when control of traffic flow and student behavior is at issue. The ninth

grade schedule also assists with logistics of good management, when each teacher on a ninth grade interdisciplinary team that shares the same 150 students is located close to one-another, so students will move directly next door or across the hall for the next class.

Relationships and responsibilities: In the smaller units, all students and adults should know one another by name: there should be "no strangers" in the daily encounters in the halls, stairways, and classrooms. This interpersonal familiarity is the essential building block for a safer and controlled school climate and for respectful and caring relationships between teachers and students.

Beyond the logistics of good management, the positive student-adult relationships that develop under the Academy structure also strongly contribute to improve learning processes. Teachers are more likely to care about and feel responsibility for students in an Academy structure. In Career Academies, both students and teachers have chosen their Academy based on personal interests, so they share a common commitment to their own unit. Teachers in Career Academies are likely to have the same students for two or more years, so they realize they are more completely responsible for what students will achieve in their subject. In both the ninth grade and upper-grade Academies, there is a shift from a bureaucratic reliance on behavioral specialists to deal with problems such as attendance and discipline, to a communal orientation where teachers themselves are the first line of serious response to student problems. Instead of quickly referring problem students to an attendance officer or a discipline dean, teachers in their ninth grade teams or Career Academy pathway groups directly deal with individual student problems. Teachers make calls to absent students' homes, meet individually or as a team with students having discipline problems, and monitor hall traffic by teaching with their doors open and

supervising class changes. Students are more likely to improve their attendance and deportment when they are worked with in a human way with a teacher they know well, than when they are confronted in an impersonal way by a bureaucratic authority with little chance to discuss and work out problems.

In addition, the Academy structure is more likely to foster friendly and respectful relationships between students and teachers, which contributes to students' motivation to work hard at learning tasks. In well-run Academies, students are greeted each morning at their Academy entrance by an Academy Administrator or teacher who has a welcoming message or a personal follow up talk ready for each individual. Mutual pride in one's own Academy develops by both students and faculty, in the informal competition within the school about the "best" Academy. Simply the chance for teachers and students to get to know one another very well, due to the limited numbers within each Academy, usually results in more caring and respectful relationships.

The career focus for the curriculum within each Career Academy also adds to the student attachment to their school, and motivation to take their studies seriously. Students who see the relevance of their curriculum to their own goals and are studying things they have chosen to learn are more likely to have a good reason to come regularly to school and to be willing to put attention and effort into their schoolwork.

The Talent Development model also institutes a program for school-family-community partnerships that uses Joyce Epstein's school Action Team approach that sets priorities and plans activities among six broad types of family and community involvements. Improvements in student attendance and course work can be expected when they are priorities of the Action Team.

Faculty Teamwork: Any successful high school reform model must generate regular opportunities for faculty to work together in smaller groups that share the same students so that high collective energy can be focused on creating a strong serious learning environment in each subunit. No model alone can create reforms that in fact must come from a renewed dedication and commitment of the school's own faculty and administration. But a successful model can create the conditions and impetus for faculty teamwork aimed at reforms. The new schedule should provide common planning time during the school day for teacher teams in the ninth grade and upper grades to work on issues of student attendance, discipline and course credits. The new governance structure should empower the faculty and leadership of each Academy to solve their own problems and enhance their own program. Professional development opportunities during the school year should allow for Academy faculty groups to work together. And extgernal technical assistance providers should give training in group processes for faculty teamwork and provide specific suggestions on how common planning time and group efforts can address student success. For example, in Talent Development High Schools, we facilitate ninth grade faculty teamwork to improve attendance with phone outreach and incentives, to address individual student discipline problems with a multi-step approach featuring the team meeting with students and parents, and to encourage students' course passing behaviors with individual report card counseling activities that help students make necessary adjustments.

Causal Sequences: As outlined in Figure 1A, the impacts of an Academy structure on student and faculty outcomes derive largely from improvements in student attendance

and discipline that have direct consequences for student success in earning promotion to the next grade and for teacher morale and energy.

Student attendance improves with a strong Academy structure because the school is a safer and more welcoming place to show up at each day, and because teachers reach out to bring back student absentees. In addition, the career focus of the upper-grade Academy structure draws better student attendance to a program with stronger relevance for students' own interests and goals.

Students are more likely to attend regularly when they get along well with school adults and when they feel they are personally expected to come to school every day and are missed when they do not. Students are more likely to want to work hard on classwork to please a teacher they like and to value a good grade from such a teacher.

Research shows that the student attendance rate is a major correlate of course passing probabilities, which in turn determine the chances that a student will earn promotion to the next grade. Teachers cannot pass students who miss a significant number of instructional days, and are more willing to find ways to help a diligent student with good attendance to pass their course. Promotion depends upon passing enough courses and earning enough credits to earn passage to the next grade. So, even if instruction does not change, reforms that produce improved student attendance will almost surely yield significant improvements in student rates of passing courses and getting promoted. Lower dropout rates will also follow directly from lower rates of course failures and grade retentions.

The adult control of student traffic in halls and stairways and the reduction of disciplinary incidents that results from the Academy structure is noticed and appreciated by

the teaching faculty. When a climate of serious academic purpose takes hold and student attendance improves, teachers morale shifts from a weary frustration of struggling to serve all the students to an optimism that they can effectively do their job for a greater proportion of students. Under these circumstances, teacher attendance improves, transfers away from the school decline, and more are willing to do their part to monitor and enforce good student behavior throughout the building.

Impact Studies: Scientific studies have shown that an Academy structure can lead to major improvements in student attendance and promotion rates, in a school climate of safety and seriousness, and in faculty morale and commitments. Research to evaluate the Talent Development Model shows how the relationships with the small learning communities of an Academy structure lead to improved student outcomes. In studies that compare Talent Development high schools to demographically matched traditional schools in the same districts, we find student attendance improves by ten to fifteen percentage points, promotion rates from ninth to tenth grade increase by two or more times, and school climate gets dramatically better with significantly fewer disciplinary removals and management problems in the halls and stairways. Promotion rates from the ninth grade that are directly related to reduced dropout rates improved by 47 percent and 65 percent respectively in two recent Philadelphia Talent Development sites. In addition, clear evidence favoring the Talent Development schools has been obtained regarding teachers moving from feelings of frustration to attitudes of fulfillment with their job, and faculty willingness to put in extra time and assume broader responsibilities to make their school work well for students (Jordan et al., 2000; Reumann-Moore, 2000; Corbett and Wilson,

2000; Philadelphia Education Fund, 2000; See also Kemple and Snipes, 1999; Stern et al., 1998).

Whatever the particular manifestations of a particular reform model to improve climate and relationships through the creation of smaller more personalized units within the high school, restructuring of space, schedules and governance must be an essential component of any high school dropout prevention reforms. To the degree a particular school has the most serious problems of safety and seriousness of purpose, we believe this restructuring should be most strict and pervasive in establishing entirely self-contained and self-governed units within the school, with separate ninth grade programs and upper-grade programs around career themes.

Troubled high schools often start with these structural, organizational and governance reforms because nothing else is possible if the students are not attending regularly and the school climate is in chaos or not firmly in control of the school authorities, and teachers are demoralized at the prospect of working together for major school improvements.

Thus planning for and establishing the decentralized Academy structure is often the first step of high school reform undertaken, especially in the most troubled settings. When properly implemented, impressive improvements are soon experienced in school climate, faculty morale, and student attendance, course passing and promotion rates. But test scores usually do not go up, and many students still fail because they cannot meet high course standards due to poor prior preparations in basic academic skills. To get beyond this first threshold of improvements in student outcomes, major changes in curriculum and instruction become the next set of essential reforms for high school dropout prevention.

Curriculum and Instruction

One hallmark of current high school reform policies is to require a high standards core academic curriculum for all students. It is based on convincing research that the opportunity to enroll in high standards courses is a major determinant of whether students will achieve at high levels on tests of academic performance. It seems obvious that students who are deprived of instruction in Algebra and other college preparatory subjects by being shunted in low-level courses of Business Math, Consumer English, and the like, have no chance of learning the more demanding material. But simply enrolling in a common core academic curriculum will not be sufficient for many students who have been poorly prepared in earlier grades for high-level high school work.

What is the solution for the many students who enter the ninth grade with poor prior preparations and are likely to be frustrated in dealing with the high standards textbooks that require reading or math skills at several grades levels higher than they currently possess? The answer is not to lower requirement for some students and return to the tracking of courses that withhold high standards materials from them. Instead, students should be helped to close their skill gaps so they can also be successful at a high standards curriculum. Three related strategies are (a) to provide extra time during the regular schedule in core academic courses, (b) to offer carefully designed catch up learning activities that are attractive to young adults, and (c) to provide recovery chances outside of regular school hours to make up failed credits or weak skills. As outlined in the action theory, when these strategies are well implemented, student motivation to learn is

strengthened in several ways and their chances improved for success in a core college preparatory curriculum.

Extra Time: The Talent Development Model provides extra time for core academic work in the regular schedule by offering a "double dose" of math and English instruction in a ninth grade 4x4 block schedule, and by elective replacement activities and tutoring in the upper grades. Each student who enters the high school far below grade level in basic skills receives 90-minute daily classes in English and Mathematics throughout the entire year, which is twice as much time in these courses as either the traditional 45-minute period throughout the year or a 90-minute period for one half-year term in most 4x4 arrangements. For older students who still need extra time to close basic skill gaps, added course work in math or English or both is substituted for about one-third of their elective courses, or by scheduling tutoring opportunities from peers or teachers.

Close Skill Gaps: The TDHS Model not only stretches the time allocated to core academic courses for needy students, but also offers some specially designed catch up courses in Reading, Mathematics and study skills. As shown in Figure 2, the first 18-week term of the ninth grade provides Strategic Reading, Transition Mathematics, and Freshman Seminar as extended-period courses to make up for poor prior preparations. These catch up courses lead into the second 18-week term of traditional high standards English I, Algebra I, and Social Studies courses as extended-period 90-minute offerings for the required ninth grade credits. The remaining courses of the ninth grade 4x4 schedule are the required Science course and an elective such as physical education, art, music, or another offering. The first term catch up courses are designed to narrow or close skill gaps so students can be successful in the second term high standards academic courses.

Several features of the catch up courses are necessary to attract student motivation. The materials must be of high interest to young adults but at initial skill levels that do not frustrate their efforts. For example, in the first term Strategic Reading course designed to give students better skills at drawing meaning from various textual material, novels are chosen that are at a lower grade reading level but include characters and situations of high interest to urban teenagers. In addition, the classroom learning activities must allow active student involvement and time for peer discussion to increase understanding. For example, the first term Transition Mathematics course designed to close gaps in pre-Algebra skills and to build student self-confidence in Math, uses frequent manipulables and practical problems as learning tools while encouraging student conversations to explain how different solutions can be reached. Also, it cannot be assumed that incoming students know how to take notes, manage their time, and study for an exam or use the appropriate social skills in cooperative learning teams. Direct instruction in study skills and social skills can be very helpful for students to profit later from the advanced learning activities of high school, such as projects that extend over a long time and cooperative learning activities that require different roles and relationships. For example, the Freshman Seminar of the Talent Development Model has units on study and social skills, as well as an extensive section on college and careers to prepare ninth graders for their choice of an upper-grade Career Academy in their high school.

Notice that the ninth grade instructional program is heavily weighted toward the required core academic subjects of English, Math, Science and History, with only two elective subjects out of the eight credits to be earned in the first year of high school, counting the Freshman Seminar as an elective subject. Compare this recommended

schedule to the traditional offerings of 6 shorter periods throughout the year with 2 of 6 courses as electives, or to the typical extended period offerings where 4 of the 8 courses may be electives. Nevertheless, students do not feel overwhelmed by the academic emphasis in the recommended schedule, because the first term classes feature learning teams where students welcome the opportunities for social interactions to discuss classwork, and interesting learning materials are used where students can build upon their current skill levels to be successful. The Freshman Seminar, as one of the only two elective subjects in the recommended schedule, is directly aimed at building the students study skills and social skills that will be needed in advanced high school work in all subjects.

Recovery Chances: Extra time can also be provided after school hours during Summer School, Saturday School, or late afternoon Credit School. Students can attend either to make up failed credits so they can be promoted to the next grade, or to continue to close skill gaps throughout interesting catch-up activities. TDHS actually requires students to make up failed courses on their own time after regular school hours, as an added incentive to succeed the first time, and as a strategy to preserve the regular school schedule for core courses and extra help.

The skill gap will significantly narrow for most poorly prepared students as a result of a ninth grade program of extra time and catch up instruction in the core subjects. Studies were conducted in Baltimore and Philadelphia that compare students in the TDHS ninth grade instructional program, with students who began at the same skill levels in demographically matched schools using traditional instructional approaches. When the TDHS program is well-implemented, students on average grow two years in learning for each year of schooling in both English and mathematics skills, which is twice the

achievement growth of students in traditional ninth grade programs even when they have the same extended time of instruction (Balfanz & Jordan, 2000).

Upper-grades instruction: Even with the exceptional achievement growth rates in English and math experienced by the average ninth grader from an effective catch-up instructional program like TDHS, many students will still remain behind in the academic skills called for in high standards core high school courses of the upper grades. So flexible resources of time and assistance will continue to be needed after the ninth grade to extend the trajectory of closing skill gaps as students move through the upper grades of high school. Double doses of time in the tenth grade core academic subjects as well as extra help programs after school and during the summer months should be offered to students who still have a long way to go to catch up with age and grade level standards. In the Talent Development Model, upper grade added courses are being developed that continue to work on basic reading, writing and mathematics skills for students who remain very weak in any of these areas. These courses use the content of career and college awareness and preparation to interest students at the same time they are strengthening basic academic skills.

The Talent Development Model also features contextual teaching and learning in the upper grades within the Career Academy structure. Each core academic course has blended instruction and practical applications that are associated with the particular career theme of the students' own Academy. Students also participate in work experiences and long-term projects during their Junior or Senior years that apply sophisticated academic skills during job shadowing, career internships, or school-based enterprises.

Causal Sequences: As outlined in Figure 1B, these various approaches to provide extra time and extra help to needy students can address powerful sources of student motivation.   Reforms of curriculum and instruction can lead to increased student motivation to work at learning tasks and higher rates of achievement gains through the causal mechanisms of (a) improved probability of success, (b) greater interest in the classroom materials and lessons, and (c) social support from peers.

Probability of Success: Learning theory has demonstrated that students' motivation to work hard at learning tasks depends upon the level of difficulty relative to their current skills and preparation. If the tasks are too hard for their present skill level, students will feel frustrated in their learning efforts because the probability of success if too low. On the other hand, when the tasks are too easy or cover old material already learned, students will usually be bored and unwilling to work on activities where there is no real challenge. The ideal of the Talent Development High School catch-up courses in Strategic Reading and Transition Math is to hit the happy medium for student motivation of learning activities where the probability of success is readily in reach but with sufficient challenge to engage student interest. The best balance can be achieved when the learning activities require higher order thinking skills and deeper understanding even though the content does not assume a great deal of prior knowledge.

Content Interest: Learning materials that have more immediate interest or clear long-run payoff to students are more likely to capture students' attention and to sustain their energies. The Talent Development materials in the catch-up courses use characters and situations to which an urban teenager can identify. The upper-grade lessons seek to blend

Career applications into core academic courses to students can appreciate the instrumental connections between what they are learning and their occupational interests.

Social Support: The recommended classroom reforms also feature activities where students work together in learning teams and play different roles in cooperative long-term projects. Students usually enjoy the social aspects of student team learning and are more likely to be engaged in lessons where they are actively participating rather than passively listening to lectures or filling out individual work sheets. Talent Development reforms include student training during the Freshman Seminar and elsewhere in the social skills and human relations skills to profit from cooperative learning and project-based lessons.

Impact Studies: The scientific evidence is impressive that selected curriculum and instructional approaches can close major skill gaps for high school students who can go on to be successful at a common high standards college preparatory curriculum. Recent evaluation studies in Baltimore and Philadelphia of the Talent Development ninth grade curriculum show that achievement growth rates are twice as large in Reading and Mathematics as for matched students taught with the same amount of instructional time with traditional curriculum. The Baltimore study involved 456 ninth grade students divided between participating and control schools showed significantly greater gains in CTBS reading and math tests for the TDHS students. The Philadelphia study used a sample of approximately 1500 ninth grade students that showed similar differences favory the ninth grade Talent Development participants on SAT-9 tests in English and Math, although the Reading results were less impressive in terms of overall growth than in Baltimore. (Balfanz & Jordan, 2000; Philadelphia Education Fund, 2000).

Teacher Support Systems

The failure to have strong positive effects on major student outcomes such as test score averages or dropout rates is often because good ideas for reform were never actually implemented as intended or failed to continue after the departure of the leaders and staff who originated them. Thus, it is essential to include reform components to enhance the prospects that the recommended reforms of school organization and instruction are put in place without modifications to their core requirements and that they take root to remain in force in face of the inevitable turnover of local personnel. As outlined in Figure 1C, teacher support systems are needed at the initial planning stage to earn teachers' commitments to the reforms and at the implementation phases so that teachers have continuing expert help with their new roles and classroom practices.

At the planning stage, successful high school reform models must strike a balance between the prescription of specific research-based reforms that have been shown to work and the opportunities for the school's leadership and faculty to engage in an extensive discussion and decision-making process on what is best for their school. Reforms that lean too far towards prescription without discussion risk that the recommended changes will be viewed as from the outside and never embraced and faithfully implemented by local teachers and administrators. Reforms that rely on professional talk among local educators about general principles or goals of a good high school risk that the needed basic structural and instructional reforms will not be sufficiently considered or will be fatally modified by entrenched traditional practices or interests.

The Talent Development High School Model recommends a full-year planning process for teachers, administrators and other key stakeholders to have their input in

shaping reform components for local strengths and conditions and putting their stamp on the reform activities. While the basic components of an Academy structure and flexible time and resources for a common-core curriculum are non-negotiable, there is plenty of room for the school to draw upon its own existing strengths to fashion a local version of the Model that suits their conditions. So, faculty are asked to define the Career Academy themes, titles and curriculum pathways based upon strong existing local offerings, faculty interests for new directions, and potential business partners and labor market opportunities. Faculty committees are formed to assist with the building and entrance redesign, matching teacher interests with Academy assignments, and preparing ninth grade faculty for teaming and student outreach activities. Faculty also gets involved in various operational decisions, such as the choice of color combinations for each Academy's ID cards and hall space, the details of student traffic patterns and monitoring of class changes and cafeteria periods, and discipline code priorities and consequences. Sometimes there are contractual issues that need to be worked out carefully, such as changes in teacher preparation time and class sizes under the 4x4 extended class period schedule, and eligibility for new Academy leadership positions and roles. A school retreat of a day or two for the entire school community at an attractive location away from the building with good food and spirit-building activities as well as reform planning tasks, can be a very useful experience along the way or at the end of the planning process. Other social and ceremonial occasions to mark specific decision-making steps with the reform model can keep administrators and faculty cognizant of their progress and charged up to see the reforms through. The good will established during the planning process can also be called upon to address gliches and solve unanticipated problems when the reform implementations are actually underway.

A planning process with sufficient time for teachers, administrators and other stakeholders to have real input should result in a readiness for and commitment to the recommended reforms with reasonable local modifications by all parties. Rather than another set of imposed changes from some outside authorities, the reform model with its locally determined features should become owned by the school community as the new directions they are ready to back. In the end, the strength of the implementation depends upon the energy and enthusiasm with which local teachers and administrators bring to the task.

The continuing support to teachers and staff after the implementation process has begun is equally important for realizing all the potential benefits of the reforms. The introductory professional development workshops should have enough time to establish initial mastery of new roles and methods. Even more important, workshops must be followed up with continuous supports throughout the school year.

The Talent Development Model uses a multi-tiered system of teacher supports. We begin with intensive professional development workshops on a few key general changes to be experienced by teachers – such as using the extended period class schedule and working in teams with a common planning period – or on teaching specific new catch up courses – such as Strategic Reading, Transition Mathematics or Freshman Seminar. Then, we hire and train full-time Curriculum Coaches in English, Math, Freshman Seminar, and Teaming, who are selected from a pool of expert teachers from the local school district. Each Curriculum Coach spends half-time in each of two participating TDHS sites, offering confidential assistance in the classroom without any input to teacher evaluations. The coaches will model teach a lesson, check up on supplies or materials, offer suggestions,

answer questions, or any other peer assistance that will help each classroom teacher to try and successfully implement new course materials and approaches. In addition, there are refresher workshops offered every 4 to 6 weeks after school or on weekends by Instructional Facilitators from TDHS central staff. These workshops can be offered on-site or via videoconferencing equipment to preview the next units of the new courses and to troubleshoot problems that may have occurred. We find participating teachers attend the initial and refresher workshops at high rates and generally greatly value the availability of follow-up curriculum coaches to directly support them in their classrooms.

The Talent Development Model also arranges for teachers to continue to plan together and to work on teams throughout the school year after the reforms have been initiated. Ninth grade teachers are members of 4 to 6 member interdisciplinary teams that share the same 150 to 180 students and have a common daily planning period. A teacher team leader of each team is identified and give some relief of teaching duties to work on team functions. Special training is provided on the use of teams to improve student attendance, discipline and course passing. A local coach is available with teaming expertise to work with the teacher groups in their common planning periods. Well-functioning teacher teams in the ninth grade is a key to reaching the student outcome goals.

Upper grade teachers in Career Academies also must have regular time throughout the school year to work on Academy issues. In the Talent Development Model, the regularly scheduled professional development times are divided between work in subject matter on departmental groupings and in cross-subject Academy groupings. The Academy faculty need time to work together on topics such as developing the curriculum with improved electives and business partners, solving individual student problems such as

absenteeism and course difficulties, and enhancing the Academy environment with teacher shares of non-classroom duties and efforts to make the Academy space distinctive and attractive.

The teacher support systems will be expensive, but are necessary for a high probability of effective implementation of restructured roles and instructional approaches. In the Talent Development Model, four half-time curriculum coaches (two full-time positions) must be supported for each participating high school. We also provide regular contacts with TDHS central staff assigned to the school, with an Organizational Facilitator to be the main point of contact with school leadership backed up by a team of Instructional Facilitators in each subject. The number of contacts over the phone or on-site by this team is determined by the particular school's needs and budget. Workshop stipends for local teachers are also needed for the two- or three-day initial training and the one- to four-hour follow-up workshops. TDHS also provides technical assistance manuals and videos for most course units that teachers can take home and refer to as needed.

Teacher support systems must be an essential element of any high school reform model, because reforms can only reach their full potential if they are accurately and energetically implemented. Planning processes that involve teachers and other local stakeholders are needed to earn strong initial local commitments to the anticipated changes. Thorough workshops to introduce reforms must be followed up by regular repeated assistance in the teacher teams and teacher classrooms implementing the changes. Regular monitoring and refresher workshops for each reform component are also needed to keep everyone on task and to address local implementation issues.

Some Difficulties to Overcome for High School Reform

Our experience in facilitating the implementation of the Talent Development High School model in large high-poverty high schools in several major urban districts has revealed reasons why high school reform is so difficult and some barriers that regularly appear.

Reform context: The local context for reforming large high-poverty high schools can be discouraging. Educators have been prone to emphasize reform in the elementary grades, both because it makes good sense to build a strong initial foundation of student skills so later remediation is less urgent, but also because few have any powerful ideas about what to do to help troubled high schools. Local officials are more likely to establish elite selective units and programs at the high school level to provide for the top end of the achievement distribution than they are to be innovative with school reforms for the non-selective high schools. Indeed, the current thrust to hold back poorly prepared students from entering high school under the slogan of "no more social promotions" begs the question of how to provide equal high standards learning opportunities in high schools for students with weak prior preparations. We need to change the context that only elementary reforms deserve emphasis, and that it's too late to help poorly prepared older students or we don't know how to do it.

District Concerns: Several specific difficulties can also arise at the district level, where support or resources for external reforms may be lacking, local priorities may need to be coordinated with reform model requirements, personnel policies interfere with reform sustainability, and union regulations need to be aligned with model innovations.

Some districts may have high ranked officials in charge of high schools who must be won over to accept partnerships with external reform models. Sometimes the officials may be reluctant to share credit for successful reforms, but more often existing policies need to be coordinated with the external reform model's essential components. For example, the well-intentioned policy to offer only high standards college preparatory courses in core subjects may seem at odds with a reform model's prescription of extra time with catch-up lessons for needy students in the major subjects of grade nine. Since the goal is the same in this case to have all students succeed at common high standards courses, a supplemental policy of flexible time and resources to reach this goal can usually be worked out. Final credit should be given to the local educators for high school improvements, so the external model providers are properly seen if at all as partners under the local leadership.

A question of political strategy for a model provider is whether to establish initial contacts at the district level, or to begin work with individual high schools and then come as a team of school and external partners to approach the district together for support. The Talent Development model has usually started at the school level then moved to obtain district backing, but other sequences may be more successful in certain situation.

Most urban districts are strapped for funds to deliver the standard staffing and textbooks and equipment needed in a traditional high school, so the considerable extra resources are hard to come by for the new curriculum materials and extensive on-site technical assistance needed for most reform models. It doesn't make sense to adopt a reform model if the resources are not available to get it properly implemented and sustained. The costs of reform can easily exceed $250,000 for the first year of

implementation in a high school or more than 1500 enrollment, with no more than two-thirds possible from internal budget transfers and reallocations. The most expensive item is adding local curriculum coaches and facilitators, but this investment remains as a district capacity to sustain or extend the model after an external partner reduces its presence. Sizeable grants for high school reform are now available from major federal programs such as Small Learning Communities, Comprehensive School Reform Demonstrations or Title 1, and from large foundation high school reform projects such as Annenberg, Carnegie, and Gates. But awards to high schools from these sources must be aimed at the added costs of true reform, and not shunted to other staffing needs from other funding shortfalls as we have experienced on more than one occasion. It is going to cost to get powerful reforms in place in troubled high schools, and districts that are serious about implementing effective solutions must address this resources issue.

Too often reform innovations are interrupted or set aside to make room for district directives enforced by local school department heads and officials. Most typical is the preoccupation with state and local tests and the directive to concentrate time and instruction on drill and practice activities related to the tests. So, everything involved with instructional innovations will be dropped for several weeks if not longer to prepare students for the mandated tests, often in ways that make little learning sense beyond the particular test formats. To be sure, students need to be able to demonstrate their achievement growth on the required tests. But usually it will be possible to retain the ongoing instructional innovations with reasonable attention to the upcoming tests, if district officials, school authorities, and external facilitators of instructional innovations work together to maximize probabilities of real learning as well as test preparation.

Similarly, other district priorities will come down as directives that greatly interfere with reform activities, that could have been worked out to the benefit of both interests. Alignment of instructional innovations with district standards and curriculum guidelines can be a straightforward review-and-revise activity or an extensive time-consuming chore with little educational benefit, depending upon the objectivity and professionalism displayed for the task.

Personnel policies can also either support or get in the way of powerful high school reforms, depending upon the district's consciousness of new roles and responsibilities from the reforms. To begin with, some assurance is needed that the Principal as school leader of reforms will remain in charge of the high school for at least three years, to see through the initial reform implementations and to help institutionalize their continuation. Routine transfers of existing Principals mid-stream of reforms are not unusual and are to be avoided. Similarly, district assignment of reform Principals who are several years from retirement should be followed. Equally important is the empowerment of the local school leadership to make the decisions required for the particular reform model. In the case of the Talent Development Model, a new governance structure of the decentralized authority is established at the Academy level, with former school-wide Vice Principals becoming Academy Principals and new roles for Department Chairs and schedules in the decision-making hierarchy.

The local teachers' union and other bargaining agents also need to be strong partners in the reform process and outcomes. District political issues between the union and the local Board or Superintendent should not contaminate local negotiations for experiments or revisions at the school level for research-based reforms. We have found

that the local school union representative can be a major source of positive advice and support when he or she is involved early in the reform process and kept in the loop. On the other hand, when a faculty vote is required to demonstrate a strong local commitment for particular reforms, the politics of personalities of earlier experiences can negatively color decisions on key issues such as the use of extended class periods and the choice of teacher team leaders. Efforts to engage union officials in the reform process and to build relationships of professionalism and trust can pay great positive dividends for serious high school reforms.

School Concerns: The local school Principal must have a deep understanding of the reform model to be undertaken and a personal commitment to make it happen. In addition, a readiness for serious changes and a willingness to personally help implement reforms must exist or be developed in a significant influential segment of the local teaching staff, if powerful improvements are actually to take place. No outside group itself can get major reform implemented no matter how willing to accede to change the local faculty and administration may be. The local educators must be the source of continuing ideas and energy to make the restructuring of school organization and instruction become a reality. The locals must develop the "ownership" for the specific reforms and demonstrate the "buy-in" by their own actions and enthusiasm. Outsiders can facilitate the change process and provide technical assistance for new roles and instructional approaches, but can never "do it for them" in terms of making the reforms work.

The difficulties in some high schools are that many of the local educators are dubious that serious reforms are possible given the student demography and local politics or self-interest. In addition, many high school teachers are not used to working together

across subject departmental boundaries or to taking on duties outside of their strictly instructional functions. In the worst cases, some teachers see little possibility that most students at their school will respond positively to reforms with good discipline, respect for authority, and strong motivation to learn. They need to come to believe that the students are not "the problem," but that the current structures and incentives need to be reformed to draw the desired responses and efforts from students. Also in the worst case, many teachers want to retain a strict bureaucratic operation where teachers quickly refer all student problems to relevant authorities, such as absentees to truant officers, misbehaviors to discipline deans, and between-class stragglers to official hall monitors. They need to come to understand that a communal approach positively changes the tone and relationships of the school where teachers take initiative and help one another to work with individual students in addressing problems of absenteeism, relationships with authorities, and behavior in the school building and classrooms.

Changes in local school power relationships can also be a source of difficulty, as some who will experience loss or shifts of authority may fight the changes. The traditional Department Chairs are most likely a source of resistance, especially when school-wide decisions will now be influenced by Academy interests and officials, where Departments previously had more major sway. Chairs may be asked to fit into one Academy as an Instructional Leader where their expertise is most relevant, while they continue their school-wide responsibilities of their subject-matter faculty. The person in charge of developing the school schedule must also adjust to new challenges or be replaced by Academy officials at some stages of the scheduling process. It is essential that the scheduling priority be the Academy structure, where space, faculty and students are

allocated to self-contained Academy units. Skill and careful attention to the Academy requirements must take precedence in the scheduling process, with a minimum of faculty transfers and student traffic across Academy boundaries on a typical school day. A Scheduler who is used to being the arbiter of assignments and having the final say on master schedule must give way to a decision-making process and approval system where the Academy structure is assured.

The school wide Principal must also be ready to delegate major authority in a decentralized Academy structure. The Academy Principal of each unit must be located in the Academy space and feel the responsibility for running their own operations, especially in terms of student discipline and faculty involvement in decisions. Also, decentralization of guidance functions to Academy locations needs to be accomplished. The whole school Principal needs to have or develop confidence in the Academy leadership to make the restructured school work as several strong self-contained subunits.

There are dangers that the Career Academy structure may be allowed to reproduce a hierarchy of program tracks that is to be avoided under the current widespread policy of common high academic course standards for all students. Some influential teachers at the high school may wish to establish a primarily college-prep Academy with a title such as the Arts and Sciences Academy that signals an elite status and recruits most of the advanced students in the Academy selection process. Some parents who oppose the Academy structure under the misunderstanding that it will "vocationalize" the high school, may also be assuaged by the prospect of a more selective Academy among the choices. Thus it is very important to accompany a structure of several Career Academies within the school with several accompanying policies. Every Academy should be a college

preparatory program with the same core academic courses in English, Math, Social Studies, and Science differing only in the practical applications used in each course and in the electives offered in each Academy. Students should understand their chances are equally strong in each Academy of being well prepared for college, although their options for entering a career after high school can depend upon their Academy choice. Academy titles should include college indications, such as Transportation and Engineering when one of the pathways is automotive, or Business and Finance where one of the pathways is office-clerical. Also, the best teachers with the strongest school reputations should be evenly distributed among the Academies, so that especially the Academy with the more traditional vocational electives has some of the acknowledged best academic teachers. Advanced placement courses and other upper level offerings such as Pre-calculus or Chemistry II should also be distributed among all Academies, so each Academy has at least one and an equal number of such advanced courses. In general, the separate Academy choices should be promoted as being equally viable for college-bound students.

Comprehensive Reforms

Are all of the three major components of school reform – organization, instruction, and teacher support – necessary to establish an effective high school for students who have been placed at risk of failure by their poverty status and weak earlier schooling? What compromises in specific reforms – such as an Academy structure for only part of a student's program or a curriculum schedule that does not use extended periods – are "reasonable adaptations" and when do they become "fatal mutations"? What elements of a reform model should be non-negotiable because their absence threatens the overall chances

of effective change? What is the proper balance between a "prescriptive" model (where the core elements are explicitly provided including an organizational blueprint and a specific curriculum of lesson plans and classroom activities) and a "process" model (where emphasis is placed up bringing together the key stakeholders who have been trained with interpersonal skills to work on defining local changes to address a general set of goals, as principles or assumptions about an effective high school)?

For the most troubled high schools, we argue in favor of a strict adherence to implementing a complete comprehensive reform model of the three key components, where each component is established with no compromises that would weaken the self-contained Academy structure, the extended time and extra-help courses within a high standards curriculum, or the continuous support of teachers by expert inclass coaches for instructional innovations. The master schedule must be controlled and monitored to enhance separate Academies and common time for teacher team collaboration. The reform process involving faculty at the school level should be extensive but concentrated on local definitions of the specified key components – such as the titles of Career Academies and course pathways that best suits local concerns – and on elaborating new roles and relationships – such as local initiatives for improving student attendance through teacher team activities and incentives. The reform components can be phased in over a two or three year period, but an early demonstration of extensive changes is very important, such as following a planning year with a Ninth Grade Academy using double-dose and catch-up curriculum to be followed the next year by establishing all the upper-grade Career Academies.

While the case can be made individually for the necessity of organizational, instructional and teacher support reforms, it is also true that the combination of all components in a comprehensive package is essential for most large high-poverty high schools.

Comprehensive reforms are required because the strength of each component is interdependent upon the strength of the others. Curriculum and instruction reforms cannot influence student learning if students are not regularly attending school and taking their schoolwork seriously. Thus, organizational reforms that make the school environment more personally welcoming to students and the school climate more safe and serious about learning will set the stage for improved instruction to be well-received and effective. However, organizational reforms for smaller, more personalized learning environments may improve attendance and course passing, but cannot be expected to raise achievement if the curriculum is poorly suited to students' current level of preparation and instruction does not have the extra time and intensity to help students catch up and succeed at high standards learning goals. Likewise, improved teacher planning and support systems must go hand-in-hand with organizational and instructional reforms to ensure strong commitments and proper implementation steps are made. The teacher ownership of new organizational arrangements with their energy to make them work is only earned by extensive up-front planning processes that allow teacher discussion and input for important features of the Academy and team structures. The success with which teachers actually put in place new classroom learning activities and instructional approaches depends upon the strength of the teacher training and in-class follow-up services they receive. A research-based blueprint for organizational change and instructional innovations is of no use unless

it is well implemented, which depends upon the understanding and buy-in of school faculty and staff that comes from extensive teacher planning and continuing support. On the other hand, opportunities for teacher talk and professional development sessions are unlikely to produce the major changes needed in large high poverty high schools unless they are focused on specific research-based comprehensive reforms of school organization and instruction that have shown the strong potential to turn around troubled schools.

The complete set of comprehensive reforms is also the basis for the sustainability of effective school improvements when school personnel change over the years, including the turnover of the leaders who initially created the reforms. Reforms that mainly concentrate on changing the attitudes and perceptions of teachers and administrators are particularly vulnerable to fade-out effects as new staff arrive who must be indoctrinated into the new vision and policies. It is more likely specific organizational and instructional reforms will survive personnel changes and become institutionalized because they are imbedded in the formal arrangements of building space, master schedule, governance structures and classroom curriculum materials that require conscious action to replace. Moreover, the decentralization of authority under the Academy structure and the existence of local curriculum coaches creates a large enough cadre of committed reform leaders in key positions that is unlikely to turnover in a single year or two. Finally, institutionalization of a reform model at a high school will largely depend upon the early successes – new authorities at a school are unlikely to overturn things that are working and favored by the existing staff – and the strongest positive impacts on school climate and student outcomes should come from a comprehensive reform package.

This is not to say that any comprehensive reform model is safe from unwise personnel assignments or does not need a continuing process to sustain itself. The high school Principal is a power position that can make all the difference in whether a particular set of comprehensive reforms is implemented at first or sustained after the succession of personnel. This means that initial reform efforts should be guaranteed at least three years of leadership by the same Principal committed to its implementation and that replacement leaders should have the time to learn the reform model beforehand and to understand its interconnections. The recruitment and selection of the correct types of staff to fill key roles of Ninth Grade Academy Principal and team leaders and school scheduler have also proven to be make-or-break decisions for creating or sustaining effective comprehensive reforms. Ninth grade leaders need to be able to work well with early adolescents by balancing firmness with caring and to support the team approach among faculty. The schedule needs to be technically adept at creating self-contained small learning communities within the school with common planning time and to have the proper judgment to incorporate allowances for advanced placement and school-wide activities.

The dropout problem is of such alarming proportions in many large high-poverty high schools, that powerful comprehensive reforms are required to realistically produce significant improvements. Trying harder at the same traditional practices within the existing organizational structures of high schools will rarely make permanent inroads on the problem even with the introduction of unusual leadership personalities and energy. A strong cause for optimism is the growing evidence that a comprehensive set of specific organizational, instructional and teacher support changes when well implemented can save most of the current dropouts and help each student to value and enjoy high school and to

succeed at a high standards program of studies. These essential reform components of organizational, instructional and teacher support changes should be widely understood and the resources and time should be provided for the challenging job of implementing and sustaining them in as many high schools as possible.

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