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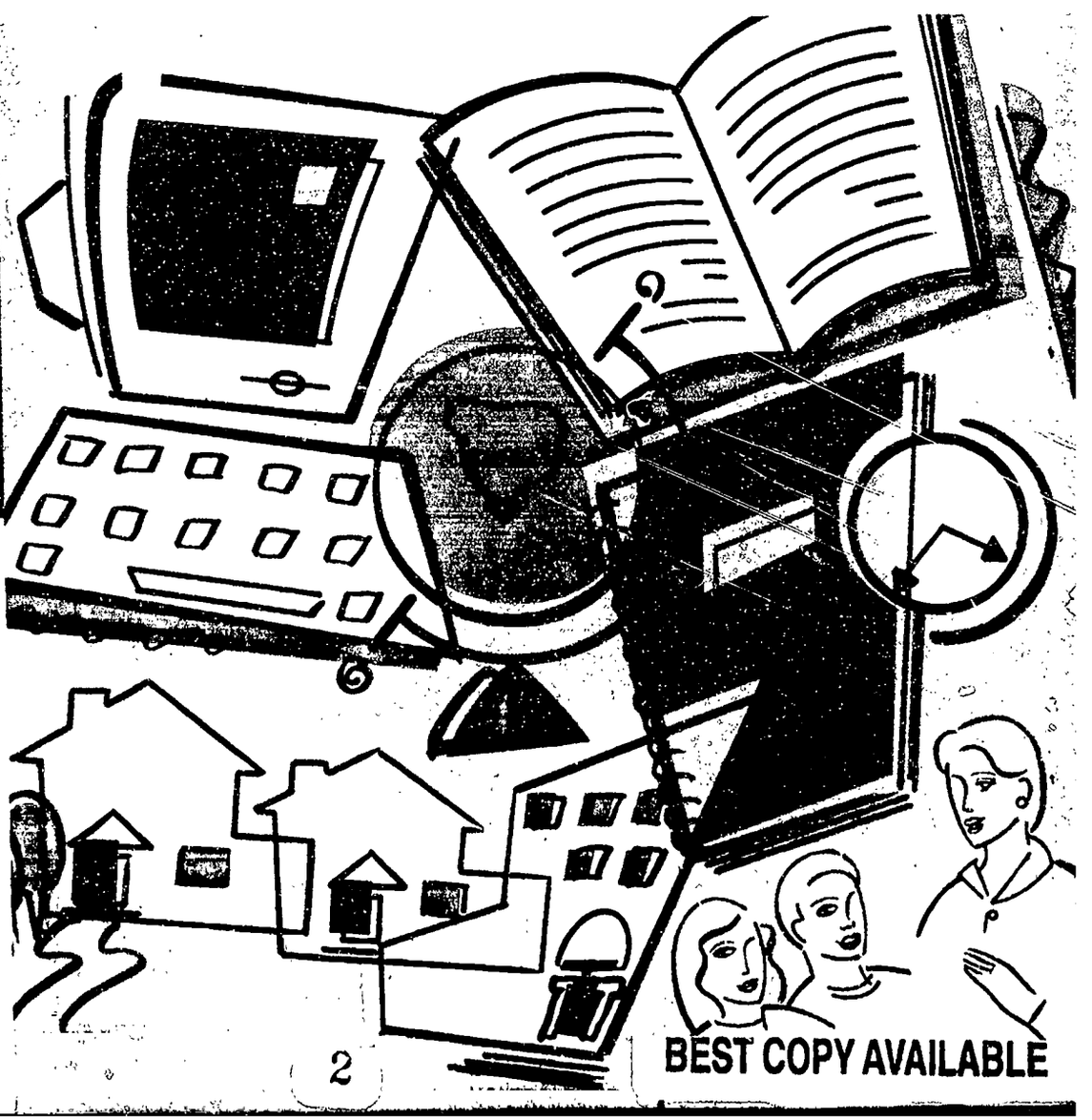
ABSTRACT

New provisions in Title I, the federal government's largest elementary and secondary school program, encourage greater use of funds in high-poverty secondary schools. This handbook is the first of a two-volume series designed to support the implementation of the new Title I legislation. The volume describes an array of promising practices and principles for reform supported by current research in five interconnected program areas. It suggests ways in which Title I can be used effectively at the high-school level to achieve better results for disadvantaged students. The programs incorporate the following principles: (1) strengthening and enriching the secondary school curriculum; (2) adapting organizations to increase learning; (3) linking schooling to the future; (4) creating networks of support for students; and (5) providing resources for improvement. (Contains 107 references.) (LMI)

U.S.
DEPARTMENT
OF
EDUCATION

Raising the Educational Achievement of Secondary School Students

VOLUME 1 SUMMARY OF PROMISING PRACTICES



AN IDEA BOOK

Raising the Educational Achievement of Secondary School Students:

An Idea Book

VOLUME 1 SUMMARY OF PROMISING PRACTICES

Prepared for the U.S. Department of Education
by Policy Studies Associates
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UNITED STATES DEPARTMENT OF EDUCATION

THE SECRETARY

August 10, 1995

Dear Fellow Educators:

New provisions in Title I, the federal government's largest elementary and secondary school program, encourage greater use of funds in high-poverty secondary schools. This idea book suggests ways Title I can be used effectively at the high school level to achieve better results for disadvantaged students.

Raising the Academic Achievement of Secondary School Students: An Idea Book, one in a series the Department will issue, presents a mix of research-based ideas and promising approaches to assist secondary school educators in addressing the challenges facing them and in taking advantage of current opportunities. It profiles schools that are achieving better results with high school students, describing the strategies and supports they are using. It is intended to serve as a resource for practitioners, policymakers and parents to use the new opportunities of improved federal education programs in conjunction with local and state reforms.

We encourage you to draw on the guidance in this idea book and the successes of the profiled schools to improve your schools, to help all children learn more, and to work hard toward higher standards.

Yours sincerely,

Dick Riley

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We extend special appreciation to the teachers, principals, other staff members, and friends of the schools profiled in both volumes of this idea book, who gave so generously of their time to help us compile detailed and accurate accounts of their programs. Without their willingness to teach us about their schools, and their patience as we returned with additional questions, this idea book would not have been possible. Although we were unable to include profiles of all the schools that we contacted as we developed this idea book, all the teachers and principals whom we interviewed contributed to our understanding of the possibilities for improving schools for the most disadvantaged secondary school students.

These volumes were reviewed by a group of practitioners and policymakers who offered valuable feedback and suggestions for revisions: Cozette Buckney of Jones Metropolitan High School in Chicago, Gwendolyn Cooke of the National Association of Secondary School Principals, George Jeffers of New Mexico State University, and Jerome Winegar of the Boston Public Schools. We appreciate their careful reading of these volumes and thoughtful suggestions.

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Contents

Executive Summary

Secondary schools in the 1990s face unprecedented challenges: they must prepare students for a rapidly changing workplace, train students to be effective purveyors of information, and help students become productive citizens. The national education goals call for schools to raise graduation rates and help students attain world class standards. Achieving those goals will require that every school provides stimulating, substantively rigorous opportunities for all students to learn.

Several new federal initiatives are designed to spur efforts at comprehensive school reform and help secondary schools meet the challenge of enabling all students to attain higher standards. Title I of the newly reauthorized Elementary and Secondary Education Act (ESEA), in particular, aims to improve the teaching and learning of youth in high-poverty schools. Rather than adding on to or replacing small parts of a secondary school student's day, as Chapter 1 services typically did, Title I will serve as a resource for the restructuring of a school's regular program. Four principles, embodied in the legislation, will characterize new Title I programs:

- High academic standards with components of education aligned so that everything is working together to help children reach those standards.
- A focus on teaching and learning.
- Flexibility to stimulate local initiative coupled with responsibility for student performance.
- Links among schools, parents, and communities.

Two other federal initiatives -- the Goals 2000: Educate America Act and the School-to-Work Opportunities Act -- complement and reinforce Title I at the secondary level.

Middle schools and high schools that are successful in improving the academic performance of their students have a number of features in common. They offer students access to challenging, high-quality curriculum and instruction, and they have adopted new organizational arrangements that support improved learning opportunities. They link school work to future opportunities, and they actively address the needs of the whole student, creating networks of support that allow students to succeed. Finally, they use many resources to energize and sustain their work, chief among them the enhanced professional skills of their faculty.

This idea book is one in a series designed to support the implementation of the new Title I legislation. This volume presents research-based ideas and promising practices for schools searching for ways to increase students' chances of academic success. A companion volume contains profiles of successful secondary schools that illustrate how they have put principles of good practice to work.

STRENGTHENING AND ENRICHING THE SECONDARY SCHOOL CURRICULUM

Successful secondary schools engage students in work that is challenging and worthwhile and ensure that all students, including low achievers, have access to high-quality, academically rigorous subject matter.

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Engaging Students in Authentic Work

Students are more likely to engage in academic work when they perceive that it is significant, valuable, and worthy of their effort. Secondary schools demonstrating success with students at risk of school failure have engaged students in lessons that make sense to them and show them the connections between what they learn in school and what they experience in their lives outside of school. These lessons start with what children know and expose them to applications of higher-order thinking traditionally offered only to advanced learners.

Restructuring Curriculum

For schools featured in the companion volume to this idea book, creating a curriculum that is challenging and engaging for all students has involved four kinds of innovation:

- **Substantive depth in curriculum.** Sustained study of a few central themes can give rise to richer, more complex under-

standing than the outcomes produced by study that is thinly scattered over a wide array of topics and skills.

- **Interdisciplinary learning.** Increasing depth often requires an interdisciplinary approach; integrated curriculum often complements reforms that aim to provide students with deeper understanding of complex ideas and related information.

- **Internships, community service, and service learning.** Internships, paid employment, and community service, combined with classes that allow students to reflect on and learn from their experiences, offer the foundation of authentic learning experiences that nurture students' academic and social competence while producing work of value to the community.

- **Integration of academic and occupational focus.** Programs organized around a particular academic or career focus create a learning environment that capitalizes on the common goals and interests of students.

Increasing All Students' Access to Challenging Curriculum

The original rationale for tracking and other forms of ability grouping held that such practices benefitted high and low achievers by enabling teachers to tailor instruction to their special needs. However, current research indicates that low-track students perform poorly in school in part because they receive less extensive and effective instruction overall. Among the approaches schools have used to increase access to challenging curricula for all students are:

- **Replacing traditional tracks with heterogeneous grouping** and employing new instructional strategies to ensure all students' success. When properly implemented, cooperative learning, for example, stimulates individual achievement and student integration by ability level.

- **Integrating academic and vocational education.** Students in vocational programs can master essential college preparatory content if they are encouraged to take high-level courses in a program of study planned around their vocational interests.

- **Promoting students' success in challenging coursework.** Detracking schools can adopt effective programs that prepare students to succeed in courses such as eighth-grade algebra and ninth-grade geometry—the gateways to advanced work that is the prerequisite for career development.

ADAPTING ORGANIZATIONS TO INCREASE LEARNING

To support innovations in teaching and learning, successful secondary schools develop new organizational arrangements, as needed. Two approaches are particularly rewarding: creating communities of learners on a manageable scale, and restructuring uses of time.

Creating Communities for Learners

Successful secondary schools create communities of students and teachers where learning is supported and valued. They often organize into small sub-units, sometimes based on a single academic or occupational focus:

- **Smaller school size.** A growing body of research on the effects of school size supports arguments for downsizing (Howley, 1989). Keeping learning communities small allows teachers to develop individualized learning plans for students who need them; students and teachers get to know and understand each other better.

- **Schools-within-schools** address the impersonal nature of comprehensive high schools by creating a home for students and teachers who share an interest or career orientation. Teachers in these smaller units find it easier to collaborate over common learning goals and behavioral expectations; similarly, students see themselves as part of a learning community with clearly defined goals and expectations.

Successful secondary schools create communities of students and teachers where learning is supported and valued. They often organize into small sub-units, sometimes based on a single academic or occupational focus.

- **Clusters, houses, and teams** provide another way to divide teachers and students into more manageable groups. Usually, two to five teachers assume primary responsibility for a proportionate number of students. Because they control scheduling, they can arrange special learning opportunities extending beyond the traditional class period, regroup students for special projects, offer interdisciplinary units and courses, and make other adjustments to accommodate team needs.

- **The role of choice.** Seasoned observers of successful secondary schools report that allowing students some freedom in choosing their school community may lead to greater commitment and deeper engagement in learning.

Using Time Flexibly

Besides reorganizing work groups, successful secondary schools use scheduling systems that permit adjusting of time allocations to

accommodate diverse learning experiences. A common approach to reconceiving the use of time is block scheduling, in which teachers can create daily class periods that last from an hour to 90 minutes or more. The extended period frees up time for complex projects, and teaching longer and fewer periods can reduce the number of students that teachers see in a day.

In addition to dividing up the school day differently, a number of restructuring schools have loosened the boundaries of the traditional school day or year to accommodate alternative learning experiences. In a more flexible school week, high school students can combine their program of regular classes with internships or courses at local community colleges or universities; other schools add evening classes and summer sessions to expand learning opportunities for students.

LINKING SCHOOLING TO THE FUTURE

To function as informed and productive citizens, students should graduate from secondary school as skilled learners, able to continue their education in college, technical school, or work-based programs and acquire the skills they need to achieve their adult goals. As they develop into competent adults, students must become lifelong learners, able to pursue their learning goals beyond their formal training.

To function as informed and productive citizens, students should graduate from secondary school as skilled learners, able to continue their education in college, technical school, or work-based programs and acquire the skills they need to achieve their adult goals.

School-to-Work Programs

Several school-to-work program models have proven successful in recent years:

- **Tech prep** programs connect the last two years of high school with two years of postsecondary education. Academic experience is often coupled with opportunities for work experience, although students receive most of their training in the classroom.

- **Youth apprenticeship** programs emphasize employer-provided training. During their work experience, participants are paid for their work and monitored by a skilled professional at the job site.

- **Career academies** use a school-within-a-school model and focus on a specific career field, such as health or finance, that presents good employment opportunities in the local market.

Academies offer curricula that integrate career topics with applied, hands-on activities and rigorous academic courses, supplemented with training at the workplace.

For the successful schools profiled in the companion volume to this idea book, exposing students to careers and postsecondary education options is an important part of their mission. Among their career awareness activities are field trips to workplaces, job shadowing programs, and career days.

College Prep Programs and Support to Attend College

Successful secondary schools expand students' visions, encouraging them to continue their formal schooling beyond the twelfth grade. Schools that are successful in helping their students continue with further education provide support by coaching them through the application process, guiding their search for financial aid, and, in other ways, making postsecondary education a viable option.

CREATING NETWORKS OF SUPPORT FOR STUDENTS

Networks of support that address students' academic and personal needs can enable at-risk secondary students to persist and succeed in school. For at-risk students in particular, schools must take an active role in responding to personal, emotional, and basic survival needs that frequently go unmet in traditional school environments.

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School Membership

A sense of school membership is an important prerequisite for student success. Co-curricular activities such as student government, academic or special interest clubs, theater and music groups, and intramural sports teams have traditionally enhanced students' sense of school membership by providing them with additional avenues in which to succeed and find a "niche" in the life of the school. Fostering a strong sense of school membership for students who feel disconnected also requires an expanded role for teachers, as they seek to meet students' social and personal, and academic needs. Besides encouraging student participation in co-curricular activities, schools may attempt to develop a sense of school membership through:

- Peer tutoring and mentoring activities that can stimulate students' commitment to school by linking them with other members of the school community. Recognizing that they can

offer something of value can be an important source of motivation for students.

- **Adult mentoring** programs that provide an opportunity for students to form a close relationship with an adult connected with the school.

Student Advising

Although guidance counselors traditionally serve as students' primary advisors, their ability to provide the support that at-risk students need is often limited by overwhelming caseloads. Most schools profiled in the companion volume to this idea book have taken steps to ensure that students have sustained contact with adults who serve as advisors. Small-group advisories, homerooms, or other arrangements enable teachers or other staff to actively provide guidance and monitor the academic and social development of students.

Safe and Disciplined Schools

In a school setting, harmonious interaction between students and teachers requires substantial agreement about the expected norms of behavior. All students must know their obligations and be supported in meeting them. In safe and disciplined schools, students develop self-management skills through classroom routines and school practices that encourage them to contribute positively to the learning of others. One way they can learn appropriate behavior is from adult modeling and coaching. Disciplined schools also take steps to strengthen school safety measures.

Creating Partnerships with Families

Parents and other family members are crucial links in the network of support that students need to succeed in school. Parents and other family members influence their children's academic and social development by supervising how they spend their time outside of school; fostering the development of their children's confidence and motivation to become successful learners; and influencing the work of schools through their participation in governance, advisory, and advocacy groups.

Although research indicates that students of all ages do better in schools where parents and other family members are involved, there are few empirical data that show which strategies for fostering partnerships with families work best at the secondary school level. It appears that the same principles that govern successful elementary school parent involvement programs hold true for middle schools and high schools as well. Schools must view parent involvement as

a process rather than a series of isolated events; communication between the school and families should be ongoing and two-way; and there must be commitment on the part of leadership coupled with provisions for on-going assessment of parent involvement efforts to inform future planning.

Developing Comprehensive Support Systems

A school-based program that incorporates social, economic, and health services—usually provided by agencies other than the school itself—can help reduce dropout rates, improve student achievement, and promote long-term self-sufficiency. Among the services having the potential to increase the capacity of students to fare better in school are child care, health care, transportation to and from school and work, family support services, and substance abuse treatment.

RESOURCES FOR IMPROVEMENT

Secondary schools with well-deserved reputations for effectiveness use many resources to nurture and sustain their growth. Among the most important of these resources is school faculty.

Staff Development

Adopting the innovations that contributed to their effectiveness led many of the schools in the companion volume to this idea book to engage in more extensive, long-term professional development efforts than they had previously undertaken. Successful staff development programs include the following components:

- **New methods and materials.** Professional development activities must cultivate teachers' willingness to replace the familiar with new methods and their competence to do so.

- **Peer collaboration.** Many new approaches to teaching described here—interdisciplinary courses, schools-within-schools, etc.—require extensive collaboration among peers. Professional development activities should help faculties develop new norms that nurture useful collective efforts.

- **Principles of reform.** To support the critical thinking and explorations demanded by new curriculum and instructional programs, professional development activities must cultivate participants' deep knowledge of subject matter and their understanding of key principles of action.

- **Sharing responsibility and authority.** Teachers testify to the importance of establishing a professional climate that accepts occasional floundering as the natural consequence of trying out promising new approaches. They discovered that, over time, thoughtful experimentation and reflection generate a culture that assumes continuous professional growth.

Other Resources

When teachers are involved in setting goals, designing reforms, brainstorming options, and making implementation decisions, changes are more likely to result in long-term improvements.

Successful projects typically engage teachers in decisionmaking and problem-solving early and often, and this engagement contributes to the staff commitment that real change requires. Active engagement in planning and time to reflect on their experiences as they unfold permit faculties to adjust courses thoughtfully and make appropriate haste. Finally, change requires extra resources—for training, released time, new materials and equipment, and time for coordination and management.

The resources available to schools—faculty expertise, time, and money—are crucial in enabling schools to engage students in the business of learning, set high standards for student success, and provide the support students need to succeed.

Successful projects typically engage teachers in decisionmaking and problem-solving early and often, and this engagement contributes to the staff commitment that real change requires.

Introduction

Secondary schools in the 1990s face unprecedented challenges. They must prepare students for a rapidly changing workplace where workers can expect to change jobs and develop new sets of skills four or five times over the course of their careers. Schools must train students to be effective processors of information in a world that generates new information at an astronomical rate, lifelong learners who analyze, reason, and communicate their ideas effectively. Schools must also help all students become effective citizens in a rapidly changing and increasingly complex democratic society.

Achieving national and state goals will require that all schools provide stimulating, substantively rigorous opportunities for all students to learn.

At the same time that the mission of schooling has become more complex, the students whom schools serve are more diverse than ever before. For example, the number of students in grades K-12 with limited English proficiency has increased more than 20 percent in ten years, so that now more than 40 percent of the school districts in the nation enroll limited English proficient students. Demographic projections suggest the increase will continue. New laws ensure that students formerly excluded from mainstream school settings now attend school with other children their age. Furthermore, research has added to our understanding of the variety of students' intelligences, experiences, and learning styles, which are all key to the learning process. Schools are struggling to respond to these new developments.

Expectations for schooling have also grown. A series of reports in the 1980s galvanized public opinion around demands for increased performance from schools. The National Education Goals call for 90 percent of all students to graduate from high school by the year 2000, a significant increase from the current rate of approximately 75 percent. Schools are expected to meet "world class standards," create model citizens, and meet calls for increased public accountability. An emphasis on higher standards is the cornerstone of several new federal initiatives, as well as the centerpiece of reform in many states. Among the most serious concerns is equity. It is not acceptable for only an elite few with high educational ambitions to benefit from the new knowledge for achieving these goals. Achieving national and state goals will require that all schools provide stimulating, substantively rigorous opportunities for all students to learn.

RESTRUCTURING SECONDARY SCHOOLS

If all students are to meet higher standards of achievement, and schools are to be successful in preparing students to participate in the workforce and contribute to their communities, schools must develop new models for ensuring the success of those students most at risk of failure. The problems that interfere with school success are often complex. For example, students who end up dropping out of school may experience the compounded impact of growing up poor, living in a neighborhood where violence is commonplace, balancing time for schoolwork with the demands of caring for younger siblings, and lacking the skills to escape from a limiting track of remedial classes. These young people have a range of

needs, and equipping any school to cope with those needs requires that teachers, administrators, and policy makers recognize the multiplicity of causes that put students at risk. Discrete, self-contained solutions will not be enough. If the problem is complex, so must be the solutions.

Secondary schools planning to restructure their programs to better meet the needs of at-risk youth should consider a range of arenas for change. First, schools must find ways to introduce an accelerated and enriched curriculum that will provide the neediest students with the learning experiences that will enable them to reach higher standards. A challenging curriculum engages students in schooling by drawing clear connections between learning and the world beyond school. Often schools make these connections explicit through school-to-work or career and college awareness programs. In addition, schools must find ways to make challenging and high-quality teaching and curriculum available to all students, including those traditionally relegated to remedial or low track classes. Second, creating new opportunities for learning typically requires that schools reorganize, creating smaller, more flexible communities of learning and finding ways to extend the school day or year. Finally, schools must find ways to create a network of support that ensures each student's success. This network might include peer tutoring and mentoring programs, adult-student mentoring, more effective student advising, improved partnerships with families, and comprehensive support systems that include health and other social services.

Successful efforts to raise the educational achievement of at-risk secondary school students touch all facets of school life. Ted Sizer, whose critique of traditional secondary schools led to the development of the Coalition of Essential Schools, summed it up this way (1991, p. 31): "In a school, everything of importance touches everything else of importance. Change one consequential aspect of that school and all others will be affected. . . . Reform-by-addition, a tactic possible in earlier decades, is no longer an option. We are stuck with a school reform game in which any change affects all, where everyone must change if anything is to change."

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OPPORTUNITIES CREATED BY NEW FEDERAL POLICIES

Several new federal initiatives are designed to spur efforts at comprehensive school reform and help secondary schools meet the challenge of enabling all students to attain higher standards. Title I of the newly reauthorized Elementary and Secondary Education Act (ESEA), in particular, aims to improve the teaching and learning of youth in high-poverty schools to enable them to meet challenging academic content and performance standards. To achieve this goal, the new Title I gives schools increased flexibility to decide for themselves how to spend their Title I resources. Four principles, embodied in the legislation, will characterize new Title I programs:

- **High academic standards with components of education aligned so that everything is working together to help children reach those standards.** State Title I plans will describe high-quality content standards specifying what children must know and be able to do, ambitious performance standards that children are expected to attain, and a set of high-quality assessments aligned with the standards. Under Title I, every aspect of the education system—curriculum and instruction, professional development, school leadership, accountability, and school improvement—will be working together to ensure that all children served by Title I attain challenging standards.

- **A focus on teaching and learning.** Schools will use Title I funds to increase the amount and quality of learning time, help provide an enriched and accelerated curriculum for all children, and enact a comprehensive plan to help students meet the state's high performance standards. Professional development will be a central component of each Title I school. Title I will play a key role in ensuring that teachers, administrators, and other school staff receive the professional development they need to improve the quality of instruction so as to enable children to meet the state's challenging standards. These efforts will be tied to professional development efforts under Title II of the ESEA.

  Title I will also ensure that the highest-poverty middle and high schools (those with poverty rates over 75 percent) receive Title I funds. Based on proven methods for raising achievement, Title I programs in secondary schools must provide an accelerated, high-quality curriculum and such additional services as counseling, mentoring, college and career awareness and preparation, occupational information, enhancement of

employability and occupational skills, and services to prepare students for the transition from school to a career.

- **Flexibility to stimulate local initiative coupled with responsibility for student performance.** The new Title I brings decisions down to the school level so that schools, in consultation with their districts, can determine uses of funds in ways that best meet the needs of their students. Waiver provisions under ESEA provide schools, districts, and states with further flexibility.

- **Links among schools, parents, and communities.** The new Title I focuses on increasing parent involvement and strengthening Title I school-community connections to better meet children's needs by fostering integration of Title I with other educational programs and health and social service programs. Title I allows schools to work with the community to provide health, nutrition, and other social services that are not otherwise available to the children being served.

A recent study of Title I's predecessor, Chapter 1, in secondary schools found that Chapter 1 generally played only a marginal role in shaping overall school reform efforts. Chapter 1 was not a major part of the academic experience of the students who received program services, and Chapter 1 classes were not well-integrated into other parts of the secondary school curriculum (Zeldin, Rubenstein, Bogart, Tashjian, & McCollum, 1991). The new Title I program is designed to operate in secondary schools in a different way. Rather than adding on to or replacing small parts of a secondary school student's day, as Chapter 1 services in secondary schools typically did, the new Title I legislation encourages schools to integrate Title I services more closely into their regular program.

Rather than adding on to or replacing small parts of a secondary school student's day, as Chapter 1 services in secondary schools typically did, the new Title I legislation encourages schools to integrate Title I services more closely into their regular program.

One way that Title I will serve as a resource for whole school restructuring is by enabling many more Title I schools to develop schoolwide programs. Beginning in 1995-96, the minimum poverty level at which a school can become a schoolwide program will drop from 75 percent to 60 percent; the threshold will drop to 50 percent in subsequent years. Schoolwide programs will be able to combine Title I with other federal, state, and local funds to serve all students in the school. By allowing schools to integrate their programs, strategies and resources, Title I can support comprehensive reform of the entire instructional program provided to children in these schools. A one-year planning period and increased technical assistance through school support teams and other mechanisms will further support high-quality reform in schoolwide programs.

Two other federal initiatives—the Goals 2000: Educate America Act and the School-to-Work Opportunities Act—complement and reinforce Title I at the secondary level:

The Goals 2000: Educate America Act, signed into law in May 1994, is providing many states with funds to develop comprehensive school reform plans that reflect community consensus on important educational outcomes. It will also eventually lead to development of voluntary state curriculum standards. Local districts, funded by the states through Goals 2000 subgrants, will participate in developing districtwide education improvement plans aimed at enabling all students to meet state content and performance standards.

The School-to-Work Opportunities Act, administered by the Departments of Education and Labor, aims to create a comprehensive and coherent system to help youth acquire the knowledge and skills necessary to make a smooth transition from high school to career-oriented work or further education. Under the new act, annual competitions will be held for grants to fund development and implementation of statewide school-to-work systems. Grants will support the integration of school-based and work-based learning and linking activities. Students successfully completing a school-to-work program will attain a high school diploma, a skill certificate, and preparation for either a first job on a career track or admission to college.

With Title I of the ESEA, these initiatives are designed to enable all secondary school students to reach the high expectations set for them and to enter adult life after graduation prepared to succeed in the workplace and contribute to their communities as active citizens.

ATTRIBUTES OF SUCCESSFUL SECONDARY SCHOOLS

Secondary schools that have proven successful at raising the educational achievement of all their students employ a number of strategies in common; this volume describes those features that research has shown hold promise for raising the academic achievement of secondary school students. Common strategies employed by successful secondary schools correlate closely with the driving principles of the new Title I legislation, and schools interested in implementing some or all of them will find Title I to be a valuable reso .rce:

First, successful secondary schools offer students access to challenging, high-quality curriculum and instruction. In some schools, this means revising existing courses—perhaps the whole curriculum—to provide more opportunities for critical thinking and inquiry-based learning. Providing these kinds of learning experiences are necessary if students are to meet the higher standards called for in Title I. In many schools, this means abolishing a tracking system that has become a method of relegating some students permanently to greatly restricted educational experiences.

Second, they adopt new organizational arrangements that create communities of learners, in which students and teachers know and trust each other. Successful schools use models such as schools-within-schools and teams or houses to bring group size down to a socially manageable level. They rearrange schedules to give students more time to work on extended projects and teachers more time to collaborate. They extend the school day and the school year to accommodate their new approaches to learning. These new organizational arrangements support new teaching arrangements that make the introduction of an enriched, accelerated curriculum possible.

Third, they link school work to future opportunities. Some schools integrate vocational and academic programs around a particular occupational focus. Other schools link secondary and postsecondary education in unique ways; for instance, by allowing high school students to take college courses for dual credit or by facilitating the transition to college. Successful schools help students see where their academic success can take them. Schools will find new opportunities to pursue work-based learning for students through the School-to-Work Opportunities Act; career and college awareness is also an important focus of Title I in secondary schools.

Fourth, they take an active role as student advocates, coordinating and focusing their own diverse services and drawing in the work of other agencies whose missions target student welfare. Their own school-based efforts respond to the diversity of students' real needs, and they encourage the collaboration of other service providers. This work coordinating services and linking schools to the community can also be supported with Title I funding. Keeping the educational program at the center of their attention, successful secondary schools do what they can to nurture the whole student.

Finally, they use many resources to energize and sustain their work, chief among them their teachers. They commit resources to enhancing teachers' ability to identify and solve educational and

organizational problems. They give teachers authority, through school-based management teams and other shared decision-making venues, to shape the environment in which they teach and work. They plan carefully, expecting that some risks might result in failure, but recognizing that thoughtful consideration will usually lead to better practices. Professional development efforts supported by Title I will enable many schools to invest in the development of their teachers, and the emphasis on planning and school-level decision-making in Title I grants teachers the authority to restructure their schools.

IMPLEMENTATION

This idea book is one in a series designed to support the implementation of the new Title I legislation. This volume describes an array of promising practices and principles for reform supported by current research in five interconnected program areas. It describes the possibilities open to schools searching for ways to improve students' chances of success. A companion volume provides profiles of a baker's dozen secondary schools, illustrating how they have put principles of good practice to work and improved academic outcomes for their at-risk students. These profiles provide a look at how the reforms and innovations described here appear in practice.

The process of school restructuring is complex, time-consuming, and often costly. Having a good idea is often not enough. Implementing the idea, and seeing it succeed in a school with its own particular needs and circumstances, often proves to be the true challenge.

The process of school restructuring is complex, time-consuming, and often costly. Change requires careful planning; even so, the best planned efforts are frequently subject to failure or redirection. Having a good idea is often not enough. Implementing the idea, and seeing it succeed in a school with its own particular needs and circumstances, often proves to be the true challenge.

In this idea book, we attempted to present as comprehensive a range of innovations and reforms in secondary schools as possible. The variety of ideas presented—from detracking to extended time to peer tutoring, for example—made it difficult to spell out in detail how schools might grapple with the problems associated with implementing each type of reform. In chapter five, we argue that schools must have the adequate resources to support implementation efforts, including professional development for teachers, time, freedom for teachers and other school leaders to experiment and learn, support from district administrators, and access to outside expertise. The specific challenges of implementing any idea will depend on the needs and circumstances of each school, the plans it is attempting to implement, and the resources available to it.

Recognizing the challenges presented by the implementation of any new idea, the need for each school to plan change in response to its own students' needs, and the need for adequate resources to make new ideas work, we turn now to a discussion of what promising practices look like in schools that have implemented them successfully.

Strengthening and Enriching the Secondary School Curriculum

Curriculum and instruction make significant contributions to academic success for disadvantaged students, just as they do for other students. Secondary schools with solid records of student achievement engage students in work that is challenging and worthwhile, that builds on students' prior experiences and knowledge, and that demonstrates the connections between school work and the world outside. Teachers in these schools use approaches that involve students as producers of knowledge, rather than as passive recipients. Community service, service learning, and students' own interests play important roles in shaping curriculum. Finally, organizational arrangements ensure that all students, including low achievers, have access to high-quality, academically rigorous subject matter.

ENGAGING STUDENTS IN AUTHENTIC WORK

Students are more likely to be engaged in learning when they perceive that their school work is significant, valuable, and worthy of their efforts. When students are truly engaged in academic work, they apply the concentration, effort, and thoughtfulness needed to master knowledge and skills in the major disciplines. Students who are engaged in school work invest themselves in learning to improve their competence, not just for the sake of completing assignments or earning good grades.

Successful secondary schools such as those featured in the companion volume to this idea book emphasize authenticity in learning activities. Students have the opportunity to ask questions and study topics they think are important, and they are allowed to influence the pace and direction of their own learning. Teachers frame tasks to have some connection to the world beyond the classroom, making them more than academic exercises. Although these schools hold themselves accountable to conventional curriculum standards, such as those mandated by the state or district, they take very seriously the goal of preparing students to apply knowledge and skills in real-life situations. Their repertoires of authentic tasks include both the familiar and the innovative:

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- Writing a persuasive letter to a friend or a newspaper to develop facility in using appropriate organization, language, and style
- Studying blood chemistry in a laboratory under the direction of doctors from a local hospital to learn biology and laboratory skills
- Remodeling a house to learn and use mathematics, carpentry, and human relation skills
- Developing a computer program that will generate a mailing list for a community organization to build technical and verbal skills

Authentic work has features associated with adult work, but not usually with the work students do in school: It allows for collaboration with peers and teachers and for the flexible use of time.

Studying the features of successful secondary schools led Newmann and Wehlage (1993) to identify five qualities that characterize effective and authentic instruction:

- **Higher-order thinking.** Students combine facts and ideas in order to synthesize, generalize, explain, hypothesize, or arrive at some conclusion or interpretation. Authentic instruction introduces an element of uncertainty; outcomes are not always predictable.

- **Depth of knowledge.** Lessons raise the central, defining ideas of a discipline. Students are asked to make clear distinctions, develop arguments, solve problems, and construct explanations. A relatively small number of topics may be addressed, but they will be treated in systematic and connected ways.

- **Connectedness to the world beyond the classroom.** Students address real public problems or use personal experiences as a context for applying knowledge.

- **Substantive conversation.** Student discussion involves sharing ideas and exchanges that are not scripted or controlled. The dialogue builds coherently on participants' ideas to promote improved collective understanding of a theme or topic.

- **Social support for student achievement.** The classroom's social climate nurtures intellectual risk-taking, hard work on challenging content, the assumption that all students can learn, and mutual respect among all members of the class.

Academically challenging programs can stimulate learning among all students, including those at risk of academic failure. Recent research in cognitive psychology, supported by observations in schools, shows that students learn not by passively absorbing information, but by integrating the new ideas they encounter into their existing knowledge and skills. This understanding of the complexity of the learning process suggests that remedial programs based on the notion that students must master basic skills before they can make sense of advanced knowledge underestimate what students are capable of doing. Instead, remedial programs may postpone more challenging and interesting work for too long. Indeed, by depriving students of a meaningful and motivating context for their work, such programs prompt students' lack of engagement in their schoolwork and frequently result in limited achievement.

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Educators are developing new models of intervention that start with what children know and expose them to explicit applications of higher-order thinking traditionally offered only to advanced learners. In a challenging academic curriculum for low achieving students, lessons cede priority to understanding and meaning—for

example, by helping students write ideas that an audience familiar to them would care to know and by reasoning mathematically about issues that involve them. In particular, teaching basic skills and concepts in the context of their normal use, rather than in a stream of isolated drills, gives students a framework for synthesizing new material—and remembering it.

Content standards being developed by the states and national subject matter organizations reflect this shift in conceptions of how students learn and how curriculum ought to be structured. The curriculum standards of the National Council of Teachers of Mathematics, for example, call for increasing emphasis on mathematical reasoning and communications and for balancing emphasis on computational skills with other appropriate concerns. Likewise, California's curriculum frameworks embed basic skill development in complex applications; for example, its English/Language Arts framework places significant works of literature at the core of instruction, providing students with opportunities to use a range of thinking processes while they analyze substantively compelling text.

RESTRUCTURING CURRICULUM

Developing a rigorous and engaging curriculum for all students often involves schools in four kinds of curricular innovation: trading coverage for depth of treatment, developing interdisciplinary courses and lessons, adding community service and service learning components, and weaving together academic and vocational programs.

Sustained study of relatively few central themes in a discipline can give rise to richer, more complex understanding, leading to educational outcomes of broader utility than the outcomes currently produced by study that is thinly scattered over a wide array of topics and skills.

Substantive Depth in the Curriculum

The explosion of knowledge in this information age led initially to ever-expanding ambitions for public schools. Notions of what well-educated students should know and be able to do filled fat scope and sequence volumes for every course at every grade level. The failure of student achievement to mirror this expanded vision has caused many educators to test the hypothesis that "less may be more." Sustained study of relatively few central themes in a discipline can give rise to richer, more complex understanding, leading to educational outcomes of broader utility than the outcomes currently produced by study that is thinly scattered over a wide array of topics and skills. To become active interpreters who reason about the meaning of information, students need to become familiar with relevant details, assemble those details into answers to a variety of questions, and identify the questions that remain for fur-

ther inquiry. They must differentiate, elaborate, qualify, and integrate the knowledge they produce into complex understanding—an effect which in turn nurtures the capacity to learn and to apply learning to new situations. In addition, studying topics in depth may be intrinsically more interesting than racing through expository material to cover a wide variety of unconnected topics.

The Coalition of Essential Schools has been among the most ardent advocates of restructuring curriculum to allow greater depth of inquiry. In planning curriculum, faculties in the Coalition of Essential Schools identify "essential questions" that guide deep, inquiry-based learning in their classrooms. Essential questions are broad, substantively important, and open-ended. For example, one Coalition school has integrated its junior-level literature and history courses into an interdisciplinary offering entitled "The U.S. Is Us." Students and teachers explore answers to one overarching question: "How do we become productive citizens in this dynamic society?" Six themes, each with its own central question, shape their work: politics and government, expansionism, immigration, money and business, war and peace, and the American reality. Each theme gives a focus to study of literary works and social and historical events, and each has implicit relevance to the ongoing American experience.

Ted Sizer, founder of the Coalition, describes the role of essential questions this way: "We must think first of intellectual coherence for the students. What are the most important matters with which they should engage? How can these be put forward provocatively to engage their minds and attention?" Essential questions engage attention and underscore the importance of the learning to be undertaken. As they pursue answers to essential questions, students develop skills in research, analysis, and synthesis, constructing their own knowledge. An increasing body of evidence from Coalition schools indicates that probing deeply to learn about a topic of interest in a coherent fashion will lead students to become efficient learners who are critical consumers and thoughtful users of new information.

Interdisciplinary Learning

Many successful secondary schools are discovering that increasing depth in the curriculum requires an interdisciplinary approach. The pursuit of complex, real-world questions encourages students and teachers to use the tools of several disciplines in their inquiry. In addition, by combining the time normally allotted to two or more subject areas, schools create longer class periods that can be

used to pursue interdisciplinary topics in depth. For example, understanding the intellectual, social, and economic developments of a given age in a given place may involve seeing their expression in art, literature, technology, and social structure. The classic lesson in "how a bill becomes a law" may produce both understanding of the democratic process and a disposition to civic engagement for students investigating the many roots of pending legislation—for example, the scientific, economic, social, and political aspects of environmental protection. Interest in a more integrated curriculum has been growing in recent years in pace with reforms aiming to provide students with deeper understanding of complex ideas and related information.

Internships, Community Service, and Service Learning

In their efforts to make schoolwork more authentic, educators in high schools and middle schools are making creative use of community-based learning opportunities. This approach is certainly not a new one. In the 1970s, a series of reports recommended that students spend more of their learning time in the community and less in the classroom. Schools featured in the companion volume to this idea book use internships, paid employment, and community service as the foundation for learning experiences that nurture students' academic and social competence while producing work of value to the community. The extrinsic rewards of this kind of work are immediately apparent to students, and the connections between their learning and the work valued by the community can be developed through special classes and writing assignments designed to allow students to reflect on their experiences.

Since 1972, City-As-School (CAS) High School in New York City has built its coursework around external learning opportunities, joining academic and work experiences in programs that are more appealing to some students than conventional high school programs. Students earn graduation credits by participating in community internships available at nearly 1,000 organizations across the city, including Clairol, Inc., the Queens Museum of Science, the New York Police Department, and the American Committee on Africa. Students work 20 to 32 hours per week at each eight- to nine-week internship; all students also attend a weekly CAS seminar that helps them to debrief and reflect on their experiences. Work-based learning is structured through Learning Experience Activities Packages, which contain a series of content-area goals, specific assignments designed to achieve those goals, and learning outcomes. CAS in-house academic courses and college or university classes complement these learning activities as well. Program

evaluations demonstrate that CAS students have significantly higher attendance rates, lower dropout rates, and earn more credits than similar students at other high schools in New York.

Is experiential learning or service learning as effective as conventional classroom arrangements in developing students' academic competency? Research suggests that community service and other experiential learning programs can and often do have positive effects on the intellectual and social/psychological development of participants. One evaluation of the Experience Based Career Education (EBCE) program sponsored by the National Institute of Education found that EBCE students, who spent as much as 80 percent of a full school year in work settings, scored as well on standardized tests as did comparable full-time students in classrooms. A meta-analysis of 80 external evaluations found that EBCE students gained more than non-EBCE students on tests of academic knowledge (Hamilton, 1986). Student gains in social development and attitude toward school may also justify an investment in experiential learning, at least for some students. One study reports that among the effects of experiential learning programs are a heightened sense of personal and social responsibility, more positive attitudes toward adults and others, more active exploration of careers, enhanced self-esteem, and more complex patterns of thought (Conrad & Hedin, 1991).

Integration of Academic and Occupational Focus

When students can formulate and pursue their own goals for learning, they will be more likely to invest in the learning process. High schools organizing their programs around a particular academic or career focus create an environment where students hold academic interests in common. In addition, teachers can take advantage of applications in the career field to stimulate interest and achievement.

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In its report Second to None, *the California Secondary Schools Task Force recommended that the high school curriculum be reorganized around a foundational academic program in grades 9 and 10 and a specially focused program in grades 11 and 12, combining academic, applied academic, and field experiences. Schools would be organized in clusters in which students would work with their peers and interdisciplinary teams of teachers. In grades 11 and 12, students would chose from several program majors organized on themes built around career fields, such as health, or integrated academic disciplines, such as the humanities. Students would not be tracked by ability; instead, they would select a program based on their own interests and learning styles. These inte-*

grated programs would be designed to meet college entrance requirements, while also providing students with career-related technical and practical skills.

Several schools profiled in the companion volume to this idea book have taken this approach. They offer schools-within-schools or whole-school options focused on various occupational areas. Motivated to persist in academics by their career interest, some students pursuing a vocational program have opted at the last minute to go to college and found themselves fully prepared academically because of effectively integrated programs. Others have found entry-level jobs or apprenticeships and gone directly to work, and some in the college-bound cohort develop skills they can apply in part-time work while they pursue their college degrees.

Often high schools that are working to integrate academic and occupational studies profit from partnerships with local community colleges and other two-year institutions of higher education. Many students can benefit from enrolling at these schools while they are still in high school. Community colleges and other two-year institutions offer a range of courses that allow students to pursue their career interests in greater depth and provide them with the college level preparation valued by employers. Because of the open enrollment policy of many community colleges and their general commitment to working with students who are often overlooked by other colleges and universities, these schools are naturally suited to supplementing the work of high schools serving at-risk students.

At the middle school level, students are just learning how to make responsible choices as young adults; they are generally too young to commit to a particular occupational or academic focus. However, they are interested in learning about choices and eager to explore possibilities. Some middle school programs organize curriculum around students' potential career interests and organize programs to allow students to explore options.

INCREASING ALL STUDENTS' ACCESS TO CHALLENGING CURRICULUM

Throughout the twentieth century, as secondary schools have grown larger and offered more and more specialized curricula, the practice of tracking—dividing students by ability level into separate classes for some or all subjects—has become nearly universal.

Schools sought to achieve greater efficiency by making classes as academically homogeneous as possible; it was argued that students who achieved at the same level could work at the same pace, proceeding rapidly and uniformly through the material to be covered under the teacher's supervision. Higher-ability students would not be held up by students who were slower, and lower-ability students could receive specialized instruction that would allow them to catch up with their peers later on.

Of all the school practices shaping students' experience with the curriculum, perhaps none has been critiqued as severely as tracking. Intended to make teaching simpler and learning more efficient, tracking as it is usually practiced has had negative impacts on the school opportunities and outcomes of many students. In general, researchers have found that students assigned to general or vocational tracks are exposed to less demanding academic curricula than students assigned to college preparatory tracks. In the lower tracks, students participate in lessons that are more often basic skills-oriented, segmented, and simplified; these learning opportunities seldom elicit the kinds of critical thinking and sustained engagement demanded by more complex academic work. Furthermore, in the lower tracks, teachers tend to manage their classrooms differently, demanding conformity to external rules rather than appealing to students' internal motivations and the intrinsic rewards of learning, as they tend to do with higher-track students. This "hidden curriculum" may be even more limiting for lower track students than the explicit course content.

Most reviews of tracking question its benefits for student achievement. Current research indicates that low-track students perform poorly in school in part because they simply do not have opportunities to learn what high-track students learn. Evidence suggests that in many cases heterogeneous classes covering rigorous content using effective teaching strategies produce learning gains for low-achieving students at no cost to the gains of higher-achieving students.

Despite the fact that traditional tracking systems often deprive low-achieving students of adequate opportunities to learn, some forms of homogeneous grouping arrangements are useful in certain contexts, if the system by which students are grouped remains flexible and temporary. One study found that grouping by achievement can be beneficial if:

- Students remain in heterogeneous classes most of the day and are regrouped by performance level only in such subjects as reading and mathematics

- The grouping plan reduces heterogeneity in the specific skill being taught
- Group assignments are both flexible and frequently reassessed (Schneider, 1989)

Unfortunately, few middle, junior high, and high school tracking systems are this flexible or specific. They more often segregate students for all or most of the day into groups defined by "general ability" or achievement rather than by skill in a specific subject, and they are relatively difficult to change. In addition, because poor and minority students often perform poorly on standardized tests for reasons associated with socioeconomic status and home language, secondary school tracking arrangements often result in segregated classes.

Because no one grouping arrangement will best serve all students all of the time, most successful secondary schools are experimenting with a combination of approaches that raise academic expectations for all students.

Schools have sought to reduce the influence of tracking on students' opportunity to learn and to increase access to challenging academic content for all students in a variety of ways. Some have dismantled tracking systems that were too rigid to serve all students well. Some provide individualized instruction that assumes diversity of ability and interest. Others have attempted to improve opportunities for all students by raising the quality of their lower tracks, eliminating their general track, and integrating vocational and academic curricula. Because no one grouping arrangement will best serve all students all of the time, most successful secondary schools are experimenting with a combination of approaches that raise academic expectations for all students.

The Shift to Heterogeneous Grouping

Replacing a system based on academic tracking with one that engages heterogeneous groups of students in challenging coursework is an all-encompassing task; it requires schools to examine curriculum, teaching practices, classroom organization, responses to students' special needs, and assessment, and to make changes to better serve low-achieving students. Observers in schools making this significant change report that the school's commitment to finding workable alternatives to tracking is as important as the specific alternatives they choose. Schools that succeed in finding a system to replace tracking usually begin by broadening the reform agenda, so that changes in tracking become part of a comprehensive school reform effort.

In eliminating tracks, schools often move away from a highly sequenced curriculum organized around particular disciplines toward a curriculum organized around themes to be explored

through various disciplinary approaches. Teachers adopt instructional strategies that accommodate multiple approaches to learning and depend less on students' similarities in prior achievement and more on their diverse resources. For example, many schools implement cooperative learning, an approach that, when properly used, engages small, heterogeneous groups of students in structured tasks that stimulate individual achievement as well as social skills and integration. In addition to searching for new instructional practices, teachers also explore new assessment strategies that can document student progress at all ability levels. It is often difficult to implement new teaching strategies to support heterogeneous grouping in classrooms enrolling large numbers of students; for teachers struggling with class sizes 30 or more, heterogeneous grouping presents an additional challenge. As a result, large amounts of training and staff development are necessary if these efforts are to be successful.

Several schools profiled in the companion volume to this idea book have adopted heterogeneous grouping strategies and eliminated or avoided tracking completely. In Alternative Middle Years, for example, all classes are grouped heterogeneously, with students of different achievement levels and grade levels sharing each course (except in mathematics, where classes follow a more rigid scope and sequence). Teachers make extensive use of cooperative learning and an array of hands-on learning activities to adapt to the various ages, prior achievement levels, and resources of their students. In the Urban Collaborative Accelerated Program in Providence, Rhode Island, designed for students one or more grades behind their agemates, instruction is highly individualized. Teachers provide students with opportunities to proceed as quickly as they choose, and they develop competence and master course objectives at rates that permit many to catch up academically. At City Academy in St. Paul, Minnesota, classes with fewer than ten students allow for a similar kind of individualized instruction, accommodating diversity and promoting more efficient study.

Some high schools have improved the substantive content of all programs, regardless of their academic or occupational focus, to ensure that all students are academically challenged. Other schools have eliminated the general track—where the absence of focus too often leads to mediocre experiences—and replaced it with thematic and/or vocational programs that produce better achievement outcomes. Upgrading the quality of vocational programs by infusing them with the relevant content of college preparatory courses and providing more specific, technical courses has also improved educational quality in secondary schools.

According to the *1994 National Assessment of Vocational Education*, 28 percent of all high school students in 1990 were enrolled in vocational-technical education programs. Some secondary schools featured in the companion volume to this idea book have found that most students in these programs can master essential college preparatory content if they are encouraged to take high-level courses in a program of study planned around their vocational interests. Combining vocational courses that emphasize academic skills with academic courses that relate to a student's experiences and plans for the future has been especially productive.

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The Southern Regional Education Board (SREB) reports that many of the schools in their consortium of restructuring schools—High Schools That Work—have replaced general mathematics, general science, and low-level English with more rigorous courses directly related to students' ambitions for work and future studies. Some schools require all students to study algebra and geometry and take two laboratory science courses from the college preparatory curriculum. Many SREB sites have eliminated general, business, and consumer mathematics, and some have done away with pre-algebra as well. According to the SREB, more rigorous course-taking has been associated with higher NAEP scores (Bottoms, Presson, & Johnson, 1992).

> *In 1988-89, Fairdale High School in Louisville, Kentucky, a member of the SREB consortium, created a new applied mathematics course for sophomores in the general/vocational track. The course was designed to teach algebra and geometry concepts through practical applications and to show the value of mathematics in a variety of skilled and technical occupations. The 60 students who enrolled in the course were so enthused about mathematics as a result that 80 percent of them enrolled in Algebra II as juniors. When Fairdale students took the NAEP mathematics test at the end of the year, the juniors who had enrolled in Applied Mathematics and Algebra II achieved much higher gains than seniors completing a vocational major without this mathematics sequence (Bottoms et al., 1992, p. 28).*

Fairdale and other schools like it have not eliminated their vocational education programs to provide the same curriculum to all students; instead, Fairdale began remodeling its general track mathematics courses to deliver the same academic content that college-bound students receive while preserving a program that supports students' career goals. SREB argues that all students can master the

essentials of a college preparatory curriculum: the difference should not be in what is taught, but in how it is taught.

Many students who initially declare themselves noncollege bound are inspired to consider further schooling when high schools combine college preparatory and vocational studies. At the eight SREB pilot sites making the greatest gains in achievement and the most progress in integrating academic and vocational education, 54 percent of the students completing vocational programs of study in 1990 planned to continue their studies after high school, compared with 39 percent in 1988, before the schools became part of the SREB program (Bottoms et al., 1992).

Promoting Students' Success in Challenging Coursework

As a prerequisite for career development, exposing students to the content of courses providing gateways to advanced work is critically important. Eighth-grade algebra and ninth-grade geometry are especially important gateways because students who take these courses are more likely to go on to college. A 1989 study based on data from the High School and Beyond survey found that two or more years of college preparatory mathematics are strongly associated with college enrollment. In addition, the study found that the differences in college enrollment rates between white and minority students are virtually nonexistent among the students taking both algebra and geometry in high school (Pelavin & Kane, 1989). Acquiring "gatekeeper" knowledge is a particular problem for students in high-poverty high schools because conventional courses in algebra and geometry assume a higher level of preparedness than many students have. Students may enroll in such courses, but they tend to fail—the gate never opens for them.

> *Since 1982, the Algebra Project has been working to increase access to higher-level mathematics for inner city and minority middle school students. A sixth-grade "Transition Curriculum" helps students make the conceptual shift from arithmetic to algebraic thought processes. Students study algebra in the seventh and eighth grades, supplementing the regular textbook with Algebra Project modules. The Algebra Project curriculum engages students in cooperative learning activities in which they develop abstract thinking skills. For example, in one module, students take a ride on a city bus, map the route, translate the movement onto a number line, and, ultimately, use the concepts of positive and negative integers to communicate their observations. Other real-life situations are used to help students master algebraic concepts.*

Evaluations of the first implementation of the Algebra Project in Cambridge, Massachusetts, demonstrated that poor and minority students—those traditionally most likely to languish in general or remedial mathematics tracks—can succeed in learning higher-level mathematics. All the program participants scored well enough on the district mathematics placement test to enter the college preparatory mathematics sequence in the ninth grade, some going directly into honors algebra and geometry. The project has expanded to about 110 schools in 29 communities across the country, serving more than 45,000 students, predominantly poor and minority.

Schools that have succeeded in raising the academic achievement of disadvantaged students, like the schools profiled in the companion volume to this idea book, have shown that it is possible to enable all students to succeed with a more rigorous, authentic curriculum. Changes in curriculum that have lasting impact on student learning, however, usually require significant changes in the organization of schools as well. In the following section, we turn to a discussion of organizational changes that support increased student learning.

Adapting Organizations to Increase Learning

Successful secondary schools develop new organizational arrangements, as needed, to support innovations in teaching and learning. To implement new curricula, instructional approaches, and assessment strategies, teachers expand their repertoires and their ways of interacting. These adjustments often demand accommodating the educational environment and organizing the schools. Productive reforms also challenge students to assume new roles, achieve higher standards as learners, and accept new responsibilities as members of the school community. The schools' grouping procedures, schedules, resources, and routines must adapt to offer a supportive context for new behaviors. Successful secondary schools transform their organizational structures as they expand their visions.

Under the banner of restructuring, innovations such as site-based shared decisionmaking, team teaching, modular scheduling, and interdisciplinary courses have gained considerable currency. Changes in structure alone, however, seldom enhance student achievement. Only when organizational change is tightly linked to teaching and learning does it have a positive effect on student outcomes. Even if "restructuring" is the first item on a school's reform agenda, the content of education—what and how much students learn—is the ultimate target, and maintaining a focus on that goal is the ultimate challenge.

Two approaches are particularly rewarding for making the organizational changes essential for lasting improvement: creating communities of learners on a manageable scale, and reconceiving schools' uses of time.

CREATING COMMUNITIES OF LEARNERS

In its seminal report, *Turning Points*, the Carnegie Council on Adolescent Development (1989) called for schools to provide small-scale "communities for learning" where close, trusting relationships among faculty and students give rise to a climate that stimulates growth and intellectual development. In such communities, students can rely on a small, caring group of adults who work closely with each other to provide coordinated, meaningful, and challenging educational experiences. In turn, teachers can get to know every one of their students well enough to understand and respond to them as individuals.

A number of middle schools and high schools that have caught the eye of researchers have succeeded in creating just this kind of personalized environment. In an intensive study of an inner-city magnet school that had been highly successful with at-risk students, Talbert (1990) observed that personal relationships between teachers and students motivated students to stay in school and work hard. Students whose lack of prior school success discouraged academic engagement and those whose out-of-school lives were chaotic found hope and connection in their relationships with teachers. The affirmation and accountability in their school experience helped them to persist and often to prevail, despite obstacles. To create personalized environments, this school made strategic choices about organizational structures, and staff worked continually to respond to students. In a similar way, the schools profiled in the companion volume to this idea book have reorganized to create

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more personalized learning environments for their students. These schools have created schools-within-schools or more informal "clusters," or found a way to keep their enrollments small.

School Size

Throughout most of the twentieth century, high schools have steadily grown in size. Small high schools consolidated to form bigger schools that offered a wider range of courses and, it is argued, achieved some economies of scale. As a result, the average secondary school enrollment is now 678, and more than 53 percent of all secondary students attend schools with enrollments of at least 1,000 (National Center for Education Statistics, 1993). However, recent analyses of academic and other outcomes of secondary education suggest that increasing school size has created more problems than it solved. There is a growing conviction that, where secondary schools are concerned, small is beautiful.

School observers note that a positive sense of belonging is easier to achieve in small institutions, where frequent face-to-face contact engenders personal relationships between teachers and students. Small schools are often more effective in implementing fair disciplinary policies and practices, which students view as evidence of adults' care and commitment, while students in large schools often view rules as arbitrary and bureaucratic. In addition, faculties in small schools are more likely to reach consensus about educational goals with an academic focus—and work together to achieve them.

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A growing body of research on the effects of school size supports arguments for downsizing. One study found that students in small secondary schools learn more than similar students elsewhere, and, conversely, students in graduating classes of more than 750 suffer negative effects on attitudes, achievement, and participation in voluntary activities, when compared with others (Howley, 1989). Other practitioners argue that schools of less than 1,000 are necessary, and schools of 500 or less are even closer to optimal size.

Small size is also a correlate of success in dropout prevention programs. Designs for alternative high schools emphasize low enrollment because they can serve students who feel lost in comprehensive high schools. City Academy, which serves students who have either dropped out or been expelled, has been sensitive to the issue of size from the outset. The Academy's two founding teachers left another alternative school when its enrollment nearly doubled to 80, and students began to fall through the institutional cracks. Struggling students simply dropped out of places where "they could

go through a whole day of school and no one would even know they were there." These students needed individual support and encouragement, which was not readily available in their large home schools. At City Academy, in contrast, staff meet weekly to define goals and set priorities on a student-by-student basis. With so few students, teachers "created a system to match each student, rather than forcing the student to match the system."

Schools-within-Schools

A common way to address the anonymous and impersonal nature of large comprehensive high schools is by forming schools-within-schools for students—typically 200 or fewer—and teachers who share an interest or career orientation. These organizational sub-units often occupy a particular wing or section of the building, which is clearly designated as their home territory. Some of these sub-units primarily enroll students who are seriously committed to a career choice, and they involve community members in related occupations as program advisors and mentors. The Academy for the Health Professions, at Socorro High School in El Paso, enrolls students as early as ninth grade in a program that prepares them for immediate postsecondary employment or further study. Students work in small cohorts with the same group of classmates and teachers for all four years of the program. Members of the El Paso medical community provide a variety of services, from guest lectures to supervised field placements. Completing this academy program is no small accomplishment.

However, some schools use thematic sub-units as much to lend coherence to studies and offer opportunities for authentic learning experiences as to cultivate particular kinds of expertise. Students serious in their interests do gain valuable skills and knowledge, but teachers expect most students simply to explore the possibilities raised by the theme. In such schools, students may choose their sub-unit with less deliberation, and they more often transfer to another sub-unit when they find a new interest. At Tuba City High, in Tuba City, Arizona, all entering freshmen choose one of four schools-within-schools: Math, Academics, Science, and Health (MASH), Technology and Engineering Career House (TECHs), Business, and Liberal Arts. Academic work and enrichment programs are organized around these themes. Within each sub-unit, academic and other courses use the theme as a source of experiences, knowledge application exercises, and career exploration.

Creating relatively self-contained units, each with a shared focus, within large comprehensive high schools reduces the professional

isolation that teachers often feel. Because teachers in self-contained units work with the same small group of students, they find it easier to collaborate over common learning goals, behavior expectations, and problem-solving strategies—collaborations facilitated by the curriculum focus. Similarly, students see themselves as part of a learning community with clearly defined goals and expectations; they learn to use each other as resources. Theme-based schools-within-schools can engender a sense of "family" that provides effective support for teachers and students.

Clusters, "Houses," and Teams

Dividing teachers and students into heterogeneous clusters, sometimes called "houses" or teams, is another way to create units with more manageable social dimensions within large schools. In some schools, clustering is simply an administrative strategy that breaks an unwieldy institution into sections that are microcosms of the whole, including students from several grades and teachers representing all departments. In other schools, the clustering is more directed. For example, in some middle schools all sixth graders belong to one house, and seventh and eighth graders belong to several others; similarly, some high schools cluster all freshmen together but mix students from grades 10 to 12 in other houses. Members of teams may not occupy a designated space, but they share some daily experiences and ceremonial events. The purpose of forming houses is to increase the opportunities for personalizing the educational experience.

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Clusters are typically composed of a group of students—perhaps 125—with a proportionate share of teachers, usually one from each of the major disciplines plus a specialist—in reading, English as a Second Language, art, or music—who may also participate on other teams. Students take core courses from teachers on their own team, a strategy that allows control of scheduling for a significant portion of the day to rest with the team. Faculty arrange special learning opportunities that extend beyond the traditional class period, regroup students for special projects, offer interdisciplinary units and courses, and make other adjustments to accommodate team needs.

Working together in houses, whose membership is usually stable over the whole period of a student's enrollment, enables teachers and students to get to know and understand each other better. Having common preparation periods enables teachers to share perceptions of each student's strengths and weaknesses, learning styles,

and work habits and to develop appropriate responses. A house system facilitates development of interdisciplinary lessons, units, and courses supported through team teaching by subject-matter specialists. Regular meetings of house faculty members enable them to identify and solve problems together, often before the crisis stage, and to establish common disciplinary policies. Especially at the middle school level, teachers report that clustering dramatically reduces the incidence of classroom discipline problems.

Individualized Instruction

Keeping learning communities small makes it possible for teachers to develop flexible, individualized learning plans for students who need them. Such plans may be particularly important for secondary students who are over-age for their grade. Those who have been retained even once are 40 to 50 percent more likely than others to drop out before high school graduation; those retained twice are almost twice as likely to drop out (Mann, 1986). To enable retained students to catch up with their peers, teachers at the Urban Collaborative Accelerated Program coach them through a competency-based curriculum that students may complete at their own pace. As students reach the standards for each grade level, they move on to address the next set of standards until they are ready to join their high-school-bound age-mates.

This model, based on a small-scale school environment, competency-based curriculum, alternative assessments, and flexible schedule for both teacher and student, has also proven successful in dropout recovery projects. Some projects organize curriculum and instruction to allow students to earn partial credit for any coursework that they complete during their intermittent attendance. Those whose sustained enrollment suffers because of conflicts in their personal lives are able to accrue credit incrementally until they meet graduation requirements.

> *The Opportunity Program (TOP) in the Waco (Texas) Independent School District offers year-round classes for high school students who are over-age for grade and those who have dropped out of the traditional program. This self-paced, open-entry/open-exit program allows students who might not otherwise graduate to earn credits toward a diploma. Students work with multimedia curriculum frameworks for 44 competency-based courses that reflect as closely as possible the curriculum of the regular high school course. Instructional materials draw on both regular course resources and on the resources of the Comprehensive Competencies Program, which was developed and disseminated by United States Basic Skills Investment Corporation (US BASICS).*

With the help of special TOP teachers—who consult with relevant departmental faculty—each student selects learning activities from a menu of possibilities for each objective. Students exercise substantial control over their learning: to reach a mathematics objective, for example, one student might choose to conduct hands-on experiments with a small group of peers, observe videotapes of teacher lectures and demonstrations, and complete text- and computer-based exercises on computation and problem-solving. A different student might choose other activities to reach the same goal. In addition, the TOP instructor might meet with both to provide direct instruction on a few complex topics.

When students complete the activities for a course module, they take a mastery test. Students completing work on one course before the semester's end may begin work on a second course, and those whose work is interrupted or unfinished may start up where they left off when they return to TOP. Students enrolling as freshmen when they are one or two years behind age-mates can sign up for one or more periods of TOP work each day, and many use this opportunity to speed through basic courses, making up time lost by earlier failures. The possibility of earning credit for objectives met enables students whose regular high school program is disrupted by the demands of family responsibilities, migrant farm work, or legal problems to accumulate the credits or competencies for a diploma or GED certificate in the time that is available.

The Role of Choice

Seasoned observers of successful secondary schools report that allowing students some freedom in choosing their school community may lead to greater commitment and deeper engagement in learning. Exercising a degree of choice can be an important precondition for personalization; students who consciously select a personalized environment are more likely to contribute to its maintenance. Likewise, allowing secondary school students to choose a school or program increases the probability that students will buy into its academic mission. When parents help students to make these choices, the process of selection supports their ongoing collaboration over educational goals.

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Nearly all the schools profiled in the companion volume to this idea book permit some form of student choice. For many schools, students must make an active decision to enroll. Students select "second chance schools" like City Academy, Middle College High School in Seattle, and City-as-School after leaving their regular high schools. Students must apply and in some cases be interviewed for

slots in the Socorro Academy for the Health Professions, the youth apprenticeship program in Pickens County, South Carolina, and the one selective theme-based program at Tuba City High School. At the Alternative Middle Years (AMY) program, students and their parents choose a course of study each trimester from an extensive roster. AMY's principal comments that "kids and parents use this [opportunity to choose courses] a. an educational dialogue."

USING TIME FLEXIBLY

Besides reorganizing work groups, successful secondary schools use scheduling systems that permit adjusting time allocations to accommodate diverse learning experiences. A 40- to 50-minute period may not be long enough for lessons that probe deeply into interdisciplinary themes, and daily class meetings may not be necessary for every course. Innovations in scheduling allow restructuring schools to match time allocations by the period, the day, the week, or the semester to fit the variable demands of teaching and learning. At the Urban Collaborative Accelerated Program, for example, teachers plan week-by-week schedules that allot time to classes in any way they see fit; at Alternative Middle Years, teachers may work together to combine periods in a conventional class schedule to carve out longer blocks of time for particular courses or class activities.

In addition to dividing up the school day differently, a number of restructuring schools have loosened the boundaries of the traditional school day or year to accommodate alternative learning experiences.

A common approach to reconceiving the use of time is block scheduling, in which teachers can create class periods that last from an hour to 90 minutes or more. Block scheduling works most effectively when it is controlled by the relevant team of teachers, permitting them to take an interdisciplinary approach to some topics or courses. For example, they may schedule art and literature courses in adjacent time slots, and then jointly offer an integrated course that explores the works of a certain era or country. The extended period provides opportunity for students to work together on complex projects and for teachers to make presentations or arrange experiences that take longer than one period to complete. In a two-period block, students can draft an essay, throw a pot, or finish a round of team critiques on research projects. Block scheduling is beneficial because teaching longer and fewer periods can reduce the number of students teachers see in a day, enabling teachers to get to know their students better and develop a more personal relationship.

In addition to dividing up the school day differently, a number of restructuring schools have loosened the boundaries of the traditional school day or year to accommodate alternative learning experiences.

In a more flexible school week, high school students can combine their regular classes with advanced courses at local community colleges or universities in the afternoons and evenings. Students can also participate in internships or other field work with business, industry, schools, and private and public community organizations. In City-as-School, for example, students can arrange their schedules around the traditional work week, combining internships in workplaces across the city, classes at City-as-School, and courses at community colleges. The Manhattan Comprehensive Night School in New York City is the first school in the country to allow students to earn a regular high school diploma at night. Founders of the school argue that flexible scheduling and afternoon and evening classes allow the school to reach many students who would not otherwise attend school because of family or work responsibilities. Seattle Middle College High School allows students to schedule classes around jobs or family responsibilities in much the same way.

Other schools profiled in the companion volume to this idea book extend the school day and year to expand learning opportunities for students. City Academy added a two-hour afternoon program three days a week for students experiencing problems in other settings. For students returning to school after dropping out, these afternoon sessions provide a chance to test the waters before deciding to return to school; for some, the sessions offer a bridge back to a regular day program. Scheduling a longer school day (for example, from 7 a.m. to 6 p.m.) can also make the school a learning center for the entire community, including parents and other community members.

Many schools extend the school year by adding summer sessions with creative and appealing themes and formats. During the summer at City Academy, for example, students attend morning-long seminars on one subject. Sometimes they pursue time-consuming activities impossible during the regular school year, such as field trips to historic places to enrich history classes. Summer enrichment activities have been an important part of the Tuba City experience for almost a decade. Because the school is isolated, students may lack information about career and educational opportunities or confidence in their ability to pursue them. The school staff believe that off-campus summer experiences can help students gain experience and confidence. Using foundation funding, Tuba City staff and faculty from the University of Arizona in Tucson developed a five-week, five-course summer program for 15 students. As dorm residents on the university campus, these participants studied Native American literature and creative writing for six hours each

day. The school sponsors a number of field trips during the summer; for example, the mathematics and science house sponsors a geology excavation trip, which any student in the school may attend.

Another idea book in this series, *Extending Learning Time for Disadvantaged Students*, provides additional examples of extended time programs in secondary schools.

Linking Schooling to the Future

One of the primary functions of secondary education is to prepare students to function as informed and productive citizens. Students should graduate as skilled learners able to continue their education in college, technical school, or work based programs and acquire the skills they need to achieve their adult goals. To help students make the transition from secondary school to adult life, many schools have developed specialized school to work programs. These programs include a school-based component integrating academic and vocational coursework and a work-based component providing an overview of the opportunities, rewards, and demands of real jobs.

Inaugurating school-to-work programs can stimulate systemic reform of secondary schools because making the programs effective poses challenges to traditional school arrangements. Developing a high-quality, school based component for a school-to work program requires that schools upgrade the low track academic classes often associated with vocational programs. Developing a productive work based component requires new approaches to learning that take advantage of opportunities for motivation and discipline offered in the workplace. Some advocates of secondary school reform hold that trying to develop work based components without reforming the high school curriculum as a whole creates two serious problems. On the one hand, schools might adopt program designs with low admission standards that attract only low achieving students, thus dooming the programs by relegating them to low track status. On the other hand, schools might invent challenging programs with selective admissions requirements that only the ablest students can meet while doing nothing to bring interested lower track students up to the standard.

For school-to-work programs to serve all students—including those now trapped in lower tracks—they must help transform the entire high school. Many schools that have succeeded in making such a transformation have built whole-school or school-within-a-school programs around one or more occupational focuses. Some have opened career academies; others have chosen a limited array of vocational programs; and still others have distributed vocational programs among schools in their district so that each has a single concentration in addition to the core program. The occupational focus of the schools facilitates the connection to work-based learning and improves overall effectiveness by generating clearer missions, more contextualized instruction, and, often, smaller, more personalized student grouping arrangements. Schools achieving successful transformations that choose to emphasize a broad cluster of related occupations—including highly skilled occupations and related high-level academic competencies—offer substantively challenging content and a variety of career options, ranging from those requiring further formal education to those providing employment immediately after high school graduation.

SCHOOL-TO-WORK PROGRAMS

The new School-to-Work Opportunities Act calls for local programs with the following three components:

- **Work-based learning**—a planned program of work experiences, including paid employment, workplace mentoring, and instruction in both specific workplace competencies and the broad view of an industry

- **School-based learning**—career exploration and counseling, instruction in a career major (selected no later than the eleventh grade), a program of study based on high standards and involving at least one year of postsecondary education, and periodic evaluations to identify students' academic strengths and weaknesses

- **Connecting activities**—coordination and linking efforts that integrate the contributions of school, employers, and students; match students with appropriate work-based learning opportunities; and train teachers, mentors, and counselors in new aspects of their roles

Work-based experiences are designed to reinforce and supplement concepts learned in class and are directly related to possible career paths. Strong linkages between school and work components reinforce the lessons of each. The results may include improved career guidance; more effective preparation for job-hunting; cultivating appropriate attitudes, behaviors, and expectations about employment; and explicit and useful explanations of the relationship between schoolwork and the demands of adult life. Students participating in school-to-work programs say that the experience is helpful because many of the hands-on activities apply directly to the work world. Furthermore, students report that the applied classes are more interesting than regular classes and that their teachers and classmates are more supportive than others outside the program.

Several program models have proven successful in recent years.

Tech Prep

Tech Prep programs are sometimes called "two plus two" programs because they connect the last two years of high school with two years of postsecondary education. They involve high schools, community or technical colleges, and sometimes employers. A typical Tech Prep curriculum enhances academic courses by focusing on applications of mathematics, science, and communications in the occupational area. Academic experience is often coupled with opportunities for work experience, although students receive most of their training in the classroom. Tech Prep training features a significant amount of hands-on and problem-solving activities in the technical field of concentration. Administered by the U.S. Department of Education, the Carl D. Perkins Vocational and Applied Technology Act of 1990 provides states with targeted funding for Tech Prep.

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For example, students in the Tech Prep program at Liberty High School in Liberty, South Carolina, take career-related courses at both the school and the district's career center. At the school, students take courses similar to their peers' but with a particular emphasis on workplace skills. The district's career center supplements the curriculum with two-year courses in specific fields, including agricultural mechanics, business management, computer electronics, cosmetology, and graphic communications.

Youth Apprenticeship

Youth apprenticeships also involve secondary and (sometimes) postsecondary education and work-based experiences. However, in youth apprenticeships the emphasis is on employer-provided train-

ing. During their work experience, participants are paid for their work and monitored by a skilled professional at the job site. A typical youth apprenticeship program also involves classroom instruction tailored to and building on the job experience. Youth apprenticeships sometimes encourage students to take advanced studies—both academic and technical. Students see an immediate cause and effect: if they take the prerequisite courses, they can qualify for an apprenticeship that provides an income and eventual eligibility for a skilled job. In career-oriented programs, students benefit from first participating in related academic experiences before tackling a youth apprenticeship program. A solid academic foundation supports success in the job placement.

Youth apprenticeship and Tech Prep programs sometimes work in tandem. For instance, Liberty High School's Tech Prep program has a youth apprenticeship component. Three-year apprenticeships are available for advanced vocational students in four fields, beginning in the senior year. Students take classes at the high school and technical college to earn their associate degree while also working 20 hours a week at a local business.

Career Academies

Career academies, which may use a school-within-a-school model, focus on a specific career field, such as health or finance, usually chosen because it presents good employment opportunities in the local market. Academies often receive significant public and private (e.g., corporate) funding beyond the regular school budget. By design, private sector partners participate in academies' management and policy making.

Most academies recruit students to join their program, and students typically apply to participate. Academies may serve a wide range of students, including those at risk of school failure and those who are college bound. Student cohorts stay with the same teachers over an extended period of time, often for several years throughout high school. With common planning periods, teachers are able to organize interrelated, team-taught lessons that flow from one year to the next.

Supplemented with training at the workplace, academies offer curricula that integrate career topics with applied, hands-on activities and rigorous academic courses. In California, where the academy model is widespread, students take four classes a semester with their cohort; generally, three courses are academic and one is technical. The academy curriculum prepares students for immediate employ-

ment after graduation, but it is sufficiently rigorous that they may enroll in postsecondary schooling, if they choose.

Some academies are physically attached to regular high schools, and others are housed in separate units, usually close to the targeted business or field, for ease of access to employment-related facilities (e.g., a hospital laboratory or restaurant kitchen).

Philadelphia founded the nation's first career academy in 1969, and now the school district sponsors academies in nine fields: business, health care, environmental technology, electrical science, automotive science, fitness and health promotion, horticulture, law and public administration, and the hospitality industry. Operating as schools-within-schools, these academies serve about 4,300 students, most of whom are disadvantaged, minority inner-city youth with low prior achievement.

Each academy is an independent corporation governed by its own board of directors. Philadelphia High School Academies, Inc., an independent organization representing a collaborative of local businesses, manages the academies. In addition to contributing $1.5 million each year, these businesses provide technical expertise for planning, developing, and refining the academy programs, and they offer academy students career exposure through site visits, speakers, and after-school, summer, and post-graduation work experiences. A prescribed sequence of academic and technical classes relates academic coursework to the career focus.

After more than 20 years in operation, the Philadelphia academies boast a 90 percent-plus average daily attendance rate, a student dropout rate of less than 4 percent, more than 90 percent employment after graduation, and high postsecondary enrollment rates.

For schools successful at linking schooling to the future, exposing students to careers and postsecondary education options is an important part of their mission.

Career Exploration

For schools successful at linking schooling to the future, exposing students to careers and postsecondary education options is an important part of their mission. They arrange experiences that are exploratory, including both in- and out-of-class learning and involving members of the business and higher education communities. Among their career awareness activities are field trips to workplaces, job shadowing programs, and career days. To broaden their awareness of formal postsecondary education options, schools hold classes on college campuses, use college tutors for remedial or enrichment activities, and offer college-prep classes that challenge students to reach their highest potential. They typically begin career and post-

secondary education exploration programs in the middle grades. As the students progress through high school, these exploration activities accommodate individual preferences and talents.

COLLEGE PREP PROGRAMS AND SUPPORT TO ATTEND COLLEGE

Seattle Middle College High School, the Urban Collaborative Accelerated Program, and Thurgood Marshall Middle School in Lynn, Massachusetts, are among the schools profiled in the companion volume to this idea book that act on their conviction that introducing students to an array of postsecondary educational options is important. They expand students' visions to include formal schooling after the twelfth grade and encourage them to continue their education. Many create a climate of lofty academic ambitions by raising standards, eliminating the general track, and challenging students to explore increasingly complex learning opportunities. Some schools have discovered that enabling dropouts and potential dropouts to succeed in advanced classes generates and sustains students' belief that they can and should pursue postsecondary education.

Many schools create a climate of lofty academic ambitions by raising standards, eliminating the general track, and challenging students to explore increasingly complex learning opportunities.

For students from disadvantaged backgrounds, enrolling in college prep classes and performing well in them are only the beginning in raising educational attainment. In some cases they must also deal with deep-rooted family and cultural expectations that they will obtain a job immediately after high school graduation—if not before—and in other ways assume more adult responsibility for family welfare. Schools can help students and their families find ways to make the long-term investment in higher education while preserving important family values.

Tuba City High School on the Navajo Reservation in Arizona has used outside funding, first from Macy's Ventures in Education program and now from RJR Nabisco's Next Century project, to help its community cope with the tension between the familiar and the new demands of contemporary education. A dedicated and stable core group of faculty members—about half of whom are Native Americans from the community—have worked with students and their families over the past decade to make significant structural changes in the school. They have developed and implemented rigorous academic courses that require a significant amount of homework and extended hours of the school day, holding some classes on weekends and during the summer to help students meet high

standards. These changes have implications for everyday life on the reservation. Although town-dwellers live in modern homes, others live in camps in the high desert, where daily chores include hauling water, cooking and heating with wood, and using other time-consuming, resource-extending practices. Furthermore, homesteads are far-flung, and many families rely on traditional, labor-intensive enterprises for part or all of their income. Students' commitment to schoolwork in grades K-12 and their ambitions to go to college may have a profound impact on their families. At Tuba City High, faculty, students, and parents have a long history of balancing the opportunities associated with school attainment with other values important to the community.

Now in its fourth year, projects of Ventures in Education, sponsored by the Josiah Macy, Jr. Foundation, involve more than 30,000 students in grades K-12 at about 70 schools in eight states and the District of Columbia. Projects target economically disadvantaged students—more than 70 percent of the participants are African American, Hispanic, or Native American. Ventures projects support these students in tackling a rigorous curriculum emphasizing mathematics and science. Students take four years each of English, mathematics, science, and social studies and at least two years of a foreign language. Supporting elements are Advanced Placement courses, summer workshops, longer school days, and postsecondary school guidance. Staff development workshops offered twice a year extend teachers' skill in using approaches such as problem-based learning, cooperative learning, and hands-on activities, and in helping students prepare for standardized tests.

By 1993, nearly 90 percent of the 3,000 graduates from Ventures projects had enrolled in four-year colleges. Forty percent of these students are pursuing college degrees or careers in mathematics and science.

Once they have met the requirements for admission to postsecondary programs, students from disadvantaged backgrounds typically find the costs prohibitive, especially in light of their need to defer full-time employment. Families with little college-going experience may not know how to take advantage of resources available to low-income students or how to help them prepare successful college applications. A program coordinator at the Socorro High School for the Health Professions commented, "Many of these students come from homes where neither parent has a high school education. These parents aren't able to help them fill out college applications or compile portfolios of their work. . . . A lot

of this program is really about just taking someone by the hand and showing him or her how to make the system work for them."

The Ohio Department of Education, the city of Columbus, and several local universities, colleges, corporations, and associations collaborate to support "I Know I Can," a program to help public school students apply for college admission and financial aid. More than half of the students served by the program come from homes where the family income is less than $24,000 a year; more than half are minorities and the first in their family to attend college.

Now in its sixth year, "I Know I Can" has four major elements. First, 200 trained volunteers run a daytime advising program in 17 city high schools. They discuss options and goals for college participation with students and their parents, assist them in preparing applications for admissions and financial aid, and help them interpret results from the forms they submit. Second, the program awards "Last Dollar Grants" based on needs unmet by financial aid packages. About 1,400 students have received grants so far. Third, the program sponsors one-week summer camps on college campuses to introduce middle and high school students to the possibilities there. Finally, "I Know I Can" runs PSAT test preparation classes to help students raise their scores. In a special "I Know I Can" project, students attending one school annually visit two colleges, attend college fairs, and participate in Alumni Day to see what their peers have done with further education.

Support from "I Know I Can" is credited with raising the college acceptance rate in one school from 28 percent to 63 percent in a short period and with increasing fourfold the number of students taking the PSAT. The program has reached more than half of the district's high school seniors. Speaking about the program, one former participant said, "You're surrounded by people who want to be educated. They make you want to study."

Creating Networks of Support for Students

Networks of support that address students' academic and personal needs can enable at-risk secondary students to persist and succeed in school. Strong support can foster students' sense of belonging, thus encouraging them to adopt the mission of the school. Successful schools in these idea books have experimented with a variety of interventions to support students: more personal and responsive advising systems; mentoring programs providing the student with close contact with an adult; programs creating partnerships between parents, families, and the schools; and comprehensive service networks reaching within and beyond the school walls. For at-risk students in particular, successful schools take an active role in responding to personal, emotional, and basic survival needs that frequently go unmet in traditional school environments.

SCHOOL MEMBERSHIP

Schools are more than just places where academic learning occurs. Depending on many factors, they are also complex social environments that can be inviting or alienating. Successful programs for at-risk students attempt to create an environment that helps students develop a sense of commitment to the school community.

Co-curricular activities such as student government, academic or special interest clubs, theater and music groups, and intramural sports teams have traditionally enhanced students' sense of school membership by providing them with a special "niche" in the school community. Students involved in these kinds of co-curricular activities find opportunities to shine and are less likely to become disengaged from school. Many studies have indicated an association between extracurricular activities in general and positive academic outcomes. For example, one Gallup survey showed that high school social participation is positively correlated with high school and post-high school educational achievement, as well as occupational status five years after graduation. Another study of reading skills development showed that the higher students' level of involvement in organized extracurricular activities, the higher their reading achievement. This study also noted that the effect of these "achievement-related experiences" was stronger among those from lower socioeconomic backgrounds, although all social class and gender subgroups benefitted (as cited in Funkhouser, Humphrey, Panton, & Rosenthal, 1992).

Students in successful alternative secondary school programs place a high value on their sense of belonging, or membership, in the school.

Students in successful alternative secondary school programs place a high value on their sense of belonging, or membership, in the school. According to observers, students characterized these alternative schools as friendlier and warmer than the schools they had left; peers were more accepting, teachers were more concerned. In their view, adults' willingness to help them overcome academic and personal problems and accept them as individuals was among the most valued features of their new schools (Wehlage et al., 1989). Likewise, other studies have found that alienated students at risk of dropping out can re-engage in smaller settings where teachers are committed to helping them and circumstances support teachers' expanded role. These findings reflect the influence of students' sense of school membership—an attachment to adults and peers that enables students to make a commitment to the norms of the school, become involved in school activities, and accept the legitimacy of the institution.

Fostering a sense of school membership in a personalized environment requires an expanded role for teachers. In this expanded role, teachers seek to influence students' social and personal development, as well as their intellectual growth. To sustain a pervasive "ethic of caring," adults maintain continuous and sustained contact with students, responding to the students as whole persons rather than just as clients in need of a particular service. Expanding their traditional role as transmitters of knowledge, teachers help create networks of support that foster students' sense of belonging and support students to succeed in the school. For their part, adults in the school need to (1) promote positive and respectful relations between adults and students; (2) help students with personal problems; (3) cultivate students' ability to meet school standards; and (4) support students' efforts to find a place in society by forging appropriate links between personal goals and interests, school opportunities, and future plans. In exchange for this active commitment from the school, students behave positively and respectfully toward adults and peers and commit their mental and physical efforts in school tasks to a level making their own achievement likely.

Personalized schools, where students and teachers are both committed to the central purposes of schooling, can effect dramatic changes even in previously established relationships. A former teacher at City-as-School tells this story:

> [Before coming to City-as-School] I had been a teacher for almost 20 years, and in all that time there were only five or so kids that I could say I just didn't like. But there was one student I just didn't care for. He was just not a nice kid—he made my life miserable. When I arrived at CAS, this kid [who was already a CAS student] was the first person I saw. I couldn't believe the change . . . it was like he was a different person. We shook hands and started over.

Peer Tutoring and Mentoring: Recognizing the Value of Student Contributions

High dropout rates, poor attendance, and frequent conflicts between students and teachers and among students often signal alienation among students and a need to build their commitment to schooling; students who drop out often perceive school as a place where teachers do not care about them. Peer tutoring and mentoring activities have the potential to stimulate students' sense of membership in school by linking them with peers and adults through structured relationships. In this way, students may be integrated into the school community and find a niche where they can

make a contribution that will be valued by others. For students unable to rely on academic success for a sense of membership, recognizing that they can offer something of value can be an important source of motivation.

A study of federally funded peer tutoring and mentoring projects found that peer tutoring and mentoring may be particularly helpful in raising the academic achievement of peer tutors, particularly when the tutors themselves are at risk, are working with younger children in a cross-age tutoring program, and are the beneficiaries of focused and related services, such as mentoring, intensive training, or monitoring (Pringle, Anderson, Rubenstein, & Russo, 1993). The study's findings suggest that peer tutoring and mentoring services may be useful strategies for increasing students' sense of belonging to the school community, especially when peer tutors are matched with tutees in ways that promote interpersonal bonding between the pair.

Peer tutoring and mentoring activities have the potential to stimulate students' sense of membership in school by allowing them to find a niche where they can make a contribution that will be valued by others.

Since 1984, the Coca-Cola Valued Youth Program (VYP) has enabled at-risk secondary school students to tutor elementary students in reading, mathematics, and other skills. Cross-age tutoring helps tutors develop a sense of responsibility and pride, motivating them in turn to achieve more in school. Basic program tenets hold that all students can learn, that they are valued by the school, and that they can contribute to their own education and to the education of others.

Tutors attend special classes that develop their skills in working with elementary students, increase self-awareness and pride, and improve their own literacy. Students tutor one to three students at least four hours each week, receiving a minimum-wage stipend. Tutors are motivated to master the material they teach to younger students, such as literacy and thinking skills. As role models and mentors, they are also motivated to improve their attendance and appropriate work habits, such as punctuality. Tutors also go on several career awareness field trips to professional environments and work with adult role models.

An evaluation of the project showed that tutors increased both their attendance at school and their average grades in mathematics and reading. VYP also helps students feel more connected to school: An evaluation of a four-year project in San Antonio, Texas, indicated that only 1 percent of tutors eventually dropped out of school, as opposed to 12 percent from a comparison group.

Adult-Student Mentoring Programs

Adult-student mentoring programs provide an opportunity for students to form a close relationship with an adult connected with the school. Recent research on the capacity of at-risk children to become productive and well-adjusted adults has identified as an important factor the presence of a strong parental figure who gives guidance and encouragement (Hamilton & Hamilton, 1992). Mentoring programs attempt to replicate this kind of relationship.

According to research, mentorships work best when mentors focus on developing competence, stressing specific knowledge and skills, and doing things that make sense to their proteges. Warm interpersonal relations—a central goal of the mentorship for many mentors—are more likely to result from a focus on building competence than from a focus on building a relationship. Mentorships also generally work better when the goals of the experience are clear. When both the mentor and the protege know why they are involved in the relationship and what they are trying to accomplish, the relationship is likely to have more staying power. In addition, recruitment, training, and continuing support of mentors require a significant investment of program resources. One study of mentoring programs linking college students with at-risk students found that many of the matches were not successful because of inadequate prematch training and postmatch follow-up for both mentors and youths (Tierney & Branch, 1992). For such relationships to be successful, schools must screen potential mentors carefully to be sure that they have the time and other resources to fulfill their obligations as a mentor and provide on-going support as the mentorship develops.

Schools with mentoring programs profiled here tend to focus them on career awareness, especially on providing opportunities for students to gain exposure to the workplace. For example, Urban Collaborative Accelerated Program's mentorship program combines the mentorship with work experience. Student participants spend one day a week at a job site working closely with an adult mentor and receive $15 a day for their work. At Middle College High School, mentors from the community teach classes about their professional work and also meet with students one-on-one.

STUDENT ADVISING

Although guidance counselors traditionally serve as students' primary advisors, their ability to provide the quantity and quality of service that at-risk students need is often compromised by caseloads

that are too high and responsibilities that are too broad. In large urban high schools, counselors are typically assigned hundreds of students and charged with monitoring their progress, identifying and addressing any counseling needs, providing information on college prep or vocational training programs, making contact with parents, and handling crisis situations. As a result, most students have very little contact with the one adult assigned to take an interest in them.

Small-group advisories, homerooms, or other arrangements enable teachers or other staff to provide guidance and monitor the academic and social development of students actively.

Most of the schools profiled in the companion volume to this idea book have taken steps to ensure that students have sustained contact with adults who serve as advisors. Small-group advisories, homerooms, or other arrangements enable teachers or other staff to provide guidance and monitor the academic and social development of students actively. At City-as-School (CAS), for example, each student is assigned to a Teacher Advisor. The Teacher Advisor serves as an advocate for his or her students, helping students coordinate their courses of study and deal with problems that come up during their time at CAS. At a weekly seminar conducted by the Teacher Advisor, students discuss their internships, academic and personal goals, and problems or challenges that have come up during the week. Students remain with the same Teacher Advisor until graduation. In the same way, each of the schools participating in Advancement Via Individual Determination (AVID) in San Diego County has an AVID coordinator who serves as coach, advocate, and advisor to students. The coordinator works with the regular school guidance system to ensure that students are placed in college-preparatory classes and helps students investigate postsecondary educational opportunities. The support that the AVID coordinator provides is a key element in that program's success in helping students reach their goals.

The advisory system at the Shoreham-Wading Middle School in Shoreham, New York, assigns an adult advisor-advocate to each student. Each professional staff member at the school—including the principal—trains to be an advisor to a group of up to ten students. The advisor meets with his or her group daily for ten minutes before classes begin to discuss school issues and students' activities. Students and their advisors meet later in the day for 15 minutes to eat lunch together. Twice a month, advisors meet with individual students or small groups before classes begin to discuss such topics as academics, projects, and home and school problems.

The advisor, who is assigned to a student for the entire year, observes the student in classes and after-school activities and dis-

cusses the student with other staff and faculty. The student gets to know this adult well and learns that at least one person at the school will hear the student's side of things. Advisors also meet twice a year with parents to discuss the student's grades and progress in school. Teachers send all grades and comments to the advisor who collates the information, enters it on the report card, and discusses the student's progress with the parents.

The Shoreham-Wading advisory system makes it possible for a young person to develop a supportive relationship with an adult who is not a parent. Ensuring that each student has access to a trustworthy adult with whom the student can communicate and share ideas and concerns, this system reduces alienation of students and provides each young adolescent with the support of a caring adult who knows that student well. That bond can make the student's engagement and interest in learning a reality.

Creating an advisory system that depends on teachers to serve as students' primary advisors requires that teachers step beyond their traditional role definitions. In return, schools must find additional time for teachers to spend with their advisees. Schools with well-developed advisory programs must often find ways to rearrange their daily schedules to create time for teachers and advisees to interact.

SAFE AND DISCIPLINED SCHOOLS

Attending a safe, disciplined school is one of the prerequisites for academic success. Learning depends on productive engagement in schoolwork, and productive engagement depends on the opportunity to concentrate. But misbehavior and violence can disrupt academic engagement and obstruct learning, undermine the school climate, and damage relationships among members of the school community.

For many students, especially those at risk of dropping out of school, developing a sense of school membership depends on how they perceive adults to be treating them. Students expect and want fair and decent treatment from adults; how the school administers discipline sends important messages about respect to students. When the school's disciplinary policies seem capricious and unfair, students are alienated and the school's mission wanes. When the school's rule enforcement is consistent and teacher and student roles are clearly defined, students identify more closely with the school.

In a school setting, harmonious interaction between students and teachers requires substantial agreement about the expected norms of behavior. For schools to enforce the rules accordingly, all students must know what their obligations are and how to meet them.

In a school setting, harmonious interaction between students and teachers requires substantial agreement about the expected norms of behavior. For schools to enforce the rules accordingly, all students must know what their obligations are and how to meet them. Some schools achieve this end by reviewing their rules in a formal meeting of the entire school community one or two times a year. In addition, safe schools respect and support appropriate behavior. They adopt rules for behavior that cover both formal and informal interactions, teach students how to observe those rules competently, and monitor compliance persistently. One way to ensure students' acceptance of the school's norms of behavior is to give them a voice in creating the school community's rules:

> *Although a high number of students at the Urban Collaborative Accelerated Program have histories of discipline problems, UCAP uses a student-managed disciplinary proces· to foster individual and community responsibility and student engagement in school. Students develop school rules and monitor their implementation and enforcement through a student discipline committee. All students take turns rotating through the committee to hear and rule on cases presented by teachers and other students. Often, the rules developed by students are stricter than those devised by staff. For example, students might change a "no swearing" policy to "no swearing in any language." Teachers say that students' involvement improves their attitudes toward school and accelerates learning.*

Students can also learn the importance of appropriate behavior from adult modeling and coaching. Greenbaum (1989), who participated in a long-term study of violent behavior among children, commented that if a school's "atmosphere is one of hostility and insensitivity in which students are continually subjected to criticism and failure, serious disciplinary problems and criminal behaviors are likely to erupt." Some teachers' and administrators' preoccupation with punitive methods of controlling student behavior contributes to an atmosphere of conflict. Safe schools are those where supervisory expectations, faculty competence, and staffing arrangements protect children from adult incivility.

Certain teaching strategies, classroom routines, and school practices can promote students' self-management and productive engagement in school work. For example, properly structured cooperative learning methods offer students instruction in task management and peer coaching while nurturing individual accountability. Classroom routines that encourage students to manage classroom materials and events nurture both efficacy and responsibility.

Through effective teaching, students learn and practice self-management skills in substantively rewarding activities. Effective teaching also creates learning environments where each participant's contribution is valued, and anyone's absence is duly noticed. Appointing students to organize and direct academic activities and community events facilitates their development as participants in an orderly institution. The procedures used in schools constitute a "hidden curriculum" that either fosters students' engagement and general seriousness of purpose or, alternatively, undermines their confidence and sense of responsibility.

According to the National Association for Safe Schools (NASS), the most efficient design for school security begins with an assessment of the nature and patterns of offenses within the school. Once a school recognizes its problems, it can respond intelligently. For example, scheduling and access to certain areas of the building are some concerns that influence school safety. Increasing supervision, collecting money for school activities at the beginning of the day, using hall passes, and enforcing visitor policies can improve safety. In Chicago and Memphis, among other places, parents patrol the neighborhoods around certain schools at the beginning and end of the day to reduce incidents occurring in transit. Other cities use police officers or their own school security personnel to maintain order. However, the National Association for Safe Schools (NASS) cautions that the foundation of an effective school safety program is not simply better security; it is a comprehensive program that involves everyone in the school community. Students, teachers, parents, and community members must work together to create and maintain a positive and secure school climate. Students in particular can help to make their schools safer by participating on school safety committees or helping to design school security systems.

Because gang activity is the source of so much violence among students, several community agencies have started experiments with alternative social groups for adolescent boys and girls. Projects sponsored by the Ounce of Prevention Fund in Illinois, for example, provide after-school and summer clubs that offer youths opportunities for recreation, community service, and social rituals, such as the "Rites of Passage" ceremony of Simba, a Chicago club. In general, the goal of these clubs is to provide youth with alternatives to gangs while promoting pride and self-esteem and enhancing group cohesiveness. For many youths, gang lawlessness is just a sign of having nothing left to lose. Positive, engaging social alternatives can nurture the self-respect that underpins socially responsible behavior.

CREATING PARTNERSHIPS WITH FAMILIES

When families are involved in their children's education in positive ways, research shows that students achieve higher grades and test scores, have better attitudes and behavior, graduate at higher rates, and enroll in higher education in greater numbers. Parents and other family members influence their children's academic and social development by supervising how they spend their time outside of school; fostering the development of their children's confidence and motivation to become successful learners; and influencing the work of schools through their participation in governance, advisory, and advocacy groups. Although researchers have learned the most about the benefits of strong family involvement in the education of young children, active family support bolsters school success for students of all ages.

At the secondary level, however, most parents face challenges when they try to forge partnerships with schools. For example, there are more logistical barriers to parent involvement in most middle and high schools than in elementary schools. Middle schools and high schools are larger, harder to negotiate, and usually located farther away from home. Students have multiple teachers, so that often there is no clear point of contact if parents want to discuss either their children's progress or how they can help. High schools and middle schools are usually organized around subject-matter departments, where students (and their parents) usually have less contact with an individual teacher or administrator. In addition, parents often question their ability to help with schoolwork as their children progress through secondary school and take more challenging courses.

Rather than parents, secondary schools must work with a whole network of adults—including community members and potential employers—who influence these students' lives. Community organizations, including employers, promote the value of education and are especially important for schools attempting to address school-to-work transition issues.

Developing a partnership with the adults who interact with these students outside school is more complicated for the schools as well. As middle school and high school students go through adolescence, they grow increasingly independent of their parents. Rather than parents, secondary schools must work with a whole network of adults—including community members and potential employers—who influence these students' lives. Community organizations, including employers, promote the value of education and are especially important for schools attempting to address school-to-work transition issues. Also, community organizations are key supports to both parents and school staff dealing with high-stakes issues, such as drug use and gang activity, which are more prevalent among secondary students.

Although research indicates that students of all ages do better in schools where parents and other family members are involved, few empirical data show which strategies for fostering partnerships with families work best at the secondary school level. The same principles that govern successful elementary school parent involvement programs appear to hold true for middle schools and high schools as well. Schools must view parent involvement as a process rather than as a series of isolated events; communication between the school and families should be ongoing and participatory; and a committed leadership must support ongoing parent-involvement efforts and assessment activities to inform future planning.

One of the most powerful contributions that families can make toward their children's success in school is to foster after-school learning. Families may foster home learning for students of all ages by encouraging children with their schoolwork; interacting with their children at home to support school goals and programs; and assisting children with decisions that affect their future. Family members can also exert a powerful influence not only on their children's course selection but also on their career options once they graduate from high school.

Data from the National Assessment of Educational Progress indicate that three factors over which families can exercise authority—school attendance, variety of reading materials at home, and television watching—account for nearly 90 percent of the difference in the average state-by-state performance of eighth-graders' mathematics test scores (U.S. Department of Education, 1994). A national study of eighth-grade students shows that parental involvement in students' academic lives is a powerful influence on students' achievement across all academic areas (Keith & Keith, 1993). Higher achievement occurs, in part, because students whose families are more involved in their education do more homework. Parents monitoring students' attendance, homework, and use of leisure time are especially important at the secondary level as students become more active outside the home.

Besides fostering students' learning and educational choices at home, parents and community members can influence their children's education in other ways. They can work as advocates in schools by serving on site-based school restructuring councils; they can also participate in districtwide programs that involve parents and community members in a variety of decisionmaking roles.

Too often, parents and other family members feel their strengths and potential go unrecognized. Poor, minority, and limited-English proficient families often feel excluded by the schools' cultural and class boundaries. When family members are unfamiliar with language, expectations, and social conventions, they are unlikely to assume their roles as full partners with schools. In reaching out to families, schools must work to develop a sense of mutual trust and respect. When teachers and administrators acknowledge the strengths that parents and families bring to the partnership, parents will be more willing to participate. As schools recognize parents and other family members for their contributions and ask them to work on behalf of their children's education, they will create a more inviting environment for parents.

Recognizing that all parents have hopes and goals for their children and that families are central contributors to their children's education, schools may take a number of approaches to enlisting families' support. Parent involvement is not a "one-size-fits-all" program; because students have different needs, as do parents, schools must attempt to adapt their efforts to address those needs. The U.S. Department of Education recommends a range of concrete steps that schools may consider (1994):

- **Assess parents' needs and interests.** Schools can bridge the distance between families and schools by surveying parents to find out their concerns and opinions about school. Schools should begin planning parent involvement activities by asking parents of students what they need (e.g., information, training, decisionmaking opportunities) to support their children's academic achievement.

- **Encourage family learning.** Traditional homework assignments can become more interactive ones by involving family members. For example, students might collect oral histories from family members for history classes. Schools could host family mathematics and science nights modeled on those that have proven so successful for students and parents in the elementary grades.

- **Create a mechanism for personalized communication** with parents, especially with those unable to come "in" to school. For example, a school might appoint a home-school coordinator, provide more flexible time for teachers to visit homes, or expand opportunities for contact by providing parents with more flexible schedules with which to meet school staff. For example, schools

can set up resource centers for parents, institute home visits or mentoring programs, hold evening or weekend meetings out in the community, and establish homework hotlines. Personal contact is important in encouraging families to participate.

- **Address language barriers.** Schools can make special accommodations to reach families whose first language is not English. Translating materials can be useful for these parents and other family members, but written communications alone are not enough. Ideally, a resource person, perhaps another parent, communicates with parents in their first language either by visitation or by telephone.

- **Give parents a voice in school decisions.** Schools can include parents and other family members in site-based decisionmaking teams, school-improvement teams, or steering committees that direct school restructuring efforts. By providing regular information and making seminars and workshops available to family members, school staff often facilitate the participatory decisionmaking process. Once family members are informed and involved, the school must listen and respond to their contributions.

A key feature of the reauthorized Title I of the ESEA is a renewed emphasis on increasing effective parental participation in schools. This emphasis complements the National Education Goals' promise that, by the year 2000, "Every school will promote partnerships that will increase parental involvement and participation in promoting the social, emotional, and academic growth of children." Title I requires schools receiving funds to develop a school-parent compact with parents that describes: (1) the school's responsibility to provide students with high-quality curriculum and instruction in a supportive learning environment; (2) the ways in which parents will be responsible for supporting their children's learning, such as monitoring attendance, TV viewing, and homework completion; and (3) the ongoing communication occurring between home and school. Title I also requires the school and the district to take steps to build parents' and schools' capacity for strong parent involvement, including providing materials and training for parents, educating school staff in reaching out to parents, setting up parent resource centers, developing appropriate roles for community-based organizations and businesses, and encouraging partnerships between elementary, middle, and secondary schools.

A key feature of the reauthorized Title I of the ESEA is a renewed emphasis on increasing effective parental participation in schools.

Parents and other family members are crucial links in the network of support that students need to succeed in school. Schools aiming

to increase their students' chances for success can invest wisely in programs that will encourage families to assume a more active role in their children's education and in the life of the school.

DEVELOPING COMPREHENSIVE SUPPORT SYSTEMS

Teachers are often frustrated when their efforts seem insufficient to ensure students' success. When children come to school hungry, burdened with responsibility for other family members, or stressed from home environments that are chaotic, dangerous, or abusive, their learning suffers. Under these circumstances, teachers and principals find themselves coping with emergencies—scrambling to find clothes, food, medical attention, and counseling for children—instead of teaching. Although school may offer some degree of safety, school personnel are not equipped to solve all students' problems. Students at risk of school failure often need more intensive support services than their peers. To provide effective and comprehensive support for students, schools devote considerable attention to the nonacademic issues that can, and often do, prevent students from succeeding in school.

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Although consensus that schools must attempt to address students' lives beyond school walls has grown, so has recognition that existing health, education, and social services are limited by the ways they are organized and delivered. Fragmentation prevents social service professionals from coordinating their interventions and tracking their cumulative impact. Because problems are defined in the short term and related to single issues, there is no "permanent record" that shows the effect of services over the long term; for example, it is rare when a drug counselor, a school nurse, a welfare worker, and a teacher meet to assess a student and develop a long-range, coordinated plan for services. Most social service resources are used for reacting to acute problems and emergencies; prevention is usually neglected. Although schools have the major contact with children and their families, most schools have no family counselors or health facilities, and they lack information about other service providers who could help address the needs of students.

A school-based program that incorporates social, economic, and health services—usually provided by agencies other than the school itself—can help reduce dropout rates, improve student achievement, and promote long-term self-sufficiency. Such a program includes an array of services that address all of the obstacles to a

student's academic success. Among the services having the potential to increase the capacity of students to fare better in school are:

- Child care, for children of students and for younger siblings under the students' care
- Health care, provided either at the school site or through referral to nearby off-site providers with follow-up
- Transportation to and from school and to school-related activities and service providers
- Family support services, including welfare assistance, job training and employment assistance, and housing and housing-related assistance
- Substance abuse treatment

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The school-linked services effort is part of a larger movement for more integration of education, health, and social services for children. Integration does not typically mean merging these service systems but rather increasing the collaboration among them—to form a partnership in which a number of service agencies develop and work toward a common set of goals. An integrated service delivery system would be preventive, rather than reactive, and respond to the full range of child and family needs. In a school-linked approach to integrating service for children, services are provided to children and their families through a collaboration among schools, health care providers, and social services agencies. The schools are among the central participants in planning and governing the collaborative effort, and the services are provided at, or are coordinated by personnel located at, the school or a site near the school. Research on programs coordinating services suggests that such coordination should include, as a minimum: (1) a case management system in which each student is assigned to a trained service provider responsible for supervising the identification of the student's needs, (2) a service delivery plan, (3) delivery of services, and (4) follow-up to ensure students received the appropriate services and responded as expected. In schools with large numbers of at-risk students, and particularly in schools where the majority of the student body is considered at risk, implementing such a case management system would require a significant commitment of staff time and resources. For example, the Boston Public Schools have a full-time "Student Support Services Coordinator" in each high school, and St. Paul, Minnesota, has two or more school social workers in all junior and senior high schools. Coordination among

agencies governed by different sets of regulations and funding requirements also presents a significant challenge; nevertheless, the case management approach holds the most promise for delivering integrated, comprehensive services to students who need them most.

Through Kentucky Education Reform Act state funding, the Youth Services Center at Western Middle School in Louisville offers students and families a variety of education, health, and employment-related services. The Center aims to improve students' academic success by helping to meet their needs and the needs of their families. The Youth Services Center links students and families with community and family service agencies. Staffed by several coordinators, a psychologist, and a clerk, the program is governed by an advisory board made up of representatives of collaborating community service agencies.

Students are referred through teachers and administrators, and they receive counseling from an on-staff psychologist, community college students, or outside agency staff who come to the Center as needed. Students can also attend health-related clinics and participate in programs that build cultural pride.

The Youth Services Center uses a variety of methods to reach out to families. Staff send home newsletters and call parents on the telephone. Teachers and Parent-Teacher Association members refer parents. The Center is open during open house nights. During a monthly student awards program, speakers from a collaborating agency describe their agency's services to students and their parents.

Western's Youth Services Center offers parents six-week, twelve-hour effective parenting classes at the school. The Center also brings the classes to the community, operating in churches, community centers, and housing projects. Parents come to the Center to participate in support groups. The Center helps families access needed community services, including housing, health, employment, adult education, mental health, and substance abuse services. Center staff make appointments for parents, provide them with transportation to the agency, and even accompany the parent to the appointment if necessary. Western's Center is open Monday through Friday from 7 a.m. to 4 p.m., and on evenings and weekends by appointment.

Resources for Improvement

Secondary schools with well-deserved reputations for effectiveness use many resources to nurture and sustain their growth and the growth of their faculty. Professional development enhances their faculty's ability to identify goals and implement plans for improvement. Shared decisionmaking at the school level promotes sound governance. Planning lays the basis for effective operations. Supplementary funding provides the extra support that initiating new programs and practices requires.

PROFESSIONAL DEVELOPMENT

To some degree, all innovation involves new learning; educational innovation typically involves learning about new curriculum materials, new approaches to teaching and classroom management, and new organizational arrangements. It often involves changing values and beliefs as well, in light of new information that challenges the adequacy of those formerly held. Adopting the innovations that contributed to their effectiveness engaged many of the schools in these idea books in more extensive, long-term professional development efforts than they had previously undertaken. Their programs aimed to enhance the schools' capacity for teaching and learning by improving the faculty's skill and knowledge in one or more areas.

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New Methods and Materials

Reform and restructuring often include new courses, content, methods, and materials. Indeed, recent experiences with multidimensional innovations indicate that early adoption of a curriculum framework or instructional approach with short-term, achievable goals can be the best place to start. Faculties and their expert consultants know how to approach new curricula, and they may achieve measurable results in reasonable time. Learning new processes and inventing new organizational arrangements takes more time, is less predictable, and may be disconcerting in the short term.

However, using the new methods and materials that form the cornerstone of innovations in schools profiled here demands not only familiar substantive and procedural learning, but also changes in attitudes and beliefs that support the innovation. Besides preparing to teach new lessons, the Algebra Project, for example, requires reallocating time and resources from the regular curriculum. In every course, time and resources are scarce commodities, and teachers already allocate them according to priorities established by experience. Professional development activities must provide information and insights that address teachers' concerns with effectiveness, cultivating their willingness to replace the familiar with new methods and their competence to do so.

Peer Collaboration

Many new approaches to teaching require extensive collaboration among peers. Interdisciplinary courses, team teaching, peer coaching, coordinating the activities of a school-within-a-school or a "house," and making good use of school-based health or social services all demand knowledge and skills that are not typically part of

preservice education for teachers or administrators. Neither the norms of everyday civility nor those of effective pedagogy give clear direction, yet the success of many innovations is predicated on navigating the sometimes treacherous waters of newly merged streams of activity and responsibility. Professional development activities should help faculties develop new norms that preserve accountability and reasonable autonomy while nurturing more useful collective effort. As a result of their participation, school staff members should have richer experiences in professional encounters with ideas, materials, and colleagues.

Faculty at City-as-School High School credit continuous professional dialogue about how to implement their vision for enabling them to survive so long as an institution. As one staff member reported: "Years ago, before 'site-based management' and 'teacher empowerment' became part of the vocabulary, CAS held constant meetings for teachers to discuss issues and brainstorm solutions to the problems that face an external learning school. . . . These discussions have been part of an on-going dialogue that has existed from the beginning of the school's history. . . . The school's internal and external staff development is one of the main reasons that CAS has evolved over the years, outliving many schools that were part of the [alternative education] movement of the late sixties-seventies."

Principles of Reform

Adapting new programs demands skillful adjustments at each site. Professional development activities must convey to participants a deep knowledge of subject matter to support the critical thinking and explorations that underlie many new curriculum frameworks. They should also stimulate participants' understanding of the principles of instruction and organizational dynamics that underlie the new programs. Through such understanding participants can reflect on and refine their own performance. In addition, with this knowledge participants can act as critics and advocates—mustering relevant evidence for discussions of whether and how to proceed. When implementing a program developed elsewhere falters because of a poor fit to local conditions, knowledgeable faculty can invent local remedies based on sound principles—a practice many find even more useful than simple adoption (Little, 1993). Professional development designs should attend to the need for participants' understanding of key principles of action.

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Creating a Climate that Supports Professional Growth

Many reform strategies confer greater decisionmaking authority on teachers. Assuming responsibility for leadership as part of a school

improvement team, for example, or of a project advisory board that includes representatives from business or the community requires skills and knowledge beyond those typically used in the classroom. Few participants will know as much as they need to know about how to develop problem descriptions, identify possible solutions, and come to agreement on a plan of action. Professional development for all team members should create common language, procedures, and expectations that make the work of such groups more efficient and productive. It should also encourage thoughtful acceptance of informed and principled dissent; new collaborative arrangements should not purchase harmony at the price of independent thought.

Studies have been able to trace the positive influence of sound professional development first on school programs and then on student achievement. However, sound programs (and the sophisticated studies that document their effects unambiguously) are difficult to conduct. Barriers to effective professional development include:

- Too little time for teachers to learn new skills
- Too little funding
- Too little support from the central office
- Too many competing demands
- Too much staff turnover

If schools do not overcome these barriers, innovations can fail to take root.

Effective professional development often includes all school staff and focuses on specific circumstances or practices. Successful secondary schools find that choosing a target for training is important, and involving the staff in selecting it may also be important. For example, a faculty with a long-term commitment to implementing a science or mathematics program based on hands-on activities and portfolio assessment may determine that a subject-matter focus is the best place to begin, reserving until later their study of methods and assessment.

In the schools described here and in the companion volume to this idea book, teachers and principals alike testify to the importance of establishing a professional climate that accepts occasional floundering as the natural and probably unavoidable consequence of trying

Teachers and principals alike testify to the importance of establishing a professional climate that accepts occasional floundering as the natural and probably unavoidable consequence of trying out promising new approaches. They discovered that, over time, thoughtful experimentation and reflection generate a culture that assumes continuous professional growth.

out promising new approaches. They discovered that, over time, thoughtful experimentation and reflection generate a culture that assumes continuous professional growth. Like doctors or lawyers, teachers come to be viewed as professionals who must keep up with current issues in their field.

Resources for Learning

Many schools establish relationships with nearby universities to provide mutually enriching resources for professional development. Such partnerships offer expertise and opportunities of equal value to both partners: research sites, credit coursework, preservice and graduate field experiences, and access to subject-matter specialists. Some schools take advantage of the learning experiences offered by district or regional centers to enhance faculty skill and knowledge. Schools that are part of a network—such as Advancement Via Individual Determination (AVID), the Coalition for Essential Schools, and Ventures in Education—benefit from experiences developed and supported by the sponsoring agency. State departments of education, the regional educational laboratories, and other federally funded technical assistance centers are also valuable sources of training and technical assistance.

Summer programs and institutes are popular and constructive options for faculties with full academic-year calendars. They afford teachers uninterrupted time to concentrate on new instructional approaches or curricular material; sometimes project budgets offer stipends for participants. These programs can be sponsored by state education agencies, regional educational laboratories, or local or regional universities. Some summer programs—AVID's is one—provide follow-up training during the school year, sometimes accompanied by classroom observation and critique.

SITE-BASED SHARED DECISIONMAKING

As quality circles and "total quality management" practices engage more diverse members of the labor force in planning and decisionmaking at the workplace, trends are also evident to involve members of the school community in planning reform. Studies of successful innovation and the experiences of schools profiled here reveal that, when teachers are involved in setting goals, designing reforms, brainstorming options, and making implementation decisions, changes are more likely to result in long-term improvements. In many districts, adopting participatory governance models—involving administrators, teachers, support staff, parents, and com-

munity members—are part of a shift to site-based management, in which some decisions about budgeting and personnel are left up to the school. Whether reform is "top-down," "bottom-up," or a combination of the two, at some point successful programs draw on the insights of teachers and others most affected by the change, and schools very often manage their own implementation. Federal legislation in some instances encourages programs to locate decisions about schools and school funding at the school level.

Site-based shared decisionmaking is evident in our small sample of schools and programs. In most sites, teachers developed the reform plans and identified the resources needed to implement them. In some sites, a visionary leader or a state mandate gave an impetus to faculties' work, but to an impressive degree faculties themselves were the aggressive proponents of reforms. Using the flexibility offered by site-based management, faculties adopted multiple approaches, expanding learning opportunities for students to include extended class periods, out-of-school experiences, workplace orientation, peer tutoring, and summer courses. They often also expanded their own learning opportunities, both by arranging for existing professional development activities to address the innovation explicitly and by investing their own time after school, on weekends, and during the summer. Flexibility for internal operations enabled some schools to adopt bold new approaches step by step, department by department, grade by grade, or team cluster by team cluster. For example, two high schools launched academically ambitious, career-oriented programs as schools-within-schools. After a period of experimentation at this level, the whole school adopted new organizational structures based on the piloted models.

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Many of the innovative schools and programs discussed here adopted formats that go beyond the conventional, using, for example, heterogenous instructional grouping, Saturday or after-school classes, interdisciplinary courses, and modular course scheduling. To ensure protection of negotiated agreements while securing flexibility to try new strategies, the schools make special arrangements with appropriate authorities. In one dropout recovery school in the companion volume to this idea book, an annually renewed contract between the school and the sponsoring districts coupled with state legislation made the programs a possibility. In one middle school, the faculty trades increases in course load for decreases in class size under special waivers from the terms of their union contract; each incoming teacher must review and accept these provisions before joining the faculty. In other schools, flexibility is supported by provisions under desegregation grants for magnet schools, waivers of

prescribed district curriculum, and articulation agreements between the school and other educational institutions.

The site-based management team of Fairdale High School in Louisville wields considerable authority in school decisionmaking. Fairdale began planning the team in 1986, in response to an invitation from the Gheens Academy for local schools to form a city-wide cohort of school improvement bodies committed to reform. In 1987, the faculty at Fairdale appointed a steering committee to serve as the primary decisionmaking body for the school in matters of curriculum, assessment, staffing, finances, facilities, student and teacher recognition, and school restructuring. Led by the principal, the team also included ten parents and community members, eight teachers, four students, and one support staff member. Its size and composition qualified the team to assume authority under the Kentucky Education Reform Act of 1990, which mandated that all schools adopt a site-based shared decisionmaking governance model.

Under the team's leadership, Fairdale has adopted a number of innovative practices. As a member of both the Coalition of Essential Schools and the Southern Regional Education Board's vocational schools collaborative, the school boasts widespread use of innovations such as cooperative learning, team teaching, and interdisciplinary courses. All ninth and tenth graders are divided into "learning communities" with about 130 students and five to seven teachers. Each team of teachers meets daily to make long- and short-range plans for its community. The teams also have the authority to determine how long and how often their classes will meet. Teachers have designed interdisciplinary courses built around "essential questions" that promote investigations that span disciplines. Fairdale faculty take advantage of courses offered at Gheens and participate actively in professional development opportunities provided by the Coalition.

Change did not come overnight to Fairdale, but the slow work of building a shared vision and implementing it segment by segment is beginning to pay off in increased student success.

PROJECT PLANNING

Innovation often begins by discussing knotty problems and then moving to map a path between "what is" and "what could be." Reforms in many of the schools profiled here began with teachers

coming together to brainstorm options for change. At Tuba City High School and the Grizzly Hill School in North San Juan, California, for example, teachers went on retreats to develop school goals and identify ways to achieve them. Backed by district administrators, teachers in these schools had the authority and resources to implement their plans. At the Urban Collaborative Accelerated Program, teachers reinvent parts of the program on a weekly basis during planning time built into their schedules for that purpose.

Title I schoolwide programs and magnet schools must identify a mission and make plans to achieve it as a part of their charters. In schoolwide programs, parents help the school and district develop a strategic plan. By law, all schoolwide plans must include professional development, and many choose to make professional development an integral part of the project.

Evidence suggests that "top down" mandates are not inevitably futile; many have provoked constructive and effective responses when local educators had the resources and the technical expertise to make the desired change. Reform agendas may be equally effectual regardless of whether they originate with formal leaders or practitioners themselves. However, successful projects typically engage teachers in decisionmaking and problem-solving early and often; this engagement contributes to the staff commitment that real change requires. In sailing uncharted waters, innovators are bound to run aground occasionally, despite their efforts to be provident. Active engagement in planning and time to reflect on their experiences as they unfold permit faculties to adjust course thoughtfully and make all due haste. Many schools profiled in these idea books invest wisely in time for comprehensive planning.

"Change, by definition, cannot be managed through the status quo level of resources. It makes new demands, creates unsolved problems, and is resource hungry."

FUNDING

Commenting on their observations of reform efforts in many secondary schools, Louis and Miles (1990, p. 239) assert that "to carry out a change or improvement always involves an increment of *extra* resources—for training, released time, new materials and equipment, often new space, and staff time for coordination and management. Change, by definition, cannot be managed through the status quo level of resources. It makes new demands, creates unsolved problems, and is resource hungry."

Most of the schools in these idea books receive supplementary funding from one source or another to support their programs;

some receive very large sums. Project implementers reported that these additional funds were central to their success. One recent study of successful urban high schools put the price of making substantial, long-term changes at $50,000 to $100,000 annually—1 or 2 percent of the budget of most high schools—for a period of several years. In schools where money was used for coordination and assistance rather than for salary supplements, the innovations were likely to have a stronger and more durable effect. Many schools begin reform with a packaged component, such as a curriculum module or a new teaching strategy. The costs of implementing these relatively self-contained components are often predictable, making them appealing as the point of departure for the more extensive changes that real reform often involves.

The schools profiled in the companion volume to this idea book share the ability to obtain funding from several sources. In several cases, success led to higher funding. For instance, the Thurgood Marshall Middle School implemented what became an innovative schoolwide restructuring project in stages. The school established its first set of cluster teams at one grade level with desegregation funding; as initial reforms proved their merit, the principal and others became more confident in expanding the teams to other grade levels and implementing additional changes in curriculum and instruction with funds from Chapter 1. In the process, the school also won funding from the Edna McConnell Clark Foundation.

CONCLUSION

Schools successful in raising the educational achievement of their students have succeeded in setting high standards for student achievement, engaging students in the business of learning, and providing the support students need to succeed in school. Toward these ends, successful secondary schools have been engaged in developing new and more challenging curricula, reorganizing the environment for learning, developing programs linking schooling to the future, and developing networks of support for students. Profiles of schools featured in the companion volume to this idea book provide insight into programs that illustrate the innovative efforts noted here.

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