Pathways to College Access and Success

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U.S. Department of Education
Office of Vocational and Adult Education

2005

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Office of Vocational and Adult Education

2005

This report was produced under U.S. Department of Education Contract No. ED-99-CO-0163 with DTI Associates, Inc., and their subcontractor, the Community College Research Center, Teachers College, Columbia University. Ivonne Jaime served as the contracting officer's technical representative. The views expressed herein do not necessarily represent the positions or policies of the Department of Education. This publication includes information about and references to products, commodities, services or enterprises from other organizations, both public and private. Inclusion of these does not constitute an endorsement of them by the U.S. Department of Education.

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Key Terms

AA – Associate in Arts

AAS – Associate in Applied Science

AP – Advanced Placement

AS – Associate in Science

ADA – Average Daily Attendance

California Community College – Pseudonym for postsecondary partner of Southern California Middle College High School program

CAS – Creativity, Action, Service (see Minnesota IB profile for more information)

CBTP – Credit-based transition program

CPR – Cardiopulmonary Resuscitation

CTE – Career and technical education

CUNY – City University of New York

Dallas Tech-Prep High School – Pseudonym for secondary partner of Dallas, Texas, Tech-Prep program

Dallas, Texas Tech-Prep Program– Pseudonym for the program partnership between Dallas Tech-Prep High School and Texas Community College

ELL – English Language Learner

FTE – Full-Time Equivalent

IB – International Baccalaureate

ID – Identification card

IEP – Individualized Education Plan

Iowa Community College – Pseudonym for postsecondary partner of Metropolitan Counties, Iowa Dual Enrollment program

Learner's Academy – Two-year sequence of courses for ELL students at the New York City Dual Enrollment program

MCHS – Middle College High School

Metropolitan Counties, Iowa Dual Enrollment – Pseudonym for the program between Rural High School and Iowa Community College

Minnesota IB – Pseudonym for the IB program studied in Minnesota

New York City Dual Enrollment – Pseudonym for the program partnership between New York City High School and New York Community College

New York City High School – Pseudonym for secondary partner of New York City Dual Enrollment program

New York Community College – Pseudonym for postsecondary partner of New York City Dual Enrollment program

PC – personal computer

Regional Medical Center – Pseudonym for hospital partner of Metropolitan Counties, Iowa Dual Enrollment program

Rural High School – Pseudonym for secondary partner of Metropolitan Counties, Iowa Dual Enrollment program

Southern California Middle College High School – Pseudonym for secondary partner of Southern California Middle College High School program

Texas Community College – Pseudonym for postsecondary partner of Dallas, Texas, Tech-Prep program

The Global EDGE Tech Prep Consortium – The Tech-Prep consortium of which the Dallas, Texas Tech-Prep program is part

TOK – Theory of Knowledge (see Minnesota IB profile for more information)

OVAE – Office of Vocational and Adult Education, U.S. Department of Education

Acknowledgments

The authors wish to thank Rebecca Cox and Andrea Soonachan of the Community College Research Center (CCRC) for commenting on previous drafts, and Lisa Rothman, also of CCRC, for her thorough management of the contract details. We are grateful to Polly Hutcheson for her excellent research assistance. To Ivonne Jaime and Braden Goetz of the U.S. Department of Education, we wish to extend our appreciation for their guidance throughout the entire project. We are additionally grateful to Hans Meeder, former OVAE Deputy Assistant Secretary for his support and direction of this research project. For their able administration of the contract, editorial advice, and assistance in planning and conducting research, the authors are exceptionally grateful to Louisa Fuller and Laura Lanier of DTI Associates – A Haverstick Company.

We also wish to thank the many students, teachers, staff members, and coordinators within the schools and credit-based transition programs that participated in the Accelerating Student Success Through Credit-Based Transition Programs project. Though we are unable to name all of these individuals, their willingness to assist us in this project and provide access to program participants, staff, activities, and documents has not gone unappreciated.

This report is dedicated to the memory of Arlene Kahn for her support and contribution throughout the project.

Executive Summary

This report looks at the ways that credit-based transition programs (CBTPs) may help middle- and low-achieving students enter and succeed in college. It highlights promising practices used by CBTPs to help students who might have been considered noncollege-bound prepare for college credit course work. The report also discusses the challenges that CBTPs face when trying to include such students.

This report is the final report from the Accelerating Student Success Through Credit-Based Transition Programs study, which was initiated by the U.S. Department of Education, Office of Vocational and Adult Education (OVAE) in the fall of 2003. The goal of the study is to better understand the characteristics of CBTPs and the students they serve. These programs, such as Tech-Prep, dual or concurrent enrollment, International Baccalaureate (IB) and Middle College High School (MCHS), allow high school students to take college-level classes and earn college credit. They sometimes also provide services to support the main aspects of the high school-to-college transition.

CBTPs are widespread and interest in them by policymakers, educators, parents, and students has increased in recent years. In addition, while these programs are not new, the idea that they should be accessible to a broader range of students is a new approach. In the past, CBTPs enrolled primarily academically proficient and high-achieving students. Today, however, a growing number of policymakers, education reform groups, and researchers argue that middle- and even low-achieving high school students may benefit from participation in these programs.

Yet, despite their popularity nationwide, there is limited research-based information on CBTPs, particularly those programs that include a broad range of students. The research for this report was conducted in the spring and fall of 2004. Case studies were undertaken in five states—California, Iowa, Minnesota, New York, and Texas. Two dual enrollment programs, an MCHS, an IB program, and a Tech-Prep program were studied.

The first section of the report describes the sites and examines some of the ways in which contextual features influence program implementation. The report then highlights findings regarding four key program features—student recruitment and selection processes, curriculum, support services, and data collection and use. For each feature, the researchers investigated the current practices of the case study sites, identified those practices that seemed most promising in meeting the needs of middle- and low-achieving students, and identified barriers to

implementing them. Readers should note that the data reflect program practices at the time the research was conducted in the spring and fall of 2004. In addition, in order to give the study participants anonymity, the specific research sites were given pseudonyms. When given permission, the name of the general program is used.

Key Findings

Student Recruitment and Selection

At the sites studied, student recruitment is typically done informally. The result is that students in CBTPs tend to be motivated, mature, and responsible. In addition, some sites are becoming more selective because of conflict with the sponsoring postsecondary partner over unprepared or disruptive students. Some sites set admissions requirements or select only some students into the program. Other sites have no such requirements, and students need only to sign up for the CBTP to participate. Programs without formal admissions requirements can still pose informal barriers to admissions. For example, relying on word-of-mouth to inform students about the program does not maximize knowledge about the program among the high schools' student bodies as a whole. Open participation does not necessarily ensure broad access.

- In order to ensure that all students—including those not usually seen as college-bound—learn about the program and have the opportunity to enroll, programs should initiate formal recruitment strategies involving middle school and high school guidance counselors and parents, as well as teachers.

Curriculum

CBTP course work falls into three categories: *high school course work*, which meets graduation requirements but also may give students the knowledge and skills necessary for success in college-level classes; *developmental course work*, which is explicitly designed to prepare students for the demands of college-level work; and, *college credit course work*. These courses may be organized into a *curricular pathway*, a clear route moving students from one level of course work to another. Developmental course work and the presence of curricular pathways help ensure that students from a range of academic backgrounds are able to participate in the CBTP. Creating these pathways and helping students take advantage of them are often challenging for programs, however, because they require high schools and colleges to work together closely.

- In order to maximize the range of students participating in CBTPs, programs should implement clear curricular pathways. Pathways should include high school courses aligned with college admissions requirements and developmental course work leading to college credit courses. These pathways should be clearly communicated to students.

Support Services

Nonacademic as well as academic support services are essential in helping students understand and meet the demands of a postsecondary environment. This is particularly important for students who previously have not been successful in school. In general, services vary along two dimensions. They may vary in their sponsor,

meaning whether they are offered by the high school, by the college, or through a collaboration. They also may vary in their content, for example whether services provide academic support, general personal support, or specific college-preparatory activities, such as assistance with college applications or financial aid. Services offered through collaboration often are more cohesive and tailored to students' needs.

- Students in CBTPs should ideally have access to both high school- and college-sponsored services, as well as customized services that are developed collaboratively by the institutional partners.

Data Collection and Use; Perceived Benefits of the Programs

Most sites do not have systematic data collection procedures, and most of the data available at the sites indicate short-term outcomes, making program evaluation difficult. There is little data sharing between high school and college partners, and many sites lack staff time and knowledge to collect and use data effectively. Despite these limitations, study participants do indicate that there are three primary benefits to students who participate in CBTPs: the opportunity to earn free college credit, gaining "a taste" of college, and increased confidence in their academic abilities.

- Perceived benefits are not yet supported by evaluation research. Programs should engage in data collection in order to confirm that students, particularly middle- and low-achieving students, do achieve these outcomes from their program participation.

Recommendations for Policymakers, Practitioners, and Researchers

The data indicate that three broad areas should be addressed by programs and policymakers seeking to help middle- and low-achieving students enroll and be successful in CBTPs: student access, institutional collaboration, and data collection for program evaluation.

Broad access to CBTPs should be encouraged by:

- Developing multiple ways to ensure that all students—regardless of academic background and level of motivation—learn about the CBTP;
- Developing a program culture that is supportive of and encourages students from different backgrounds and academic levels to participate; and
- Structuring the program and the curriculum with an eye towards increasing access, such as by creating developmental sequences of courses.

Policymakers can support programs in these efforts by providing incentives for programs that enroll middle- and low-achieving students.

Collaborative relationships should be encouraged by:

- Clearly establishing the roles and benefits for each institution in the partnership,
- Supporting broader integration between the secondary and postsecondary sectors, and

- Simplifying the credit earning and credit transfer process.

Policymakers have a strong role to play. They can compel the two institutional sectors to rethink and align their standards, curriculum, and assessment practices. Aligning high school graduation requirements with college entrance requirements is an important first step. Articulation of high school with college course work also would help students transitioning to college know that they are prepared. Policymakers also should support dual credit programs, in which students receive high school and college credit for their program course work, as opposed to receiving one type of credit or the other.

Practitioners should work with researchers to collect outcomes data that can be used for outcomes analysis. Policymakers should support outcomes analysis that begin with students' performance prior to program participation, include comparison groups, and follow students through college matriculation and graduation.

In order to assist researchers in their efforts to evaluate the outcomes of CBTPs, the report presents a conceptual model. The model suggests ways that program features may work together to promote the success of middle- and low-achieving students as they make the transition from secondary to postsecondary education. Future research should test the model.

The findings from the Accelerating Student Success Through Credit-Based Transition Programs study lend credence to the enthusiasm many policymakers and educators have for CBTPs. CBTPs have the potential to help a wide range of students, not only the most academically advanced, but also the middle- to low-achieving students, become prepared for postsecondary education.

Exhibit 1: Features of Credit-Based Transition Programs Case Study Sites

Case Site Name (Pseudonym)	Type of Program	Case Site Partners	State	Is there state policy applicable to the program?	Does the program offer dual credit?	School Demographics (2003—04)	Program Admissions Requirements?	Location of College Classes
Southern California MCHS	MCHS	Secondary Partner: Southern California MCHS Postsecondary Partner: California Community College	California	Yes	Yes	Total High School/Program Enrollment - 330 Eligible for Free and Reduced Lunch-75 percent Racial/Ethnic Composition- ■ African-American - 45 percent ■ Hispanic - 55 percent	Yes	College
Metropolitan Counties, Iowa Dual Enrollment	Dual Enrollment	Secondary Partner: Rural High School Postsecondary Partner: Iowa Community College Academy: Nursing Academy Hospital Partner: Regional Medical Center	Iowa	Yes	Yes	Total High School Enrollment - 400 Eligible for Free and Reduced Lunch - 18 percent Racial/Ethnic Composition- ■ White - 95 percent ■ African-American or Hispanic - 5 percent	No	Hospital Partner or College
Minnesota IB	IB	Secondary Partner: Minnesota IB Postsecondary Partner: None	Minnesota	Yes	Yes (but not automatic)	Total High School Enrollment - 1,415 IB Program Enrollment - 692 Eligible for Free and Reduced Lunch - 45 percent English Language Learners - 10 percent Racial/Ethnic Composition- ■ White - 75 percent ■ African-American or Hispanic - 10 percent ■ Asian - 15 percent	No	High School
New York City Dual Enrollment	Dual Enrollment	Secondary Partner: New York City High School Postsecondary Partner: New York Community College	New York	No	No	Total High School Enrollment - 3,255 Eligible for Free and Reduced Lunch - 23 percent English Language Learners - 14 percent Racial/Ethnic Composition- ■ White - 45 percent (includes immigrants from former Soviet states) ■ African-American - 11 percent ■ Hispanic - 21 percent ■ Asian - 22 percent	Yes for college credit courses No for developmental courses	High School
Dallas, Texas Tech-Prep Program	Tech-Prep	Secondary Partner: Dallas Tech-Prep High School Postsecondary Partner: Texas Community College Consortium: Global Edge	Texas	Yes	Yes (but not automatic)	Total High School Enrollment - 1,640 Racial/Ethnic Composition- ■ White - 82 percent ■ African-American - 5 percent ■ Hispanic - 12 percent	No	High School

Pathways to College Access and Success

How can we help all youth have smoother and more successful transitions to college? CBTPs, such as Tech-Prep, dual or concurrent enrollment, IB, and MCHSs, may provide one answer. These programs allow high school students to take college-level classes and earn college credit and sometimes provide services to support the many aspects of college transition.

The U.S. Department of Education's Office of Vocational and Adult Education (OVAE) initiated the Accelerating Student Success Through Credit-Based Transition Programs study in the fall of 2003 to better understand the characteristics of these programs and the students they serve. Previous project activities include focus groups with CBTP practitioners and a review of the dual enrollment policies of all 50 states.[1] This report, the final report of the project, presents the findings from case studies of five diverse CBTPs in order to:

- *Describe* the practices of programs that enroll a broad range of students,
- *Identify* the programmatic characteristics that support middle- and low-achieving students in their college courses and their transition from secondary to postsecondary education, and
- *Explore* the ways in which CBTPs may support the secondary-to-postsecondary transition of middle- and low-achieving students by developing a framework that outlines the mechanisms by which these programs might lead to postsecondary success.

CBTPs are widespread and interest in them by policymakers, educators, parents, and students has increased in recent years. A recent survey of a nationally representative sample of public high schools measured the prevalence of these programs. Seventy-one percent of public high schools reported that, during the 2002–03 school year, students took courses for dual credit, meaning they took a course for both high school and college credit (Waits, Setzer and Lewis, 2005).

There has been limited research on these programs. Some descriptive and anecdotal data are available (Bailey and Karp, 2003). Yet little is known about how the programs work, much less their effectiveness in facilitating successful transitions to college.

In addition, while CBTPs are not new, the idea that they should be accessible to a broader range of students is a new approach. In the past, CBTPs such as IB enrolled primarily academically proficient and high-achieving students. However, a growing number of policymakers, education reform groups, and researchers argue that middle- and even low-achieving high school students

[1] The reports from these two activities are available on the Accelerating Student Success Through Credit-Based Transition Programs project's Web site at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html. Reports can also be accessed at http://ccrc.tc.columbia.edu.

may benefit from participation in these programs (AASCU, 2002; National Commission on the High School Senior Year, 2001; Lords, 2000).

Yet it is unclear the extent to which middle- and low-achieving students can enroll in CBTPs, or how well such students may fare in the programs. The national survey found that most high schools impose student eligibility requirements for participation in dual credit programs, such as minimum grade point averages or minimum scores on standardized tests (Waits, Setzer and Lewis, 2005). These requirements are often in addition to any imposed by the postsecondary institution sponsoring the course. Thus, while the programs are now widely available, they may be accessible to only a small subset of students.

Previous research suggests that certain types of CBTPs—comprehensive and enhanced comprehensive programs—may be more effective in meeting the needs of middle-and low-achieving students (Bailey and Karp, 2003). Comprehensive and enhanced comprehensive programs provide students with an academically intensive experience, encompassing a significant portion of a student's course work over several semesters or years. Enhanced comprehensive programs, in addition to the academic experience, also include intensive support services intended to address the social and personal skills needed for college success. Having both academic and social preparation seems particularly important for programs seeking to include students beyond the traditional CBTP participant.

This report gives an in-depth look at five different programs, all of which currently are making efforts to, include a broad range of students. We hear from practitioners and the students themselves about how these programs are attempting to make some students college-ready who might have been considered noncollege-bound. Promising practices will be described, as well as barriers to such practices. These findings are based on qualitative research that can potentially inform further, outcomes-based research.

The next section of this report presents the five case study sites and examines some of the ways in which contextual features influenced program implementation. The following section presents the cross-case findings, focusing on four key program features—student recruitment and selection processes, curriculum, support services, and data collection and use. As the sites collect limited outcomes data, we briefly discuss the benefits that study participants felt students gained through their CBTP experiences. The report concludes by presenting recommendations for policymakers, practitioners, and researchers.

Throughout this report, the present tense is used when discussing the sites and study findings. Readers should note that the data reflect program practices at the time the research was conducted in the spring and fall of 2004, and we cannot be certain that these practices are still in place. In addition, in order to give the study participants anonymity, the specific research sites were given pseudonyms. When given permission, the name of the general program is used.

Study Sites and Site Contexts

The five CBTPs studied[2] were located in five states—California, Iowa, Minnesota, New York, and Texas—and included two dual enrollment programs[3] (one with a career and technical focus), an MCHS, an IB program, and a Tech-Prep program.[4] They were purposefully selected as examples of CBTPs that enroll students from a range of academic backgrounds. In order to develop a deep understanding of the programs' structures and features, two visits were made to each site.

The sites chosen represent not only a variety of program models, but also a range of state, district, and community contexts. In addition to describing the context under which each case study site functions, this section looks across sites to explore the ways that state and local contexts may influence program operations. State contexts include statutes guiding the operations of the CBTP, as well as fiscal issues, state curriculum standards, and testing requirements. District and community contexts include local resources (financial and otherwise), as well as institutional and community relationships.

Programs were selected for the study based on staff's assurances that they were accessible to a wide range of students. **Southern California MCHS** is located on the campus of its postsecondary partner, **California Community College**. California state statutes require that dual enrollment opportunities be provided to students, and specific statutes define the goals of MCHSs. As do most such schools, California MCHS focuses on providing disadvantaged and low-achieving students with academic and social preparation for college by providing first-hand experiences on a college campus, opportunities to take college credit courses, and a caring environment with small classes and close teacher-student relationships.

Southern California MCHS

In the fall of 2003, 150 MCHS students enrolled in college courses (earning, on average, 3.6 credits); 175 students enrolled in college courses in the spring of 2004 (earning, on average, 4.2 credits).

The Middle College program in California enrolled 330 students in grades 9 through 12 during the 2003–04 school year. Students take courses at the high school until they are ready to enroll in college courses at the community college. College courses—taught by college professors and taken with regularly matriculated college students—are dual credit, meaning they count toward high school graduation as well as toward college.

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2 See the methods section in the Appendix for details on site selection and site visits.

3 Dual enrollment is used throughout this report to refer to programs in which students are simultaneously enrolled in high school and college courses. In some cases, students receive either high school credit or college credit, but not both. In other cases, students receive high school and college credit, an arrangement referred to as "dual credit."

4 For more information on each program type, and further detail on each site, please see the program fact sheets, one-page site briefs, and site case reports, which are available on the Accelerating Student Success Through Credit-Based Transition Programs study Web page at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

Some MCHS students receive an associate degree at the same time that they graduate from high school. In addition, the MCHS helps students access support services offered by the college.

Many of the schools in the large urban school district in which MCHS is located are characterized by low academic performance and a high incidence of violence. In contrast, students and teachers find the MCHS to be a safe, intellectually focused school. During a focus group with MCHS students, they were asked why they chose to attend the MCHS. One student described neighboring schools as follows: "You're sent there to learn and they [the students at other schools] don't really care about their future, and then that's why most schools ... they have security guards to make sure you don't bring any weapons to school or start more violence." Many of the school's teachers made similar comments in describing their decision to work at the high school.

The Southern California MCHS program has operated on the campus of California Community College for more than 14 years. Recent changes in leadership, among other factors, have led to the two partners differing on the program's future. This is due partly to increasing limitations on resources. The K–12 school district is struggling to provide space for all of the district's students and to allocate funding for school operations. The community college also feels space limitations, a problem that has worsened in recent years due to the discovery of earthquake faults on the campus that limit new construction. The strains that the college feels on both its revenue and space resources have led to an increased tendency to limit the high school's use of the college's facilities.

The Metropolitan Counties, Iowa, Dual Enrollment program, also known as the **Health Careers Academy**, is a partnership between **Rural High School, Iowa Community College**, and a local health care center, **Regional Medical Center.** Iowa state statutes allow for students in the 11th and 12th grades to enroll in dual enrollment programs, and explicitly support technically oriented dual enrollment by providing additional funding for these programs.

Metropolitan Counties, Iowa, Dual Enrollment Program

All Rural High School students who were enrolled in the Metropolitan Counties, Iowa, Dual Enrollment program during the 2003–04 school year completed the program, thereby earning 10.5 college credits each. All of the students also matriculated into nursing degree programs at local colleges.

Located in a rural area outside of a larger city, the Health Careers Academy is one of 11 technically oriented dual enrollment programs overseen by Iowa Community College. It is available to high school students in the seven-county area served by the college. Because Rural High School is the sole high school in its small district, and sends only a handful of students to the program, the Iowa Dual Enrollment program includes students from two other high schools within the Metropolitan Counties area.

The Health Careers Academy is an intensive year-long course of study focused on preparing students for health careers. Students can earn up to 10.5 college credits, licensure as a certified nursing assistant, and high school elective credit. In addition to their college course work, students are expected to engage in clinical practice at the Regional Medical Center. They also are given opportunities to observe health care professionals and access to college support services. Students meet daily at either the Regional Medical Center or a satellite campus of Iowa Community College.

In operating the Iowa Dual Enrollment program, Iowa Community College takes the lead in curriculum design, recruiting and hiring instructors, and logistics. Iowa Community College relies heavily upon its high school partners to recruit, screen and select students for the CBTPs. Rural High School is given a significant amount of autonomy in its marketing of the program and student recruitment processes.

The Health Careers Academy, as well as the 10 other academy programs overseen by Iowa Community College, has experienced rapid growth since its inception in the 1980s. Those who work in and with the Iowa Dual Enrollment program attribute much of this growth to the investment of both the college and the area high schools in the programs, as well as to the strong leadership provided by the college.

The **Minnesota IB** program is located in a large high school with a growing Asian and Hispanic immigrant population in a major metropolitan area. The program's context is shaped not by the state's dual-enrollment policies, but by the state's IB statutes, which allow for state funding for teacher professional development and student examination fees. Despite these statutes, budget conditions have left the Minnesota IB program struggling to cover program costs.

The IB program gives students the opportunity to engage in rigorous liberal arts course work created and overseen by the International Baccalaureate Organization (IBO). At Minnesota IB High School, a selection of preparatory courses is offered to ninth- and 10th-grade students, after which students choose one of three IB pathways. Courses that lead to the full IB diploma encompass most of the 11th- and 12th-grade years and prepare students for examinations developed and scored by the IBO. Exams that receive a score of four or higher (out of seven) generally lead to college credit, although postsecondary institutions' policies on credit award vary. In the spring of 2004, 75 percent of the IB exams given at Minnesota IB High School received a score of four or higher.

Minnesota IB
During the 2003—04 school year, almost half of the school's 1,415 students participated in the Minnesota program.

The Minnesota IB program's school district offers school choice to its families. The program serves to attract students to the high school, as it has a strong presence and positive reputation in the community. One Minnesota IB junior stated, "I probably

wouldn't have come here if it wasn't for the IB program. I would have probably gone to private school, I think. Because it kind of had a reputation. My parents knew about it, that's the reason they were really going to send me. ... " In addition to being a school of choice, the Minnesota IB program is open-access, so students do not need to apply to enroll in pre-IB or IB courses.

The Minnesota IB program does not have a postsecondary partner. The training of program instructors and curriculum development is overseen and provided by the International Baccalaureate Organization of North America (IBNA). The school plans to provide IB training and professional development to all of the school's teachers, enabling all teachers to be qualified to teach IB courses. This is critical in the eyes of the principal, who hopes to expand the Minnesota IB program so that all students attending the high school will take at least one IB course.

New York City Dual Enrollment program is operated through a partnership between **New York City Community College** and **New York City High School**. This partnership is one within the larger College Now program, which is composed of all the City University of New York (CUNY) colleges and approximately 200 secondary schools. The goals of College Now include improving the academic skills and achievement of high school students and ensuring that graduating students are prepared to do college-level work. The colleges offer a tailored program of academic and preparatory courses and workshops to their partnering high schools. New York does not have state legislation concerning dual enrollment. In its stead, the CUNY system has set forth its own guidelines in such areas as curriculum, recruitment and selection, and the hiring and training of instructors for all College Now programs.

New York City Dual Enrollment
During the 2003—04 school year, 511 students participated in New York City Dual Enrollment.

New York City High School is severely overcrowded and during the first year of this research operated on a double schedule to accommodate all of its students; the following year the school operated on a triple schedule. This means that the school day lasts from 7 a.m. to 5 p.m. with different students (freshmen and sophomores as a group, and juniors and seniors as a second group) and teachers assigned to different portions of the day. Program courses are taught primarily by high school teachers at the high school.

New York City Dual Enrollment
Seventy-nine percent of the college credit course enrollments during summer 2003, fall 2003, and spring 2004 received grades of C or higher, the minimum grade for receiving college credit.

New York City Dual Enrollment program offers a range of courses and services to students at New York City High School.

College credit courses are offered after school to students who meet New York City Community College's requirements. These courses are not dual credit in that they do

not yield high school credit also. For those students who do not meet the admissions requirements (which are based on state high school exit examinations), New York City Dual Enrollment offers developmental courses as well as an intensive program for English Language Learners (ELL), the Learner's Academy. These opportunities focus on preparing students for their high school exit exams and college enrollment. New York City Dual Enrollment also offers students a variety of support services, including field trips related to course work and writing workshops.

The **Dallas, Texas, Tech-Prep Program** consists of a partnership between **Texas Community College, Dallas Tech-Prep High School**, and **The Global EDGE Tech Prep Consortium**. Tech-Prep, which is federally supported,[5] is designed to link two years of high school and two years of community college course work through a sequenced program of study in a career or technical field. The federal funding stream creates a three-fold partnership between the high school, college, and consortium. The consortium provides funding to its more than 30 partnering secondary schools, coordinates programming, and is responsible for reporting on the program to the college and to the state. The respective departments at the college are responsible for oversight of the Tech-Prep curriculum for the nine pathways supported by the consortium and provide guidance and support to the program's teachers. All program instruction takes place at the high school by teachers approved by The Global EDGE Tech Prep Consortium.

Texas Tech-Prep

In 2002—03 there were 297 enrollments (some students may be enrolled in more than one course) in the Dallas, Texas, Tech-Prep courses. Approximately 47 percent of those enrollments resulted in the students becoming eligible for college credit upon matriculation into Texas Community College.

Texas Tech-Prep High School is the only high school in its formerly rural, but rapidly urbanizing, community in Texas. At the high school, students can enroll in Tech-Prep sequences in a variety of fields, including criminal justice, early childhood education, culinary arts, and information technology. These courses are articulated with the college, meaning that it oversees the courses but does not automatically award college credit to students. Instead, students completing a Texas Tech-Prep course must enroll in Texas Community College and petition for their credits to be placed on their college transcript.

Although the consortium is housed on the campus of the community college partner, it is not fully integrated into the structure of the college, as it has its own governing board and steering committee. The federal Tech-Prep funding that the consortium receives is in part based upon the number of students who participate in Tech-Prep at the high schools and then enroll in a specified Tech-

[5] Tech-Prep programs are supported at the federal level by the Carl D. Perkins Vocational and Technical Education Act of 1998. For more information on the legislation, please go to: www.ed.gov/offices/OVAE/CTE/legis.html.

Prep major at the college. If students do not enroll at the partnering college in their Tech-Prep major, and stay enrolled for the required length of time, the consortium loses funds. This leads to some conflict over program goals among the three different partners and the students participating.

Contextual Influences on Study Sites

As the above descriptions make clear, the state and district environments of our five sites differed considerably. Given the research methods used for this study, we cannot draw strong conclusions about the influence of program context on program structure, nor can we be certain that program structure influences student outcomes. Still, it is important to understand the settings in which these programs exist, because such contexts do present challenges and opportunities for programs.

Throughout the data collection and analysis phase of the study, a number of themes regarding the influence of context on program implementation emerged. This section highlights those themes in order to provide information about the (potentially unintended) consequences that contextual factors may have for program operations.

Institutional collaboration

States with policies concerning CBTPs often leave the details of collaboration for partnering districts or institutions to address. This level of autonomy is oftentimes welcomed. However, the governance of these partnerships, combined with the institutions' willingness and ability to engage in collaboration, influences the ease with which the partnerships function.

In the case of California, state policy unintentionally hinders institutional collaboration. According to state dual enrollment regulations, California high school students enrolled in college courses are treated as adults. Therefore, parents and high schools do not have direct access to student records, such as transcripts, without the students' permission. The MCHS, therefore, often finds it difficult to keep track of students' enrollment in college courses. This is particularly problematic when those courses are meant to be counted toward students' high school graduation requirements. Thus, to ensure that students receive appropriate high school credit for their college courses, the students must be relied upon to share their enrollment information with the two institutions.

Also in California, the leasing agreement between the high school and the community college is the only official documentation of any collaborative duties or responsibilities. Interview respondents often spoke of misunderstandings resulting from either the MCHS or California Community College being unclear of what is expected of them and how they are benefiting from the partnership.

In contrast, the roles and expectations of each partner in the Iowa Dual Enrollment program are clear to all involved. Responsibilities for program activities are formally distributed to specific individuals throughout the partnership. Those involved at the college, in particular, have responsibilities for the program as part of their job descriptions. Study participants indicate that such clarity helps the program

run smoothly and makes all partners feel they are valued and respected members of the partnership. The high school district leadership recognizes the significance of Iowa Community College's leading role in coordinating the numerous details of the program. As the district superintendent said, "You have to have strong leadership on the college end, somebody that's kind of your coordinator or your contact person, and that's going to work with the schools and build a relationship with the schools, and vice versa. The schools don't have the same flexibility that the college staff does. ..."

Standards, testing and curriculum

State standards and testing requirements influence the operations, courses and activities of the programs involved. In some cases, they limit student access to the CBTP, while in others they complicate efforts at aligning program curricula.

At three of the case study sites, students' ability to enroll in program course work (either at the developmental or college level) is influenced by student performance on state tests. In Minnesota, students who have not passed the eighth-grade basic skills test must enroll in the basic level of English or mathematics, which prevents them from enrolling in IB preparatory courses. At Texas Tech-Prep High School, students who do not pass the state exit exams are ineligible for elective courses, and thus cannot enroll in Tech-Prep, as the program's courses are considered electives.

In the New York City Dual Enrollment program, eligibility for placement in college credit-bearing courses is determined by a minimum score on state high school exit exams or the Preliminary Scholastic Assessment Test (PSAT) or Scholastic Assessment Test (SAT). Yet, students who do not meet the requirement can enroll in non-credit developmental courses that help students improve their reading comprehension and writing skills. Thus, doing poorly on these exams does not preclude eventual enrollment in college courses, and the program is structured to offer students help to improve their performance.

In some cases, state curriculum requirements at the secondary school level seem to compete with the content of the college course curriculum. At both Texas Tech-Prep and California MCHS, high school faculty feel that the secondary education system's curriculum requirements are not aligned with the community college's curriculum, which often forces them to make instructional choices as to which requirements they follow. For example, a teacher in the Texas Tech-Prep program said that the different requirements result in a course curriculum that could not possibly be covered in the time allotted. The state's required curriculum for high school courses includes content not covered by the college curriculum, and vice versa. Thus, this teacher often has to choose which content to cover; because her primary affiliation is with the high school, she chooses to cover those standards rather than the college's.

In many sites, then, program staff find it challenging to address state requirements for high schools within the context of a CBTP. Though these challenges are not insurmountable, instructors and

administrators in these programs do find that having to align complex state requirements with those of the program or college proves difficult at times.

Resources

Funding, staff time, and space are resources that seem to be influenced by state and district contexts. Programs receive funding from a variety of sources. While the Texas Tech-Prep program is federally funded and the New York City Dual Enrollment program is supported by the City University of New York (CUNY), the majority of the funding supporting the programs at the other three sites comes from the operating budgets of the secondary schools, which are from either state or district revenue sources. Funding the programs in this latter manner makes the programs particularly sensitive to state budget shortfalls or changes in priorities. California and Minnesota in particular have experienced shrinking education budgets for the past several years.

The question of expanding access in a context of fiscal constraint weighs heavily on the minds of many of the study participants. The Minnesota IB program faces the possibility of asking students and families to pay the IB exam fees in the future, which could pose a deterrent to broad student participation. In the more than 10 years that the program has operated, the district, using portions of its state allocations, always has heavily subsidized or wholly paid these fees. In contrast, the New York program is considered part of CUNY's core mission and so is not perceived by program staff as being subject to funding cuts.

High school and community college administrators and program staff expressed that committing staff time to the CBTP has been extremely important to the quality and sustainability of the program. The Minnesota, New York, Iowa, and Texas programs all provide resources to support program coordination, though not necessarily on a full-time basis. The coordinator for the Minnesota IB program has an additional planning period in order to accommodate her coordination and teaching roles both within the IB program and the school in general. In Texas, federal funds provide for the consortium staff, as well as a stipend for the high school-based coordinator. In some cases, program instructors receive compensation as well from the program or district. Such practices help ensure that program staff have adequate time and incentives to support the CBTP. Still, for most of those involved, their CBTP responsibilities are in addition to other school or institutional commitments.

Classroom space also influences the operation of the CBTP programs. In the New York City Dual Enrollment program, the pool of teachers available to teach in the program is restricted by the school schedule that was imposed to alleviate the school's severe congestion. During the years of the study, the school ran for multiple sessions each day. In order to be free to teach the College Now courses in the afternoon, at the end of the juniors' and seniors' school day, teachers need to be assigned to an early schedule. In California, the community college has become more vocal in arguing that its own space limitations means it can

no longer dedicate space to the MCHS. The school district, however, is undergoing space constraints of its own and does not want to lose the college location. As a result, the partnership has become strained, calling into question the ability of the MCHS to continue to operate on the college campus. Thus, diminishing resources have the potential to negatively affect these programs.

Findings

The goal of the Accelerating Student Success Through Credit-Based Transition Programs project was to explore the program features that might help middle- and low-achieving students successfully make the transition from high school to postsecondary education. In investigating program practices at each site, the study focused on four programmatic features and processes: student recruitment and selection, curriculum, support services, and data collection. For each feature, the researchers investigated the current practices of the case study sites, identified those practices that seemed most promising in meeting the needs of middle- and low-achieving students, and identified barriers to implementing them. Given that the programs' outcomes data are limited, the last part of this section describes what practitioners and students perceive the benefits of the programs to be.

Student Recruitment and Selection

Given this study's focus on the promise of expanding CBTPs to middle- and low-achieving students, the five programs' student recruitment and application procedures were a particularly significant area of study. Programs were selected for the study based on staff's assurances that they were accessible to a wide range of students. It is important to remember, however, that for some of the programs the initial application process and procedures cover both general program and college course admittance (such as in Iowa and New York City), while in other programs the initial application is for entry into the program with a subsequent process necessary for college course enrollment (such as in California and Texas).

Much of the student recruitment for all the programs occurs informally. For the most part, high school-based counselors and teachers advertise the different programs to students, often using materials printed by the college partners. At the California site, MCHS staff visit local feeder schools and broadly disseminate written information and applications. Similarly in Minnesota, information is shared with potential and incoming students and their parents. In both New York City and in Texas, the high school-based program teachers must recruit enough students to fill their courses, or they will not be offered.

The screening and selection process varies from site to site. In California, where there are many more applicants than spaces, the MCHS staff use a rubric to score and rank students' applications. They look carefully at grade point averages (GPAs), test scores, any disciplinary issues, and students' essays. In New York City, students who wish to enroll in college credit-bearing courses must have certain minimum test scores, as required by the college. However, there are no admissions criteria for students entering the program through the noncollege credit-bearing

courses. The Texas Tech-Prep program has an application form that asks for students' GPAs and interest in the course work; however, students are rarely turned away. Finally, students interested in the Iowa program and Minnesota IB course work simply register for those courses. For the two career-themed programs, screening focuses on whether the students show a serious interest in the topic area. As the Texas culinary teacher said, he does not want students who think they are signing up for "Eating 101."

Who are the students participating in these programs? In general, for all of the programs, the students must be motivated. Students applying to MCHS have to plan ahead because they must submit essays and prior school records. The curriculum of the Iowa Health Careers Academy program is intense and accelerated, and the clinical component requires students to perform their work before regular school hours. At the Minnesota High School it is common knowledge that the IB program requires a great deal of hard work. New York City's dual enrollment program occurs after school, so students have to be able to handle additional course work on top of their regular curriculum. As a New York City school counselor says, "I think the kids who are academically motivated and want to learn and want to take extra stuff [course work and activities], they hear [about] it from their friends." Additionally, although the Texas Tech-Prep courses meet during the regular school day, several of the concentrations require independent or off-site work, and earning the college credits requires planning and follow-through.

The students also have to be mature and responsible. "Maturity" was heard repeatedly in the interviews, when program staff were asked about student screening. Participating students must act maturely, particularly those who leave their high schools to take college courses (as in California and Iowa). As the Iowa instructor says, "This is not a class for somebody who is having attendance problems and other issues at the high school, because there's a lot of maturity involved."

When directly questioned about the students in the programs many respondents said that they aim to have a "mix" of students, or primarily students "of the middle range." However, the data show some ambiguity regarding participating students' backgrounds and abilities. For example, while one New York City program teacher says that the program targets "middle-level students, the ones that I suppose are more likely to enter the community college system. ..." he goes on to say that, for the College Now classes he teaches, "I target probably some of the better classes in this school. ..." Another teacher says that, "I hate to say it, but it's the top of the class that winds up in these certain classes." At the MCHS, one respondent describes the student population as including at-risk students, while another individual says it does not. Thus, some contradiction is evident among our respondents' views of the kinds of students their programs were serving.

This contradiction can possibly be explained by the fact that four of the programs have recently been, or are in the process of,

making subtle adjustments to their recruitment and selection processes. Programs either recognized as being elite or with very specific entrance criteria, Minnesota IB and New York City Dual Enrollment, are attempting to broaden their student targeting. California and Iowa's open access programs are tightening up their screening processes. Each of these programs has specific reasons for their actions.

Although clearly an academically challenging program, Minnesota IB staff and students characterize the program as "open to anybody." They said that entry into the program is "self-selection"—that the decision to enroll is up to the individual student, who must decide whether he or she wants to be challenged. As the school's parent coordinator says:

> I think the program is really accessible. I think the challenge is for us to communicate with those students and families and have them accessible. As far as I know, we've never had— there haven't been students who want to take IB classes that haven't been able to.

However, at the same time, staff and students are recognizing that, despite the official open-access policy, there are some informal barriers to entry. It appears that students who are already on an accelerated track in middle school are those counseled to enroll in IB. And if students do not enroll in the pre-IB courses early on, it can be difficult to enroll in IB courses at a later time. In addition, the racial and ethnic composition of the IB student population does not reflect that of the school as a whole. As both students and staff noted, this results in a comfort issue; one student said, "People have not taken [Advanced Placement] AP or IB classes because they know they'll be the only one that's of color or of a different race, so they won't take the class."

Thus, there is beginning to be an understanding that an elite, non diverse program, however officially open-access, may be self-perpetuating without measures taken to specifically broaden the student population. To do so, program staff are making strong efforts at communicating with the counselors and parents of incoming students to clarify the open-access nature of the program. In addition, the IB coordinator is working with the coordinator of the school's Multicultural Excellence Program (MEP) to develop support systems encouraging minority students to enroll (or remain enrolled) in IB courses, and helping IB students of color to develop a network of supportive peers.

In the case of the New York City program, the coordinators want to ensure broad access by a high school population increasingly composed of immigrant and English Language Learner (ELL) students. Yet, given the college's requirements for enrollment in credit-bearing courses, only certain students can enroll in those courses. As will be described in the section of this report on curriculum, the coordinators developed a developmental sequence of courses, with different entry points, some open to any student. Thus, this program is making strong efforts to bring in students of all abilities and prepare them for college course work.

In contrast, California MCHS and the Iowa Health Careers Academy have become more selective or are considering doing so. There is widespread agreement among the staff of the MCHS that recent cohorts of students are more mature and at a higher academic level than were prior ones. Because of the large number of applications the MCHS receives, the school can be selective about whom it accepts. In addition, conflict with the sponsoring college in previous years over disruptive and unprepared high school students likely contributes to the high school screening students more carefully. As a high school administrator stated:

> I think the college kind of got tired of the kind of student they had here because they were hard to control in this open environment. ... They weren't preparing them to get to college; they were just kind of here and expected to go take some college classes, and it doesn't really work like that.

Similarly, Iowa Community College trusts Rural High School staff to adequately screen and select students. However, after incidents in the last few years where students enrolled because they saw an opportunity to leave the high school for part of the day, the college coordinators and particularly the instructors favor better screening. Thus, screening of students, or lack thereof, has implications for a smooth-running partnership between the high school and college partners. In addition, the content of the program has become more difficult. As the college-based coordinator said:

> Our program has changed. ... There's more rigor in the class now. One of those reasons is we've added a medical terminology class, and that is hard. ... If a student is not a little bit better student, they may have a lot more trouble.

In Texas, teachers speak of the application process as determining a "good fit" so that students will succeed in the course work. Also in Texas, an increase in program demand allows teachers to more carefully select their students. In general, many respondents spoke against open access and in favor of screening to ensure that students would be successful in their college course work.

Promising Practices

Overall, the five case study sites enroll a range of students and do not limit participation to higher-achieving students. It should be noted that access to the programs is not limited by state policies. While four of the five states have policies addressing CBTPs (New York State does not), the policies comment very little on student eligibility criteria, in contrast to the policies of some other states.

However, not limiting participation does not ensure broad access. In general, if CBTPs want to engage a broader range of students, there are several measures that can be taken.

Programs should have more formal and strategic recruitment strategies. In particular, program staff should have a consistent understanding of which students are eligible and which students are to be targeted.

Program staff should thoughtfully analyze which students would best benefit from the program, and whether these are the students applying. This analysis also ought to consider how the program structure might affect which students participate. For example, the New York City Dual Enrollment program informally limits which students have access, because the program is run after school and does not provide dual credit. Students who have after-school commitments (such as employment, sports, or other extracurricular activities) are unable to participate in the program.

More formal recruitment activities should involve the middle school and high school counseling staff. Also, since it appears that much recruitment is done by peers, peer recruitment strategies could be formalized and institutionalized. Better and broader outreach to parents might also have an effect. Several students in the Minnesota program said they were encouraged to enroll by their parents, and the program is trying to reach parents with more targeted program information. Other programs tend to involve parents *after* their child is enrolled, not before.

It does appear that making efforts to include middle- to low-achieving students does not mean that programs will be entirely open-access. Coordinators and teachers felt strongly that some screening of students is necessary before they are allowed to enroll in college credit course work. Students must have adequate academic and personal preparation if they are to succeed in their college level courses. In addition, evidence from the California and Iowa sites suggests that unprepared students do cause strains in the secondary-to-postsecondary partnership.

The Iowa program gives an excellent example of how a screening process can be structured and used to communicate to all students how they can prepare themselves for program participation. This process is not being used at Rural High School, the case study high school site, but at another high school participating in the Health Careers Academy.[6] The program coordinator created a rubric to use in screening student applicants that includes mathematics courses taken, attendance, behavior, and state test scores. The rubric then is shared with students who express interest in the Health Careers Academy. In this way the rubric helps students think about the future and plan accordingly. Because students may apply to participate in the Health Careers Academy in the 11th grade, if their rubric scores are low relative to other applicants, they can work to improve their marks on the different criteria and apply again for the 12th grade. Any student can potentially meet the requirements and participate. The high school principal said that the rubric helps students understand that they are making a commitment to the academy and that "it is a privilege to be in the program."

Barriers

Sites encounter difficulty recruiting and selecting middle- and low-achieving students into CBTPs for a number of reasons. Sites struggle to balance access with the desire to

6 Due to the limited number of students participating in the program from Rural High School, a decision was made to observe program operations at another site.

ensure student and programmatic success. The academic and social skills demands of the programs can restrict access to students with certain skill sets, and in some cases the postsecondary partners reinforce the importance of setting a minimum level of entry standard.

In addition, the programs tend to lack clear systems for recruiting students. Some rely heavily on word-of-mouth to inform students about the program. Though this appears to be effective in reaching those students who are engaged in the school, are motivated, or have strong relationships with their teachers, such recruitment does not maximize knowledge about the program among the high schools' student body as a whole.

In some sites, the CBTP is not well-understood by those not involved. Some guidance counselors know of the program, but not enough to counsel students to enroll in it. Additionally, some teachers and guidance counselors who are not involved in the program do not understand the program's purpose or target student, and so actively discourage some students from enrolling.

Finally, programs struggle to attract disengaged students when the students do not see a benefit to their participation. Particularly if a program meets after school, students are sometimes reluctant to enroll in it, as they do not want to take on the extra work. Thus, a number of sites are seeking to find ways to answer students' question of "What's in it for me?" If sites have trouble finding ways to convince students of the CBTPs' relevance, they cannot convince them to enroll.

Curriculum[7]

Comprehensive and enhanced comprehensive CBTPs, by definition, have curricula that encompass much of students' high school experiences, and each of the five case study sites have created a multicourse curriculum culminating in college credit.

The data indicate that CBTP course work falls, loosely, into three categories—high school, developmental, and college credit. Though these categories may overlap in some cases, they are distinguishable by their curricular goals. First, CBTPs may include *high school course work*. These courses count toward students' high school graduation requirements. They also may prepare students for college course work by giving them the basic knowledge and skills necessary for success in college-level classes, particularly when instructors are aware of college expectations and infuse them into their classes. However, the primary purpose of high school course work is to enable students to meet high school graduation requirements.

High school courses may be enough to prepare students for college course work. However, some students—particularly middle- and low-achieving students—need additional preparation for college course work. To address their needs, and to maintain access to college courses for a range of students, two of the programs established an

[7] In this report, curriculum refers to the structure of CBTP courses, their goals, and ways that they ensure that all students are prepared for and have access to college-level course work.

intermediary series of courses. *Developmental course work* is explicitly designed to prepare students for the demands of college-level work. Unlike high school courses—which are aligned to high school graduation requirements—developmental course work is closely aligned with college course work. Finally, CBTPs include *college credit course work*. These are the capstone experiences that define CBTPs. Depending upon the program, students may earn college credit in a variety of ways.

High School Courses

High school courses, first and foremost, meet the requirements for high school graduation. They are also the first step in preparing students for college course work, and the data show that they can help students gain the skills necessary for college. In New York City, for example, the regular high school mathematics and English course sequences culminate in state examinations called the Regents exams. The City University of New York has aligned its entry requirements with these exams, so that any student receiving a score of 75 or higher is considered qualified for college admission. Students who are successful in their regular high school course work, therefore, also are prepared for success in college.

A similar situation occurs in California, where MCHS teachers deliberately use their course content (intended to fulfill high school graduation requirements) to prepare their students for the expectations of college courses. For example, the high school English teacher has students make use of the college library when writing a research paper in order to teach them research skills. He stated, "I give them college-level work but I don't treat them like college students. I work them through it. I spend more time breaking it down for them. ..." Students' skills are developed through regular high school classes in ways that help them prepare for college.

The sites in the study use regular high school courses to prepare students for college in two ways. The first way, as illustrated above, is to explicitly link the high school curriculum to college course expectations. Program teachers and staff in California, Minnesota and New York make deliberate attempts to align the demands of high school and college credit courses. (It should be noted that, particularly in California and New York, the extent to which high school and college course work are linked varies significantly among teachers.)

Exhibit 2: Minnesota International Baccalaureate Classroom Observation

Following is an excerpt from an observation of a diploma-level IB course. It demonstrates the level of rigor often found in courses offered through credit-based transition programs.

This course focused on knowledge—how knowledge is constructed, how people gain knowledge, and how to evaluate knowledge. The class was beginning a unit on the construction of knowledge in mathematics.

In order to get the class thinking about mathematics, the teacher put a proof on

Continued on next page

the board. Through a number of steps, he demonstrated that 2 can equal 1. This set off a furor in the room. Students began calling out that it is not possible because the teacher did it incorrectly. "No! You can't use your given, it needs to be two equations to bring it back in!"

The students started to have side conversations amongst themselves as they discussed the merits of the proof.

The teacher said that he did not have the answer, and a student got upset with him: "Why do you do this? You bring in random things that nobody knows the answer to and it drives me crazy!" The teacher addressed the dissent in the class regarding the validity of the proof: "It made sense to me. Obviously, there's something wrong. On your own, see if you can figure it out. What is wrong with it?"

The real reason he gave the proof, the teacher explained, is to show the students that "truth" can be defined in different ways. How does mathematics define truth? The class began a discussion of this question. The discussion touches on a wide range of topics, including Morse Code, science fiction, language, and Plato. One student noted that probabilities are logic and mathematics, and the teacher said that logic, then, is the basis of mathematics. The student replied, "Or is math the basis of logic?"

A second approach is to assume that regular high school courses prepare students for college-level work without making special effort to ensure that they do so. This is the case in Iowa and for some of the Tech-Prep concentrations in Texas.[8] The regular high school curriculum is not clearly aligned with college credit courses, though success in high school courses is seen by program staff as an indication that students are ready for college credit courses. For example, in Iowa, completing high school biology is seen as evidence that students have the background knowledge to enter the Health Careers Academy. However, the high school biology teacher said that human biology—the basis for health sciences courses—is not covered in her course. Thus, when high school courses and the CBTPs are not explicitly linked, there is no way to ensure that high school course work prepares students for admission to college credit courses, or even to college generally.

Developmental Courses

At the Minnesota and New York City sites, CBTP staff do not rely exclusively on the regular high school curriculum to prepare students for college courses. Additional classes, *developmental course work*, have been created to explicitly address the skills and knowledge students would need in college courses. The primary goal of these classes is to prepare students for college course work, rather than to ensure high school graduation. Depending on the program, these courses

[8] The Texas Tech-Prep program includes a number of concentrations, with significant variation among them. In some cases, high school elective courses are required prerequisites for enrollment in college courses, and, in these concentrations, the high school courses do explicitly prepare students for college-level work. In other strands, such as criminal justice, high school courses are not explicitly linked. And, for all concentrations, general high school courses (those fulfilling graduation requirements) are not linked to the Tech-Prep curriculum.

may provide the students with credit toward high school graduation or with elective credit.

At both sites, developmental courses are seen as a way of ensuring that a broad range of students have access to the CBTP, since they focus on skill development. As the New York City college-based coordinator explained,

Exhibit 3: Observation of a New York City Dual Enrollment Developmental English Course

Following is an excerpt from an observation of a College Now English 99 class. For students with difficulties in writing, English 99 is a developmental course focusing on writing skills by incorporating the expectations of college course work.

The teacher passed around a handout and said he had an exercise for the day's class. The page had two paragraphs for the students to edit. The students began to quietly redo the paragraphs, during which time the teacher called the students up front individually to talk about their course work. When all the individual conferences were completed, the teacher told a student to, "Take us through the first one, tell us the corrections you made along the way."

The students gave different ideas as to how the paragraph could be rewritten. The teacher complimented some of the students for their ideas, and the exchange of the ideas went back and forth between the students and the teacher.

middle- and low-achieving students often need additional academic instruction to slowly build their skills to a college-ready level: " ... what we need with these kids is time, and sequence."

The Minnesota IB program has a clear preparatory course of study that builds students' skills during ninth and 10th grade in order to prepare them for the IB diploma program. These courses meet high school graduation requirements, yet they are also significantly enriched and modified in order to develop students' academic skills. Moreover, unlike high school courses, their primary goal goes beyond high school graduation to preparing students for the IB diploma. The pre-IB course content and pedagogy are specifically targeted toward IB demands. Pre-IB courses are closely aligned with the requirements of diploma courses and build students' skills in a sequential manner over multiple semesters. The result is that, by their junior year, students are familiar with and able to achieve the expectations of diploma courses, and they have the higher-level critical thinking, reading, writing, and mathematics skills necessary for success on IB exams.

Any student in the school is permitted to enter pre-IB courses as long as they have passed the state's eighth-grade reading exam. By keeping pre-IB classes open-access, the Minnesota program believes that it ensures broad participation in the IB program. Students entering ninth grade with low or mediocre academic skills have two years to build their skills. One shortcoming of the pre-IB course work, however, is that it does not allow students to enter the program at

any point in their academic career. If students do not enroll in developmental courses in ninth or 10th grades, they are likely to have difficulty entering IB diploma courses.

The New York City Dual Enrollment program created a developmental course of study in order to encourage students who are not ready for college course work to participate in College Now. Students who do not receive a score of at least 75 on their state high school exit exams are provided with a number of opportunities to enhance their skills so that, over time, they become prepared for college course work.

New York City Dual Enrollment offers two developmental courses for students in need of significant remediation. The Learner's Academy is a two-year sequence targeted at preparing ELL students for high school exit exams. High school and college instructors jointly teach this theme-based course, which also includes significant support services and enrichment activities. Students earn high school elective credit for their Learner's Academy courses. The program also offers New York City Community College's remedial English course at the high school. This course helps students improve their writing skills sufficiently so that they can progress to college credit course work, and they earn one high school elective credit.

New York City Dual Enrollment also offers two intermediate developmental opportunities to students, called Gateway courses. These are college courses offered by New York City Community College that do not require a 75 Regents exam score for enrollment. Instead, students with C averages or better in their high school English classes enroll in Gateway courses, which focus on literacy skills. Rather than garnering general education college credit, these courses lead to elective college credit that is less easily transferred to other postsecondary institutions. Gateway courses build students' reading and writing skills while serving as an introduction to college, though with less of the rigor of general education college credit courses.

In both the Minnesota and New York programs, successful completion of developmental courses leads to enrollment in college credit courses.

College Credit Courses

As the defining feature of a CBTP, all sites in this study offer students the opportunity to take college courses. Of the five sites, the California MCHS is the only one where the students take college credit courses on the campus with regularly matriculated college students. New York City Dual Enrollment, Texas Tech-Prep, and Minnesota IB all offer courses at the high school, with high school instructors certified as college adjuncts or trained in IB curricula teaching the courses. (The exception to this is the Learner's Academy in New York, in which students spend half of their time at the high school and half at the college.) In the Iowa Dual Enrollment program, high school students comprise their own class, which meets at a local hospital or a college satellite center. The instructor, however, is a college adjunct and not a teacher at the high school.

At those sites where the college courses are being delivered by the college partner exclusively for high school students (Iowa, New York, and Texas), the college provides curriculum and instructional supervision. The control exerted by the college over the curriculum and its delivery varies. In the Iowa Dual Enrollment program, the college tightly controls the curriculum by giving program instructors PowerPoint slides (similar to those used by professors at the college) for each lesson and providing them with course materials. In other programs, the college gives the high schools more leeway in implementing course objectives. At Texas Tech-Prep, for example, teachers are given a set of student outcomes by the college, but they are given significant freedom in achieving those objectives. In New York, teachers submit their syllabi for approval by the college department offering the course.

Though it can make sense to give high schools flexibility in curriculum delivery, there is evidence in some instances that the courses, or portions of them, do not resemble work typically found in a college course. For example, some teachers replace long readings with shorter ones so as not to overburden students.

It should be noted that college credit courses do not automatically yield college credit for students. Credit earning varied among sites. In California and Iowa, students earn both high school and college credit for their college credit courses, and the college credit is placed automatically on a college transcript. In New York City, students also earn their credit via college transcript but do not earn high school credit. For students in all these sites, if they matriculate to a college outside for their CBTP partnership, it is the receiving institution's choice as to whether or not credit will be granted for the CBTP course.

In Minnesota and Texas, the credit earning process is not done via transcript. IB students take an end-of-course exam. Successful completion of the exam earns them credit if they submit their test scores to the college they enroll in, and the college chooses to grant them credit for their scores. In Texas, students earn articulated credit through the Tech-Prep program. After successfully completing their Tech-Prep course, students must enroll in Texas Community College, declare their major to be the same as their Tech-Prep concentration (students in the criminal justice concentration, for example, must declare criminal justice as their major), and take at least six credits at the college, in that major. Once they have completed these requirements, they can petition the registrar's office to place their articulated Tech-Prep credits on their college transcript.

When asked about these credit-earning procedures, students generally indicated that they understood the procedures and did not find them onerous. The students had not yet, however, tried to use the credits. Restrictions placed on college credit in a number of sites indicate that students may not always receive college credit for CBTP participation, so that, if credit earning is their primary goal, they may be disappointed.

Curricular Pathways

Frequently, staff at the study sites speak of arranging CBTP experiences in an ordered, progressively challenging fashion that moves students from one experience to the next. Such course sequences can be conceptualized as *curricular pathways* providing structure to students' academic experiences. Curricular pathways are clear routes that students may use to move from one level of course work to another, linking high school courses to developmental courses, and developmental courses to college courses. Students need not engage in each step of the pathway, as in New York City, where students may move directly from the Learner's Academy into general education college courses, bypassing Gateway courses if warranted. However, the steps should be available and logically ordered. A number of individuals in our sample indicate that curricular pathways can play an important role in helping CBTPs meet the needs of a range of students, because they help students build their skills in a progressive manner. The New York City Dual Enrollment program coordinator explained, "I think it is really important that we do whatever we can ... to strengthen students' communication skills, particularly reading and writing. But not to do it in a quick fix way, but to do it ... with an idea and a fix on sequential development."

Exhibit 4: Sample Pathway for a College Now Student Beginning in the Learner's Academy[a]

Grade Level	College Now Course	Sequence Rationale
10th grade	Learner's Academy – Global Studies	Identified by the school as an ELL, the student is recruited by the program's high school coordinator and enrolls in the Learner's Academy. This full-year course gives the student high school elective credit and prepares him or her for the state's Regents exam in Global Studies.
11th grade	Learner's Academy – English/ Language Arts	The student continues in the Learner's Academy. The second year focuses on improving reading and writing skills in preparation for the state's Regents exam in English/Language Arts. It also gives him or her high school elective credit.
12th grade - fall	English 99 (Basic Writing)	Based on his or her Regent's exam scores, the student enters English 99, a developmental writing course, in order to continue to strengthen his or her writing skills. As part of the course the student completes the Gateway exit exam, which assesses his or her readiness for college credit courses. The student receives high school elective credit.
12th grade - spring	Oral Communications	Based on the student's performance in English 99 and on the Gateway exit exam, the student is recommended for enrollment in Oral Communications. This is a college course that provides the student with 3 elective college credits.

[a] The Learner's Academy is a two-year sequence of courses for ELL students. In addition to preparing for college-level courses, Learner's Academy students can participate in a variety of enrichment activities.

Exhibit 5: Sample Pathway for a College Now Student Beginning in a Gateway Course

Grade Level	College Now Course	Sequence Rationale
11th grade - fall	Literacy and Propaganda	The student is recruited by program teachers. Based on his or her previous academic performance, the high school-based coordinator advises the student to enroll in a Gateway course, which focuses on strengthening literacy skills. The student earns 3 college elective credits.
11th grade - spring	Critical Thinking	Although the student increased his or her skills, the student's scores on the Gateway exit exam require the student to take another Gateway course to further strengthen his or her reading and writing. He or she enrolls in Critical Thinking, earning another three college elective credits. This semester, his or her skills are strengthened enough that he or she scores above a 75 on the English Regents exam.
12th grade - fall	Introduction to Sociology	The student enrolls in Introduction to Sociology, a general education college course. He or she receives 3 college credits that are easily transferable.
12th grade - spring	English 101	The student enrolls in English 101, another general education college course. He or she receives 3 additional college credits that are easily transferable.

Although every case site in the study has some sort of curricular pathway, not all of them create pathways leading from one level of work to another. The California site does not always help students create logical progressions through their high school and college course work. In fact, in California and Texas, students often enroll in high school courses *after* taking a college class. As a result, college courses are not a culminating or capstone experience for students, nor does the rigor of students' course work necessarily increase over time. In Iowa, completion of the Health Careers Academy is certainly a step in a pathway leading to a college degree in the health professions, yet there is not a clear pathway from high school course work into the Academy.

The Minnesota IB program does have a curricular path to prepare students for the Diploma program. However, as noted earlier, this pathway does not include a developmental component that could help students enter the program after the ninth or 10th grade. In fact, according to some study respondents, the curricular pathway serves to discourage open access by creating unequal educational experiences for students within the school. Students who do not enter the pathway early in high school are unable to enter diploma courses because they do not have the proper background or skill set. An IB teacher notes this problem by saying, " ... they just sign up for whatever their freshman year, and then in the sophomore year they decide they'd like to do more IB courses and then

they run into a problem because they don't have the proper prerequisites."

The New York City Dual Enrollment program has a curricular pathway spanning developmental and college courses. Students can engage in a variety of developmental activities, as described earlier. They then may move to the Gateway courses, which prepare them for college general education classes. Each step in the pathway serves a distinct purpose in preparing students for college-level work, and students who do not progress out of Gateway courses, for example, are still better prepared for college than they would have been without any College Now activities. Moreover, because students do not need strong academic skills to enter the pathway, broad access to College Now is possible.

Promising Practices

The findings from the five case study sites can be used to create a model of a promising CBTP curriculum that, though in need of confirmation through future research, provides a sense of how curricular pathways might be structured in order to provide access to the program and to college for a wide range of students. The data suggest that the primary component of an ideal curriculum would be the presence of a *clear curricular pathway encompassing high school and developmental course work, aligned with the demands of college course work, and culminating in student enrollment in a college course*. Curricular pathways should have multiple access and exit points in order to allow students of all academic levels to enter the pathway at any point in their academic career. In this way, pathways help ensure that middle- and low-achieving students have access to CBTPs.

Curricular pathways also may provide students with a clear set of expectations for entry into college credit courses. Sequential pathways communicate to students the steps they must take toward being college-ready. Even if a student does not proceed to the final step, moving through a curricular pathway with set standards at every level should advance students' academic skills and college readiness.

The first step in a curricular pathway should be high school course work that is aligned with both high school graduation requirements and the requirements to enter college credit course work. Alignment with college expectations should be made explicit, in order to deliberately help students prepare for college, even as they complete their high school graduation requirements. For many students, completion of such aligned high school course work will be enough preparation for entry into college credit courses.

Not all students will be ready for college-level study as high school juniors or seniors, however, so developmental course work should be present in order to provide the additional academic support needed. Again, this course work should be closely aligned to the demands of college courses. A range of developmental activities also should exist, thereby allowing students with varying academic needs to have appropriate entryways into the pathway.

Aligning high school and developmental curricula with college expectations is heavily reliant on strong collaboration and communication among high school and college instructors. High school faculty understand the capabilities of their students and what methods will most effectively help them be ready for college-level work. College faculty are knowledgeable of the content and pedagogy used at the college and can communicate this to high school faculty. They should drive the objectives and standards of developmental course work, while high school faculty drive the pedagogical approaches used to reach those standards.

Such collaboration is seen in the Learner's Academy in the New York City Dual Enrollment program, as well as in the New York program's use of college curricula for developmental activities. Both efforts aim to ensure that developmental activities prepare students for the actual demands of college credit courses.

In fact, the developmental aspect of the New York City program seems particularly promising, because the program has multiple developmental activities and entry and exit points. Students of any academic level can enter the pathway and build their skills. Those students with stronger skills may immediately enter Gateway or even general education college credit courses. The presence of the Learner's Academy ensures program access even for students whose first language is not English.

The data make clear, however, that merely having pathways is not enough. An ideal program would have *transparent* pathways. Without being clearly visible and easily understood, pathways may serve only to confuse students. The students in New York City Dual Enrollment, for example, are not always sure of where their current course work can lead them. In addition to helping students already in the program navigate the pathways, transparency can promote broad student access to CBTPs. Ensuring that students—both in and outside of the program—have clear information about curricular pathways, and helping them to plot a course, means that students who are less motivated or less engaged in school will not be inadvertently excluded. Transparency may be accomplished by more strongly including guidance counselors in the program so that they can make students aware of the program's pathways as they help students plan their high school course work.

Creating transparency for curricular pathways relies heavily on strong communication not only between program faculty and students, but between program faculty and nonprogram faculty as well. Instructors not involved in the CBTP should be made aware of the standards students must meet in order to enter college courses. This is so that they can help students not already involved in the program meet the standards for entry, to give all students the tools they need to enter a CBTP pathway, and to make sure that pathways do not become *de facto* sorting mechanisms.

An effort toward this end is being made in the Minnesota IB program. The mathematics department asks all IB and non-IB

instructors to cover material considered prerequisites to IB diploma-level study. The department also has created an alternate route to an IB diploma mathematics course that does not require participation in pre-IB courses. As a result, students can enter IB mathematics study at any point in their career. The success of this arrangement, however, is predicated on the willingness of *non-IB teachers* to understand and cover IB material. Effective communication between IB teachers and their colleagues makes the arrangement possible.

Curricular pathways should, of course, lead to student enrollment in a college credit course. These courses will vary in their content and structure according to the goals of the program and contexts within which they are offered. However, college credit courses should mirror college-based courses as closely as possible. They should be overseen (and preferably taught) by college faculty in order to ensure that content, pedagogy, and outcomes align with those at the college.

Barriers to Implementation

Certainly the contexts within which CBTPs exist can create barriers to the effective collaboration and communication needed to implement transparent, developmental curricular pathways.

First, these activities require a significant investment of time, something that is often lacking in the school day. At most sites, instructors at the high school and college, as well as administrators, profess a deep belief in the value of professional collaboration. However, they are hard pressed to find the time to engage in such collaboration, given the other demands placed upon them in their jobs.

Moreover, collaboration is predicated on ongoing trust between the partnering institutions. In two of the partnerships in the sample, one or both of the partners lacks confidence in the other's willingness to engage in meaningful collaboration. In one case, the secondary partner feels the college-based coordinators do not respect its input and do not understand the constraints under which it operates. In another, the college administration feels that the presence of high school students on its campus undermines its status as a college, and some college faculty object to teaching high school students. Once trust is established between partnering institutions there comes a greater willingness to be flexible and to reach compromises around program arrangements. Two of the partnerships examined do not trust that each has the other's interest in mind.

Communication is equally difficult for many CBTPs. Faculty who are not involved may not understand or value the CBTP, and thus may be unable or unwilling to help their students enter the program. Communication to students at many of the study sites is somewhat haphazard; as described earlier in this report, for the most part, students have to be already motivated to discover and enroll in the CBTP. Particularly in large schools with few guidance counselors, poor communication about the program may inhibit the participation of middle- and low-achieving students in the CBTP.

Without good collaboration and communication, the logistics of developing and implementing a coherent developmental curriculum can be daunting. Scheduling, in particular, can be troublesome, as is the case in Minnesota. The all-encompassing IB curriculum makes scheduling difficult and often promotes a feeling of constraint for students who want to take non-IB electives but also need to fulfill their IB requirements. Additionally, the school's block schedule sometimes interferes with teachers' attempts to prepare students for IB exams. Although not insurmountable, the scheduling needs of the program sometimes conflict with the scheduling needs of the school as a whole.

Curriculum development, even when not conducted within a partnership, is a complicated, time-consuming and difficult process. Creating multiple curricula, all aligned with one another and with high school and college curricula outside of the program, requires significant effort on the part of program instructors at both institutions.

Therefore, it is not surprising that none of the sites in our sample include all the curricular components and collaborative relationships encompassed by our model of promising programs. Each site does, however, incorporate key features of this model in an attempt to help all students prepare for and succeed in college course work.

Support Services

The data analysis also focused on the types of support services that are available to assist students in their movement through the curriculum and towards college courses and once they are in those courses. Nonacademic as well as academic support services seem to be essential in helping students understand and meet the demands of a postsecondary environment. Such services are likely to be particularly important for students who have not been successful previously in school.

There is a great deal of variation in both the types and extent of services offered to students in the different programs. In general, services vary along two major dimensions: their sponsor, meaning whether they are offered by the high school, by the college, or through a collaboration; and their content, for example whether services provide academic support, general personal support, or specific college-preparatory activities, such as assistance with college applications or financial aid. Some services are difficult to categorize, as they have multiple goals.

Who Provides Services?

The high schools sponsoring the CBTPs offer support services typical to most high schools, such as college nights or college fairs, financial aid workshops, and academic advising, among others. Special academic support is available for students with learning disabilities. Aside from the size of the school influencing students' access to services such as counseling, we do not detect any significant differences across the schools in terms of the services offered to all students. The high schools by themselves do not offer services especially for students in the CBTP, except that the Minnesota high school has implemented advisory periods and IB students are clustered in their own

advisories. In California, the high school is the CBTP, so many services, as described below, relate to students' dual enrollment.

All of the postsecondary partners offer a range of services (although, as noted previously, the Minnesota IB program has no college partner), but students are limited in accessing them. Students in the Texas Tech-Prep program are not officially considered college students and so cannot use any college-based services. The Iowa Health Careers Academy students are considered students of the college and thus can take advantage of the services offered, but there was no evidence that they do so, likely because of the distance to the college and some lack of effort on the part of the program's staff to orient them to the college's facilities.

Only in California and New York do the students really make use of support services provided by the college. Students in the New York program may use the college's facilities and services, and the high school-based coordinator and instructors make efforts to bring the high school students to the college. At the California program, students who are enrolled in college courses have access to all of the college's facilities and services, and even high school students not taking college courses are generally welcomed by college services staff. Students acquire information at three different counseling centers on the college campus as well as at the high school counseling office. In addition, the colocation of the MCHS and the college means that program students can easily take advantage of the range of services offered. Even so, ensuring that the students know about the services and make use of them requires a focused effort. As a counselor at the California MCHS said:

> The challenge for me is to make sure we bring those services to our students because our students don't have the fortitude to go out and seek those services. That is one of my biggest challenges, to make sure I set up a system where we bring in presenters ... to discuss services and tell the students what it is that they can do for them, and set up tours so the students know where to go.

It is significant that, in the California and New York programs, collaboration between secondary and postsecondary counseling staffs brings about the creation of activities especially for program students.

Each of the high schools in the study provides some support services to all of their students. Because the high schools are limited in the services they could offer, however, the additional supports provided by the CBTP appear to be important in helping students be successful in their college course work and future transition to college. For example, New York City High School has only one college counselor assisting 700 seniors with their college application, advisement, and paperwork needs. For the specialized college-level health careers curriculum taught in the Iowa program, the high school seems unable to provide much in the way of academic support. In Minnesota, academic support services such as structured study groups and review sessions are provided to those in the upper levels of the

IB program who are preparing for IB testing. However, there is no focused support targeting those who might have been struggling in the beginning stages of the program. A counselor at that high school spoke of the need for better academic support:

> But he [referring to a teacher] said, the problem that he was facing with the IB and the AP was, the standards were there and there was no time for the prep. It was, they either had to jump through that hoop, they either make it or they don't. They either pass or fail ... and so I think a lot of feeling and thoughts that I hear, is that we need something to prepare these kids better to handle these heavy-duty classes, and we need better safety nets to catch them.

The Texas program offers the most striking example of one possible result of a lack of structured and consistent college preparation services; a teacher in an IT program said:

> I notice some teachers that still tell these kids, 'Oh, you've got to go to a four-year school.' We're not into that. A couple of reasons, you know ... just the statistics that tell us that less than five percent of the jobs where they require a four-year education, so why spend the money? Plus we know that college is not for all kids. I mean, bottom line is a lot of kids start and never finish their first semester, let alone the first year. Let alone they, you know, get a four-year degree. It's got to be what's right for them at their time, so, we try to—not steer them, 'cause it's got to be their choice. ...

Yet in contrast, teachers in other Tech-Prep concentrations, such as criminal justice and child development, said they do counsel students on the importance of college to different career paths. Still, some of the students interviewed in focus groups said that their teachers did not talk about college. Thus, students in this program are receiving different messages from their high school about college. More contact and familiarity with the program's college partner might provide students with more consistent information about the importance of preparing for college.

What Services Are Provided?

In terms of the content of the services available, students can get academic support and advising, participate in career exploration activities, and gather extensive information on and assistance with college application procedures. Again, some of these services have overlapping goals.

Academic support is often provided informally by program instructors, but in some cases there are formal academic support services, such as those described in Minnesota. In California, several structures are in place to support students enrolled in college classes, such as regular progress reports that are required from the college professors, and a weekly Friday class during which high school teachers give assistance to the students on their college course work. Informally, college professors assist high

school students enrolled in their courses after class time and also refer them to the college's Learning Skills Center, a tutoring center.

Academic advising, for planning an academic program of study, is usually done with the program coordinators or regular high school counselors. In California, students are encouraged to meet with the college counselors; as the high school principal said:

> They're encouraged to take college classes ... And we sit down with them: "Okay, have you taken poli sci?" "No." "Take that class, and it counts for government. What about working on your AA degree?" "Oh, I don't know. I didn't know anything about that." "Okay. Well, you should think about that, and then we're going to make you an appointment to go meet with the transfer counselor, and she's going to tell you what the benefits of that are, and then she's going to help you select some classes." So that's kind of what we do. We try to encourage as much as possible every 11th- and 12th-grader to have at least one class at the college; that's why they're here.

Several students in the IB program say they wished for better academic advisement, as they find planning their IB course of study to be quite complicated. In Texas, the high school counselors advise students on the Tech-Prep options, and The Global EDGE Tech Prep Consortium staff visit the high school to explain to students the sequence of courses available at the college.

Career exploration is available in some of the programs. Students in the Iowa program have opportunities for structured career exploration in the health-care field, via a one-day event at a university hospital and multiple job shadowing experiences. These activities are coordinated by the college and a nonprofit intermediary partner. In California, all of the high school's homerooms receive an orientation to the college's career center, which offers career self-assessments, and information on internships and job openings. In Texas, the Early Childhood Education concentration in particular offers work-based learning experiences as part of the curriculum. Additionally, since many of the Tech-Prep teachers have industry experience, they are able to provide information to students about different career paths.

College preparation activities include exploring and visiting different colleges and learning about college applications and financial aid procedures. Students in California again have a rich array of options. For example, the college's transfer center organizes college visits; during one of the project's site visits a busload of college and MCHS students headed to University of California at Los Angeles (UCLA) for the day. The high school-based counselors bring in numerous college representatives to give presentations. The transfer center also provides a state-funded part-time individual who conducts regular workshops on the college financial aid process as well as

individual assistance in that area. Both Iowa and Texas Community College staff present information about their own programs and application procedures. Students in the other programs mostly have to make use of the regular high school-based services.

Exhibit 6: Observation of New York City Dual Enrollment Saturday Theater Workshop

On a Saturday in the spring of 2004, students from the Dual Enrollment program met at the college to have a discussion with a professor of English, which was followed by a trip to see "The Producers" on Broadway. This observation demonstrates the ways that support services can help familiarize students with the expectations of a college classroom.

The professor asked the students to "think about why we laugh." He began to discuss the theories behind laughter and humor. He told that students that there are parts of "The Producers" that some people might find offensive, and so it is important to think about appropriate and inappropriate humor—what "can we laugh at and what shouldn't we laugh at."

The professor asked the students for their opinions about what is and is not OK to laugh at. When he asked, "What shouldn't we laugh at?", one student replied, "Death," and another said, "Religious, ethnic, and racial groups."

Another student said that we shouldn't laugh when people are being bullied, but then a girl replied that it kind of matters "how it's portrayed."

A large number of students seemed to agree that religion and ethnicity are off limits, but then a boy said that this is OK, sometimes. He asked the class, "Have you ever seen 'Chappelle's Show?'" The teacher replied that this is a good point. "Is it OK to make fun of a racial group if you are part of that group?" And a boy replied, "I guess it depends on who's making the joke." The professor pointed out that Dave Chappelle makes fun of African-American culture, but he is African-American. The professor suggested that intent is important—perhaps the issue is whether jokes are meant to be funny or harmful. Throughout this conversation, the students were very attentive and quiet. As the discussion progressed more and more students were volunteering answers and participating.

Throughout this discussion students honed their speaking, listening, and critical thinking skills, which are skills necessary for success in college courses.

As discussed previously, one kind of college preparation that CBTPs potentially provide is knowledge of and a sense of comfort with the college environment. The sites did not engage in activities supporting this knowledge consistently, however. In New York City, high school students enrolled in college courses can use the college facilities; however, it is unclear the extent to which they do so. The high school-based instructors say they made efforts to take their classes to the campus, but sometimes cannot find the time to do so. As mentioned, students in Texas and Iowa are unlikely to visit the

campus of the postsecondary partner. Again, because of the colocation of the MCHS and college campuses in California, students are likely gaining this type of preparation. As the assistant principal said,

> I think this is an absolutely outstanding program for students, and I would feel comfortable putting my child here because the students have an opportunity to network and engage in various learning environments with college professors. And so, in terms of being competitive, they're competitive not only in an academic sense, but they also have the social exposure from networking and taking classes with college students. They've already had the opportunity to work one on one, or hand in hand, with the professors to talk about their grades. In terms of college, the exposure is there now for the college environment.

Personal and social supports are also not as prevalent. We did not find any formal mentoring, although some programs had implemented this or similar strategies to improve students' self-esteem and self-confidence in the past. Organized group events that might build students' support for one another or celebrate students' accomplishments are also lacking, except at the New York City program. The Iowa program has just instituted a program completion and awards evening event.

Services that are the most unique and hard to categorize, meaning that they potentially provide academic and personal support, as well as college and career preparation, come from collaboration between the secondary and postsecondary institutions. In New York, the high school- and college-based program coordinators collaborate in a meaningful and regular way to create social, college-based activities that also support the students' academic learning. Many of the activities are targeted towards the students in the entry levels of the program, to try to improve their skills and to encourage their continued participation. These activities include cultural events at the college as well as field trips to other institutions in New York City. For example, to complement a social studies curricular unit on capital punishment, students attended an all-day symposium at the college. A representative from Amnesty International spoke, and the students participated in a discussion afterwards.

In California, collaboration is more haphazard and based on individually developed relationships, but it does occur. Collaboration between high school and college counseling staffs resulted in the creation of an industry-themed, college credit seminar that takes place weekly in the Career Center. A variety of speakers presents a curriculum that covers mortgage banking, real estate appraisal, accounting, and information technology. Speakers and students dress in business attire. The program is closely aligned with a real estate certification program; if students continue on to the certification program, the sponsoring company will cover the cost of the state real estate examination. Certainly some of these activities are aimed at increasing students' professional skills, which could contribute to personal self-esteem or self-confidence.

Promising Practices

From this brief description and analysis of the support services offered by the various programs, one can see the added value that collaboration contributes. As with curriculum, when high school and college-based instructors and coordinators come together to determine students' needs, and how to support students' transition to college, the programs appear to be more cohesive and comprehensive. Thus, ideally students in CBTPs would have access to both high school- and college-sponsored services. In addition to the services that are already provided to all students of those institutions, customized services should be developed collaboratively. As pointed out above, New York City and California provide examples of this collaboration.

Customization of services seems particularly important. The range of possible support services is vast, and programs cannot be expected to offer a full range. Instead, CBTPs should assess their goals and the needs of their students, and tailor the services they provide to best help students attain the goals of the program. They should provide an array of services to their students, but should work to keep their services focused on students' needs and goals.

Many of the sites do just this. In Iowa, support activities are focused on career exploration, in keeping with the occupational focus of the Health Careers Academy. In New York City, ELLs are given the opportunity to practice their language skills during discussions and lectures, while other students are given the opportunity to learn about college through visits to New York City Community College's campus. Sites also should work with individual students to ensure that, when a range of services is available, students make use of the services most appropriate for them.

In addition, the data demonstrate the importance of giving students information about support services and setting aside time for students to learn about and to access the services. If students do not know about support services, they cannot take advantage of them. Allotting time within the regular school day, such as is being done in the MCHS homeroom periods, or in the Minnesota IB students' advisory periods, helps to ensure that all students are given consistent information on available support services.

Barriers to Implementation

A significant barrier to providing students with an array of services is that the status of the program students is different from that of regularly matriculated college students. When program students do not have official status as college students, and where the program does not bring students to the college campus, students' access to services is generally limited to those available at their high schools. This barrier may be magnified for students enrolled in high school or developmental courses, who may need the most support but are the least likely to be considered part of the college community.

When CBTP students do have the right to make use of the college's services, there are still often barriers to them doing so, as was described in Iowa. Time may be lacking within a program's curriculum to provide

orientation to services, and geographic distance may make access difficult for students.

Data Collection and Perceived Benefits

Drawing conclusions about the effectiveness of CBTPs in helping students enter and succeed in college is reliant on the presence of outcomes data. Ultimately, we are interested in knowing whether students who have participated in CBTPs are more likely to enroll in or persist in college than their peers who have not participated, or if former CBTP participants complete college in higher numbers or at a faster rate than nonparticipants. The present study was not designed to measure the effectiveness of the programs, but it did explore data collection at each site and the barriers that sites face in collecting these data.

Although many respondents to the study indicated that they believe in the value of outcomes data and profess the desire to collect and use them, most sites do not have systematic data collection procedures. Most of the data available at the sites are for short-term outcomes, such as program completion rates. In California, for example, the high school collects data on student progress toward high school graduation, including the number of college credits earned by students that also meet high school graduation requirements, as well as students' postgraduation plans. California Community College does not collect any data specifically pertaining to students in the MCHS.

Similarly, Minnesota IB High School maintains data on student participation in IB courses and their success on IB examinations, but not on college matriculation or persistence, or on students' ability to translate their IB exam scores into college credit. In Texas, the high school keeps data on how many students take a Tech-Prep course; the consortium collects data on students' eligibility for articulated credit; and the college keeps track of student use of Tech-Prep credit at Texas Community College. These three sites do not follow students beyond their first year in college.

Both Iowa Community College and New York City Community College have longer-term outcomes data in addition to short-term program completion data. Iowa Community College has data on former program students currently enrolled at the college and, thus, the college is able to track students' progress toward graduation as well as their major. In New York City, the university system of which the college is a part has similar information for students who matriculated anywhere in the CUNY system. At both of these colleges, however, the data are for students who participated in any CBTP in high school, and are not disaggregated by the specific high schools in the study—Rural High School or New York City High School.

Overall, then, it appears that sites' data collection efforts are focused on demographics, enrollment data, or short-term outcomes data, and rarely on long-term outcomes. And, there are no data for students who do not matriculate within the CBTP partnership. Moreover, data pertinent to the study and requested by the research

team were difficult for the sites to generate. Though the information is available, the sites found it challenging to gather and report the data in a way that is of interest to the research team. Much of the data took months for the sites to compile, and much was generated specifically for this study, at the request of the researchers, rather than on a regular basis.

Promising Practices

Given the lack of data available at the case study sites, it is difficult to determine promising data collection practices for CBTPs. It does appear that data collection is facilitated when the postsecondary partner is involved in the process, as colleges often have dedicated institutional research staff skilled in data collection and analysis techniques. In Iowa and New York, the postsecondary partners at both sites collect and use long-term outcomes data.

In Iowa, data collection also is facilitated by the college's decision to register dual enrollment students (including those in the Health Careers Academy) in the same way as regularly matriculated students. Students are given a code indicating their enrollment in the program, and their transcript information can be accessed and used for outcomes analysis as is any other college student's. In this way, the students can be easily identified and followed upon their matriculation into the college.

Barriers to Data Collection

Why do the case study sites have such difficulty collecting and generating data, particularly on the long-term outcomes of their students? Two primary themes highlighting the challenges facing sites emerge from the data. First, even in strong partnerships, there is little data sharing or collaboration on data gathering between partners. Second, sites have serious capacity problems, lacking staff time and knowledge to collect and use data effectively.

Lack of Data Sharing

At all five sites, data collection efforts are conducted by partners in isolation from one another. Partners are uncertain what, exactly, the other institution collects. High schools assume that colleges have long-term outcomes data when the college actually does not, for example. Partners often do not share their data with each other. This sometimes results in a duplication of effort, as seen in Iowa, where both the high school and the college collect data on student completion of the program.

Moreover, a lack of communication regarding outcomes data collection—and particularly the definitions of those outcomes collected—means that, in some cases, the same piece of data might mean different things to different partners. Such is the case in Texas, where the college, consortium, and high school use different definitions for the same variable. For example, the high school considers a "Tech-Prep student" to be any student enrolled in a Tech-Prep course, while the consortium counts only those who register to receive articulated credit. The college uses an even more stringent definition, considering only students who apply for and receive articulated credit to be "Tech-Prep students."

In this site, even determining program enrollment is complicated.

The fragmentation of data collection efforts makes longitudinal analysis of student outcomes difficult, even in sites where outcomes data exist. Fragmentation also means that student achievement cannot be followed over time, because the information gathered at the high school is not given to the college for follow-up. Without access to students' high school records, colleges cannot control for prior academic experiences in determining the influence of program participation on student success in college. In Iowa, for example, the college has preliminary data indicating that Health Careers Academy students matriculating into the college have stronger academic skills than other first-time college freshmen. However, without access to high school achievement data, the college cannot demonstrate that this outcome is due to program participation, rather than other factors.

To some extent, the lack of data sharing stems from programs' concerns over student confidentiality. Program staff frequently said that they were concerned that sharing data with other institutions would violate their students' privacy. They were particularly concerned about data that were linked to individual students. Thus, programs are reluctant to share data in ways that include student identifiers.

When programs do not collect data with individual student identifiers, however, long-term follow-up on student outcomes is not possible. This is true whether the reason for the lack of identifiers is because of privacy concerns, or some other reason. In California, for example, the college does not identify MCHS students enrolled in college credit courses. It is therefore unable to determine if any MCHS students matriculate into the college, because they have no way of differentiating former MCHS students from others in their data system.

Overall, the lack of coordination means that pieces of data are collected in isolation from one another. Data can be used to generate a snapshot of programs at a given moment in time, but not to tell a story of student achievement or matriculation and persistence in college. There are not enough coherent data to explore long-term outcomes, particularly in a rigorous manner.

Lack of Capacity

Sites also lack the capacity to collect and use data. In many sites, data collection is peripheral to staff's stated duties. Particularly at the high schools, collecting data on the CBTP is not a focus of their efforts. High school staff primarily concentrate on day-to-day operations and collecting data required for state and federal reports. In Minnesota, for example, the school did not focus on the IB participation rates of students from various racial and ethnic backgrounds until it included broadening participation in IB in its state accountability goals. With this goal made explicit, the school is now attuned to the data regarding participation rates on the part of students from various backgrounds.

There are similar constraints at the postsecondary level. Both the Iowa and New York sites have college-based institutional

research offices and are committed to using data effectively. But these offices have a myriad of other reports and data analysis that they are required to complete, and they have little time to analyze CBTP outcomes data. In Iowa the director of institutional research said, "I can't think of anything I couldn't tell you, if I had the time to do it." He makes clear, however, that such time is difficult to come by, as other priorities come ahead of exploring the outcomes of the CBTP.

In addition to time, partnerships faced other capacity issues. The New York City college-based coordinator indicated that she does not have the physical space to hold onto students' paper records for more than two years. And, in a number of sites, staff are uncertain how to collect the data they most desired—alumni outcomes. Iowa has attempted to survey alumni of both its Health Careers Academy programs and the college generally, and found that their response rates were very low. Iowa is uncertain how to guarantee that any efforts at following up with alumni would be fruitful.

Similarly, programs are uncertain how to gather data on alumni who do not matriculate into the partnering postsecondary institution. In Texas, for example, the consortium coordinator said that she has to use a "hunt and peck" strategy to find alumni, because they often transfer out of Texas Community College prior to earning an associate degree.

Data collection, particularly for long-term outcomes, does not seem to be a priority for most of the sites in our study. Though they understand the importance of collecting and using data, constraints on their capacity and competing priorities inhibit their ability to engage in data-gathering efforts. If long-term program outcomes are going to be explored, funding and staff time need to be dedicated to these efforts. Without increased capacity, as well as increased willingness to engage in the process, it is unlikely that sites will improve the outcomes data available.

Perceived Benefits to Students

Although this study did not systematically explore student outcomes, it did investigate what program practitioners and students believe to be the benefits of participation. Across the case study sites, respondents indicate that there are three primary benefits to students: the opportunity to earn free college credit, gaining "a taste" of college, and students' increased confidence in their academic abilities. In addition, many teachers mention that they benefit from their involvement in the program, which we will briefly discuss.

College Credit

Study participants believe that the opportunity to earn free college credit benefits students, particularly those from disadvantaged economic backgrounds, by making a postsecondary degree less expensive and potentially shortening the time it would take to earn a degree. A New York City instructor explains, "Six hundred kids in the course of a year are going to get college credit and it's not going to cost them a penny." In Iowa, students earn nearly a full semester's worth of credit at no cost, in addition to having the opportunity to earn a credential that enables them to gain

skilled employment. In Texas, where students often do not receive credit for their Tech-Prep courses, the chance to earn the credit is still seen as an important benefit by both teachers and students. This benefit presumably encourages students to matriculate in college by making it seem more affordable.

At California MCHS, students can earn enough college credit to earn an associate degree at no cost. This credit also positions the students well within the state's university system, potentially helping them transfer to a four-year college or university. According to the high school counselor,

> That's the goal ... to transfer to a four-year and, you know, it's a tremendous advantage, not only financially, because they don't have to pay for the first two years, and it's free, but then it's much easier to get into a UCLA-type of school as a transfer student if you did well on your associate degree.

In Minnesota, earning college credit is dependent on passing an exam and having a university recognize the exam scores. Moreover, some of the staff feel that the credit is less important than the curricular experiences offered by the IB program. Yet, for the students, the opportunity to earn free credit is a very real benefit. One student said that she decided to pursue a full IB diploma mainly because she thinks it might help her graduate from college more quickly.

In fact, students across the sites seem to view free college credit as a key reason for participating in CBTPs, even if they are not assured of being able to apply their credit toward a college degree. As the college-based New York City College Now coordinator noted, credit seems to serve as a "carrot" for students, encouraging them to participate in the program. It is much harder to entice students to enroll in CBTP activities that do not bear college credit than in those that do.

A Taste of College

Study participants additionally believe CBTPs give students the opportunity to get a taste of college. Students in CBTPs are, in essence, able to practice the academic and social aspects of being in college, thereby potentially becoming prepared for actual college matriculation. This benefit is most clear in California, where students are on a college campus and attend class with other college students. California MCHS students also experience college by learning to network with college instructors and students and to balance freedom with responsibility.

Though the MCHS gives the most easily recognizable example of students experiencing what it is like to be a college student, participants at other sites note that their students receive this benefit from their CBTP participation, as well. In Iowa, students take a semester's worth of college classes over the course of a year on top of their regular high school courses. One of their college courses is a self-paced medical terminology course that requires them to study independently. The Iowa nursing instructor explained that the heavy workload prepares them for the academic demands of college and " ... that gives them a taste of, [that] you are responsible in college. You know, you read a chapter a day and then you

test. ...” The information technology strand at Texas Tech-Prep makes similar demands on those students.

In New York City, students in the Learner’s Academy attend class on a college campus. Students indicated that they feel like they are “a real college student” and that they learn about college from spending time there. “You know how the teachers will deal with you. You know, they’re different than the high school.” New York City students who are not in the Learner’s Academy, but are in other College Now courses, also are given a taste of college through trips to the campus and the opportunity to obtain a college identification (ID) card. A high school-based instructor said that the visits are helpful to the students because “They can see the college in action ... they get to see a whole different atmosphere to high school.” Another added, “And they get to act like little adults. And they do. You know, you see them and they really do act like little college kids. They’re so proud when they get their college ID and say, look at me, I’m a college student.”

The support services offered by some of the sites also make the CBTPs safe places for students to try their hand at a college course, since they may be more likely to be successful than if they enrolled in college on their own. Particularly for middle- and low-achieving students, knowing that there are support services to help them be successful may encourage them to enroll in CBTPs when, without those services, they may have chosen not to do so.

Additionally, in Iowa and Texas, students are able to explore a career path without being penalized if they changed their mind. Iowa program staff note that students sometimes discover that they do not want to pursue a career in health care, and that it is better the students realize this in high school, while taking free college courses, than after they have paid for a number of semesters of college course work. Texas Tech-Prep faculty, particularly those in the Child Development and Criminal Justice strands, agree. And the students themselves feel that the opportunity for career exploration is invaluable; as one said:

> ... if you want to become a teacher, and you do an application, you don’t get to get into a class until about your third or fourth year. You’ve already paid for so much, well, say you get into a classroom and you really don’t like kids, you can’t—most of us can’t just go back and say, ‘Oh, I’m just going to start over.’

Increased Confidence

According to students, a third benefit is the increased confidence gained through their participation in CBTPs. Although the sites encourage such confidence in a variety of ways, participants believe that students leave their CBTP with increased belief in their ability to be successful in the future. Some of the increased student confidence, according to study participants, is a direct result of their experiences learning about college, as described above. Because college is familiar to them, students realize that they can be successful in that environment.

Students' confidence also is increased by student success in college course work. Study participants believe that, once students discover that they can achieve in one college course, they are more likely to believe that they can succeed in college generally. Explained a college dean in Texas, "[The students] realize that ... if the college is willing to give me credit for it, I'm probably doing college level, and that again helps them to understand that yes, I do have that ability; I can do it." In discussing a student who had difficulty in her class, a New York City instructor agreed. "But he did all his work. And it was a challenge for him. And he wrote a letter at the end to me that said—it was just really simple. It said, 'I never really thought I could go to college, but now I see I can!'" Thus, success in college courses is believed to breed the confidence that students can use to motivate themselves in future academic pursuits.

The programs help students gain confidence in other ways, too. The clinical experiences in Iowa are an important way to help students feel more secure in their abilities. The director of secondary programs said,

> ... when I'm thinking about the Health Academy, I see these students come in for the orientation in the spring, and they're shy and timid and they don't know what they're doing. And then they're watching the kids who are in the program, who look like they've been doing this for years. Well, they've only been doing it for about eight months. And yet, they grow so much in their self-confidence and come to sense who they are and what they can do.

Likewise, the sense of community students find in the California MCHS, New York's Learner's Academy, Minnesota IB, and the Iowa Health Careers Academy helps students feel comfortable with their academic abilities and goals. Explained a Learner's Academy instructor, "The kids protect each other, look out for each other ... And they're helping each other. They're motivating each other, which is nice ..." And the MCHS principal says, "I think kids feel like they can be academic here, and that's okay; whereas, in a lot of schools ... you can't carry books. You can't act like you're smart. We don't have that problem here. ..."

Perceived Benefits to Teachers

Many of the CBTP teachers, in particular high school-based teachers who are teaching college-level courses, speak of benefits to themselves from their involvement in the program. Teachers say that teaching higher-level course material to motivated students is stimulating and enriching to themselves. In New York, teachers said that teaching in the program is "fun" and that the smaller class sizes allow them to really get to know their students. Teachers in that program also are paid for their involvement, because it is an after-school program, and so there are many teachers vying to participate.

Teachers also spoke of benefiting professionally from the training and interaction with postsecondary faculty. One Minnesota IB teacher said:

> The training that I've attended has been excellent kind of training. They give you curriculum. They give you lessons. They give you suggestions. So I've benefited immensely from the training sessions. And they treat you well, too, which is nice. I mean, they treat you like professionals, which is very nice. And, so, I hope every teacher has the opportunity at some point to get some type of that training, because it's really been beneficial.

In the New York City and Texas programs, where the high school-based instructors meet regularly with their college counterparts, high school teachers speak of this interaction as being important and useful to them in their teaching.

Recommendations for Policymakers, Practitioners, and Researchers

This report has presented data from five diverse sites and highlighted promising program features that the data suggest should be included in CBTPs if they are to meet the needs of middle- and low-achieving students. Additionally, various challenges and barriers faced by programs as they attempt to implement these features were described. This final section presents recommendations based on the data to policymakers, practitioners, and researchers.

For Policymakers and Practitioners

Lessons learned from the fieldwork can assist policymakers and practitioners in their continuing efforts to encourage the development of CBTPs. Three overarching themes arose from the data: access, collaboration, and the need for data collection.

Encourage Broad Access

We have described several ways in which access to CBTPs may be formally, or informally, limited, even though staff members in all the case study sites make significant attempts to provide students with information about the program. In order to encourage broad access, programs should:

- Develop multiple ways to ensure that all students—regardless of academic background and level of motivation—learn about the CBTP.

This entails giving all students information about the program early enough in their academic careers to allow them to plan for program participation. It also means that this information should be shared with students frequently, so that those with less access to information sources are still likely to learn about and enroll in the CBTP. Just providing the information is not sufficient; students must also be made aware of the benefits to their participation, such as college preparation and credit. Involving parents, all teachers in the school, guidance counselors, and other school support staff in recruitment efforts may help broaden the spread of program information to all students.

- Develop a program culture that is supportive of and encourages students from different backgrounds and academic levels to participate.

Ensuring access is not simply a matter of disseminating information. In a number of sites, study participants indicated that students also need to feel comfortable in the program. They need to see other students like themselves participating in CBTP activities and to feel that their academic needs and concerns are being met. Programs in the study are beginning to address this explicitly, by seeking to change the reputation of their program, targeting activities at underrepresented students, and using support services to create a CBTP culture that feels comfortable to students not previously or frequently involved.

- Structure the program and the curriculum with an eye towards broad access.

A developmental sequence of courses can help to maintain program access for all students, particularly middle- and low-achieving students who need opportunities to build their skills before attempting college credit courses. Curricular pathways with multiple access points ensure that students at different levels can enter the program. A program in which course work is part of the regular school schedule likely helps more students participate, as opposed to an after-school program. Programs also should be attentive to encouraging access for special education and ELL students, who may have additional needs beyond the opportunities available through the program's developmental pathway.

Policymakers can support practitioners in these practices. States can provide incentives for programs that enroll middle- and low-achieving students. The programs studied were located in states that did not strongly restrict student access, and these programs were attuned to broad access. Despite these factors, it did not seem that the programs were reaching their target population—disengaged, underachieving students, who might not view college as a realistic option.

Create Strong Collaborative Relationships

Throughout the report, we have discussed the importance of collaboration. Many of the promising practices identified rely on collaboration among high school and college staff, as well as deeper institutional collaboration. However, as has also been noted throughout this report, collaboration is a difficult process and one with which some programs struggle. Programs and policymakers should:

- Facilitate collaboration by clearly establishing the roles and benefits for each institution in the partnership.

Collaboration appears to be most successful when all partners perceive that they are receiving benefits from the partnership, or when particular goals drive strong commitment at the top levels of leadership. In some cases, one or both partners participate half-heartedly, doubtful as to what added value the other partner is contributing. It does not seem to matter whether goals are self-interested or altruistic, as long as they lend themselves to a commitment to sustaining the program.

Collaboration occurs in different ways and among different levels of individuals. Collaboration can be formal or informal and

can occur between the leaders of institutions, or between the staff or instructors. Thus, in one site, the formal institutional-level collaboration seems to be falling apart, while, at the same time, counselors of the partnering institutions are working closely together to share and integrate their services. At another site, collaboration is strong between the partnering program administrators, uneven between the instructors, and nonexistent between the top levels of leadership. In no program is collaboration consistently strong and fruitful across all levels of the partnership.

- Support broader integration between the secondary and postsecondary sectors.

The word "collaboration" does not seem to fully describe the type of institutional relationship that CBTPs require. CBTPs promote deeper institutional changes, such as high schools and colleges overcoming their structural differences to integrate their goals, practices, and services. Such widespread collaboration, and its potential impact, mirrors the goals of the larger K—16 movement, in which high schools and colleges are encouraged to work together to create a seamless education system.

Policymakers have a strong role to play here. They can compel the two institutional sectors to rethink and align their standards, curriculum, and assessment practices. Aligning high school graduation requirements with college entrance requirements is an important first step. Articulation of high school with college course work also would help students transitioning to college know that they are prepared. Policymakers can do a great deal in supporting the difficult task of integrating and streamlining secondary and postsecondary education.

- Simplify the credit earning and credit transfer process.

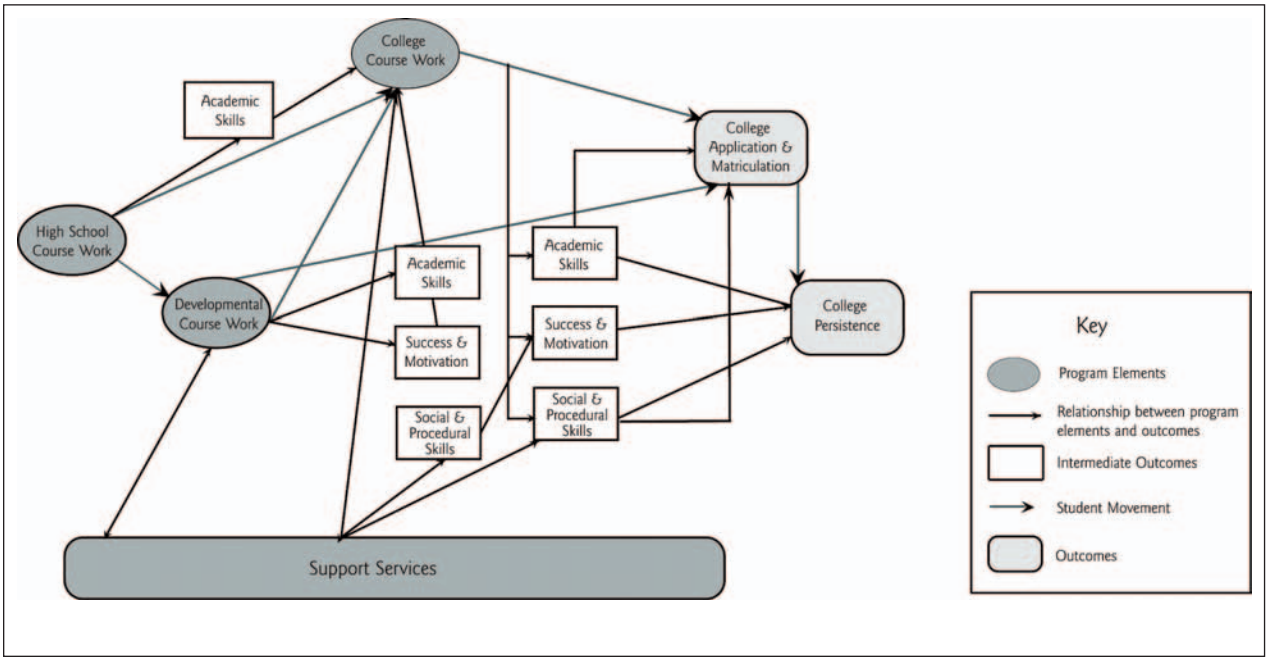
Finally, CBTPs are a type of collaboration that is intended to yield college credit for students. Yet credit earning in some of the study sites is quite complicated, and it is unclear the extent to which students retain their credits as they matriculate to different postsecondary institutions. Policymakers should take steps to ensure that earning credits through CBTP participation is not an onerous process and that the credits are more easily transferable. It is clear that transcripted credit, such as that earned in the California and Iowa programs, is preferable to credit-in-escrow, such as that in the Texas Tech-Prep program. Common course numbering across state college systems also would help students transfer and keep their credits.

Policymakers also should support dual credit programs, in which students receive high school and college credit for their program course work, as opposed to receiving one type of credit or the other. In addition to simplifying participation for students, dual credit also encourages institutions to work together to align curricula.

Work With Researchers to Collect Outcomes Data

It would be useful to collect additional descriptive information on CBTPs, such as the number of college credits high school students are earning. Some states and

Exhibit 7: Conceptual Model of the Credit-Based Transitions Program Influence on Student Outcomes



programs have begun to report such descriptive data (see Barnett, Gardner, and Bragg, 2004). Ultimately it is important to know whether CBTP participants are more likely to enter and complete college than nonparticipants.

Researchers' ability to evaluate CBTPs, however, is hampered by the limited collection of outcomes data, particularly long-term data. In order to provide information on program effectiveness to policymakers and practitioners, it is imperative to:

- Support the gathering of student-level data that can be used for outcomes analysis.

Policymakers should support outcomes analyses that begin with students' performance prior to program participation, include comparison groups, and follow students through college matriculation and graduation. To do this, high schools should compile data on CBTP students' grade point averages, standardized test scores, extent of program participation, on-time graduation from high school, and postgraduation planning. Colleges should compile data on students' timely matriculation into postsecondary education, use of credit earned through the CBTP, persistence in college, and on-time completion of a postsecondary credential.

These data should be linked in order to follow students from high school to college. This will require secondary and postsecondary sectors to share data and use common student identifiers. High schools and colleges may need financial support as well as governmental urging to carry this out.

Researchers should help program administrators collect these data in forms that lend themselves to rigorous analysis and

use the data for internal evaluations and improvement efforts. Such efforts are, in essence, an additional form of CBTP collaboration—that between practitioner and researcher. And, like the collaborations discussed earlier in this report, these efforts are likely to be difficult to engage in, at least at first. However, they seem the most likely way to ensure that data are available with which to conduct long-term explorations of the influence CBTPs have on student matriculation and persistence in college.

For Researchers

A primary goal of this project was to provide knowledge of CBTPs on which future research may be based. Describing program features in detail, as done in the previous sections, was the first step in achieving this goal. The second step was to create a conceptual model that suggests the ways that these program features may work together in order to promote the success of middle- and low-achieving students as they make the transition from secondary-to-postsecondary education. This model is intended to help future researchers develop studies evaluating the effectiveness of CBTPs and their various program components.

Prior to conducting the fieldwork, the researchers developed a hypothesized model. The model relied on previous research on CBTPs and secondary-to-postsecondary transitions indicating that rigorous academics in high school, as well as social preparation for college, may both help students succeed in college (see Adelman, 1999; Sax, Keup, Gilmartin, Stolzenberg, and Harper, 2002; Tinto 1987, 1997). The case study data were used to confirm the model. The data also helped the researchers develop a better understanding of the components included in the model and the ways in which these components interact. Ultimately, the case-study research led to the creation of an evidence-based conceptual model. See exhibit 7 for a visual representation of this revised model.

The model indicates that CBTPs give students an academic base for college success, confidence in their ability to be successful in college, and the opportunity to learn about the social and procedural skills required of college students.

The multiple components found in CBTPs play important but distinct roles in preparing students for college access and success. Program components include high school courses, developmental courses, college credit courses, and support services. The relationship among these components, as illustrated in the model, is complex. Program components meet the needs of students at various—and multiple—points in their academic careers, an aspect of CBTPs that is particularly important for meeting the needs of middle- and low-achieving students.

Laying the foundation for college-level study takes multiple forms. As outlined in the section of this report on curriculum, students seem to develop an academic foundation in high school courses that are aligned with college curriculum, or through specially designed developmental courses. These various preparatory activities are illustrated separately in the model.

The model also illustrates that most of the presumed impacts from CBTPs occur prior to students' enrollment in college credit courses. Although college courses are the capstone experiences of CBTPs, program benefits accrue over time. Students gain academic skills; feelings of success, confidence, and motivation; and social and procedural skills at multiple points in their CBTP experiences. These gains seem to influence their future program experiences as well as ultimate program outcomes.

In exhibit 7, the program elements included in CBTPs are shaded in grey and the desired program outcomes are to the far right. Heavy arrows indicate student movement through the program elements. They illustrate that students can move from high school course work through developmental course work to college classes, college matriculation, and college persistence. The multiple arrows leading to and from program elements indicate that students may traverse these program components in a variety of ways given their academic needs.

The clear boxes indicate the intermediate outcomes of CBTP participation, which are also the mechanisms by which student success in college might be promoted. Program features lead to these intermediate outcomes but these outcomes facilitate student participation in future program features, as well. In other words, students develop academic skills and motivation through developmental courses. Increased skill and motivation help students transition into and be successful in college course work, which, in turn, promotes more academic and motivational growth.

The elongated box along the bottom of the model illustrates the support services element of a CBTP. Supporting students prior to their enrollment in college courses may help motivate and prepare them for college credit courses. Supporting students while they are in college courses may help them be successful in those courses and, in turn, may further motivate them to matriculate to postsecondary education. The double-headed arrows linking support services to developmental and college course work indicate the symbiotic relationship between these program elements. Support services help students succeed in their courses, but their courses also help make support services—such as workplace experiences or special trips and workshops—more meaningful to students.

In addition, support services lead to intermediate outcomes of their own. They increase students' understanding of the social and procedural expectations of college by giving students a taste of college.

Ultimately, the model hypothesizes that student participation in college course work and support services, with the attendant growth in academic skills, knowledge of the social aspects of college, and motivation will lead students to matriculate into postsecondary education. Students will be likely to persist in college once there because of their strong skills. Of course, concise measurement of program outcomes and impacts is needed. This model, and the support for it that we find from our qualitative data, should assist others in designing future studies of CBTPs.

Suggestions for Future Research

Research is needed to test the conceptual model posed here and to explore the impact of CBTP participation on student matriculation and persistence in postsecondary education. In this final section, future direction for this research is offered.

- Confirm the relationship between program features and intermediate outcomes.

The conceptual model (exhibit 7) hypothesized that participation in the various elements of CBTPs have outcomes of their own. For example, participation in developmental course work is presumed to increase students' academic skills, participation in support services should increase students' knowledge of college, and participation in either or both of these components should increase student motivation to enroll in college credit classes. These hypotheses, and the others set forth in the model, need to be rigorously tested.

It also would be interesting to know if some program components have a greater influence on intermediate outcomes than do other components. Do developmental courses have a different impact on student motivation than do support services? Are CBTPs truly dependent on the interaction of multiple program components, or might some components be more necessary than others?

Answering such questions may include a variety of research methodologies. Programs may compare the academic achievement of CBTP participants with nonparticipants, or survey students regarding their college aspirations in order to detect differences in students before, during, and after their participation in various CBTP components. In order to understand student use of curricular pathways, programs may track students over the course of their high school careers to examine their trajectory through the CBTP.

Regardless, researchers should pay close attention to preexisting differences among CBTP students and their peers not participating in the program, as well as to any other factors that may be responsible for positive outcomes. The study's qualitative data indicate that there may be some preexisting differences among these two groups of students, particularly in terms of motivation and college aspirations. Post-program outcomes may reflect these differences, rather than any program-related change. Similarly, at a number of the case study sites, the small size of the program or the fact that students said they felt special because they were in the program—rather than the ability to earn college credit—was the most salient feature to students.

- Confirm the long-term outcomes of CBTPs.

It is still unknown whether CBTPs actually achieve their goal of helping students enter and succeed in college. This question should be a key element of any future research agenda on CBTPs. Is it appropriate to assume that participation in a CBTP will promote student attainment of a postsecondary degree? Long-term outcomes

analysis is clearly needed to confirm this fundamental hypothesis.

Researchers should undertake outcomes research exploring student educational attainment after their participation in CBTPs. Do students earn college credit and if so, are they able to apply it toward a college degree? What is the average length of time to graduation for students who were in CBTPs, and is it shorter than for their peers?

As with the intermediate outcomes discussed above, studies of long-term outcomes should be rigorous and include comparisons between students who were in CBTPs and their peers who were not and controls for prior academic achievement. Ideally, these studies might follow a cohort of students from the beginning of high school through college graduation, exploring differences between CBTP and non-CBTP students at various points in their educational careers. They also should include the outcomes of all CBTP students, whether those students attend the programs' postsecondary partner or a different college.

The findings from the Accelerating Student Success Through Credit-Based Transition Programs study lend credence to the excitement many policymakers and educators hold for CBTPs. CBTPs are ambitious—both in their expectation of high levels of student achievement as well as in their structural characteristics. The programs have the potential to help a wide range of students, not only the most academically advanced, but also the middle- to low-achieving students, become prepared for postsecondary education. Though long-term outcomes research is needed to confirm the college-going behaviors of students in CBTPs, the findings presented here indicate that it is plausible that CBTP participation has a positive influence on students.

Methods Appendix

The Accelerating Student Success Through Credit-Based Transition Programs project included three inter-related research activities in order to better understand the program elements that may help middle- and low-achieving students enter and succeed in postsecondary education. The first was to gather data through focus groups with practitioners to identify program features important to ensuring that CBTPs are of high quality and able to serve a broad range of students. Second, a review of the dual enrollment policies of all 50 states was conducted in order to: better understand the contexts under which CBTPs function, highlight policy variation, and explore the implications of this variation for programs.[9]

Then, the findings from the focus groups were used to develop site selection criteria for the case studies. Before being selected for participation in the study, programs were required to demonstrate that they encouraged participation by a wide range of students. They also had to have graduated at least one cohort of students and engage in a variety of quality control measures, such as using college syllabi or college textbooks. Programs were required to have a designated staff person in charge of the CBTP, and to provide professional development for instructors.

Using these criteria ensured that the five programs chosen for the study were long-standing, actively sought to enroll and support middle- and low-achieving students, and included the program features that focus group participants deemed important for successfully meeting the needs of these students. In addition, sites were purposefully selected to represent a range of state policy contexts; the various types of comprehensive and enhanced comprehensive programs; and diversity in geographic location and demographic composition.

Research was conducted in two phases. During the spring of 2004, teams of two to three researchers visited each site for three to four days. They conducted interviews with program faculty and staff and observed classes and program activities. These activities focused on developing a deep understanding of program structures and features. In general, the researchers examined institutional and classroom processes, with less attention paid to questions of regulation and financing, outside of the direct impact these have on program implementation.[10] Interviews were taped and transcribed for analysis, and notes taken during observations were written into narrative form. During the visits, researchers also sought to collect student and program

[9] The reports from these two activities are available on the Accelerating Student Success Through Credit-Based Transition Programs project's Web site at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

[10] *State Dual Enrollment Policies: Addressing Access and Quality*, available on the study's Web page, provides detailed information on state policies at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

outcomes. After analyzing these initial data during the summer of 2004, the researchers returned to each site during the fall of 2004. The second visits were used to conduct follow-up interviews and observations in order to confirm the initial findings and gather additional information.

Upon completion of the site visits, all data were uploaded into a qualitative data analysis software program. In total, 117 interviews were completed with faculty, staff, and students, as well as 63 observations of classes, support service activities, and professional development activities. The analysis focused on state, district, and school contexts; program structure; management and leadership; curriculum; pedagogy and instruction; collaboration between the secondary and postsecondary partners (where applicable); student recruitment and selection; support services; outcomes data; and sustainability, among others. Interactions among these features, within and between partnering institutions, were explored in so far as they contributed to student college preparation. Barriers to successful program operation also were explored.

Works Cited

Adelman, Clifford. 1999. *Answers in the tool box: Academic intensity, attendance patterns, and bachelor's degree attainment*. Washington, D.C.: U.S. Department of Education, Office of Educational Research and Improvement.

American Association of State Colleges and Universities (AASCU). 2002. "The open Door...Assessing the promise and problems of dual enrollment." Washington, D.C.: AASCU State Policy Briefing 1 (1).

Bailey, Thomas and Karp, Melinda Mechur. 2003. *Promoting college access and success: A review of dual credit and other high school/college transition programs.* Report prepared for the Office of Vocational and Adult Education, U.S. Department of Education. Community College Research Center, Teachers College. Columbia University. New York, N.Y.

Barnett, Elisabeth, Gardner, Douglas, and Bragg, Debra. 2004. *Dual credit in Illinois: Making it work*. Champaign, IL: Office of Community College Research and Leadership, University of Illinois at Urbana-Champaign.

Lords, Elizabeth. 2000. "New efforts at community colleges focus on underachieving teens." *The Chronicle of Higher Education.* June 30, 2000, p. A45.

National Commission on the High School Senior Year. 2001. *Raising our sights: No high school senior left behind.* Princeton, N.J.: The Woodrow Wilson National Fellowship Foundation.

Sax, Linda J., Keup, Jennifer R., Gilmartin, Shannon K., Stolzenberg, Ellen B., and Harper, Cassandra. 2002. *Findings from the 2002 administration of your first college year (YFCY)*: National aggregates. Los Angeles, Calif.: Higher Education Research Institute, University of California, Los Angeles.

Tinto, Vincent. 1997. "Classrooms as communities: Exploring the educational character of student persistence." *The Journal of Higher Education,* 68 (6): 599-623.

Tinto, Vincent. 1987. *Leaving college: Rethinking the causes and cures of student attrition.* Chicago, Ill.: The University of Chicago Press.

Venezia, Andrea, Kirst, Michael W., and Antonio, Anthony L. 2003. *Betraying the college dream: How disconnected K–12 and postsecondary education systems undermine student aspirations.* Stanford, Calif.: Stanford University's Bridge Project.

Waits, Tiffany, Setzer, J.Carl, and Lewis, Laurie. 2005. *Dual credit and exam-based courses in U.S. public high schools: 2002-2003* (NCES 2005-009). U. S. Department of Education. Washington, DC: National Center for Education Statistics.

Appendix: Enhanced Profiles of Research Sites[1]

Southern California MCHS Program Profile

As previously described in the Accelerating Student Success Through Credit-Based Transition Programs September 2004 site profiles,[2] the CBTP in California is composed of a partnership between Southern California MCHS and California Community College. In general, MCHSs focus on providing at-risk students with academic and social preparation for college and tend to be characterized by small class sizes, support services, and close teacher-student interaction.[3] Southern California MCHS is located on the campus of its postsecondary partner, California Community College, which is situated off a major street in a residential and commercial area of Los Angeles.

The California Community College campus consists of four modern buildings.[4] In the fall of 2003, the college had an enrollment of 7,000 students. Of these, 68 percent were African-American and 28 percent were Hispanic. The college is currently suffering from a lack of space. As of our fall 2004 visit, it was unclear as to whether or not there would continue to be room on campus for the MCHS after the 2004–05 school year.

The MCHS has been in existence since 1989. In the 2003–04 school year, enrollment totaled approximately 330 students, with 45 percent African-American and 55 percent Hispanic students. The MCHS is housed on a separate section of the campus and the facilities consist of 12 small modular buildings. There is no indoor area where the student body and staff can meet; instead a courtyard nearby serves as the central meeting location. One building is designated as the main office and also houses the principal's office.

Classes run from 8 a.m. until 3:10 p.m. and the school operates on a modified block schedule. There are six alternating 70-minute periods taught Monday through Thursday, with all classes meeting on Fridays for shorter periods that range from 50 to 60 minutes. On Monday and Wednesday the schedule consists of periods 1, 3, and 5, with 2, 4, and 6

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1 In order to give the study participants anonymity, the specific research sites were given pseudonyms. However, the name of the general program is used in some cases.

2 Please see the Accelerating Student Success Through Credit-Based Transition Programs study's Web page on the U.S. Department of Education's Web site to download and view two-page profiles of each of the study's five case sites at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

3 Please also see on the study Web page, listed above, the program description for more information on the MCHS program model.

4 This descriptive information is provided so the reader has a better understanding of the program environment.

scheduled on Tuesday and Thursday. There are 13 teachers, a program coordinator who is a teacher on special assignment, a counselor, and a principal on staff. During the 2003–04 school year, there was also an assistant principal for counseling; however, this individual resigned and as of our fall 2004 site visit the position was unfilled. The administrative team consists of the principal, the program coordinator, and (when the position is occupied) the assistant principal for counseling.

Student Outreach

The outreach process employed by the MCHS is multifaceted. The first step is mailing the application to all the public middle schools in the district. Applications also are sent to the private and parochial schools in the surrounding community, along with a letter providing information on the school. In addition, during the 2003–04 school year the principal presented the program at the district's principals' meeting and shared the application with those in attendance. The MCHS also has a good reputation with parents of its alumni, and many people within the community inquire about attending the school based on word of mouth recommendations.

In the past, the MCHS counseling staff have visited local feeder schools and met with the counselors at those sites to identify students that would benefit from the MCHS experience.

MCHS Application Process

Student applicants to the MCHS are screened and then selected based upon a process that examines four components: letters of recommendation, writing samples, grade-point-average (GPA), and scores on the California Achievement Test, Sixth Edition (CAT/6). The students complete the first two components and the school requests student records to examine CAT scores and past academic performance.

A weighted rubric is used to score each component of the application, and scores for all components are totaled and grouped into ranges (e.g., applications with scores in the 600s are put together, and those in the 500s are put together); a perfect score is 700. Each student's application package is carefully screened to ensure that students selected can develop the social and academic skills needed to attend college by 11th grade. Due to the open campus environment and the scholastic freedom that students experience by being able to take courses at the community college, only students that can exhibit the maturity to manage their actions are accepted into the school.

The principal selects the final 100 students to enter the ninth grade from the applications received.

School Orientation Process

In August, ninth graders and other new students participate in an orientation held at the community college's theater and coordinated by the high school staff and administration. Parents are invited, and often attend the orientation. The purpose of the orientation is to provide students and parents with information about the MCHS and highlight information contained within the

student handbook, including expectations, dress code, and conduct. General information regarding dual enrollment and college matriculation opportunities and procedures at MCHS also are discussed during the half-day orientation.

Precollege Curriculum and Program

The ninth and 10th grades provide an opportunity for students to prepare academically to start college courses in 11th grade. To prepare students, teachers at the MCHS use standards-based instruction to establish an academically rigorous environment. While incorporating both content and performance standards into the curriculum, teachers also differentiate instruction, so that weaknesses are being addressed and strengthened.

Exhibit A-1 below outlines the district's requirements for graduation. Students in the ninth and 10th grades take academic courses that meet these requirements and prepare them for college-level work. In addition to mathematics, English, world history, science,

Exhibit A-1: Southern California Middle College High School District Graduation Requirements

Subject	Credits	Requirements
English[a]	40 credits	■ English 9 ■ English 10 ■ American Literature or Contemporary Compositions ■ 12th-grade composition
Social Science	30 credits	■ World history ■ U.S. history ■ Principles of American Democracy and Economics
Mathematics	20 credits	■ College preparatory mathematics
Lab Science	20 credits	■ 10 credits, biological science ■ 10 credits, physical science
Visual and Performance Arts	10 credits	■ Two semesters of arts classes
Applied Technology	10 credits	■ Two semesters of technology classes
Health	5 credits	
Life Skills	5 credits	
Physical Education (PE)	20 credits	■ Four semesters of PE, team sports, or dance
Electives	70 credits	
Total	230 credits	

[a] Each high school course is worth 10 credits, 5 per semester.

technology and the arts, ninth grade students take a life skills course that provides them with academic and career guidance. Also, in order to facilitate the many steps to college enrollment, all ninth graders take the college placement exams at the college's Assessment Center.

MCHS freshmen and sophomores begin to experience a college environment by attending career fairs and college fairs, among other activities, at the community college. The MCHS curriculum also provides students with opportunities to familiarize themselves with college facilities. For example, the 10th-grade English teacher takes students to the college's library and, while exposing them to the college setting, also works with them on research and writing skills. The research and writing components are an essential piece of the 10th-grade English curriculum, because if students are going to be successful at the college they need to be able to complete the many writing assignments encountered in college courses.

College Course Selection and Enrollment Process

Through an agreement between the school district and the college district, students at the MCHS can take courses at the community college to satisfy either high school electives or requirements. The school district has identified college courses that may be used towards high school graduation. For example, the College's American history course fulfills the high school graduation requirement in U.S. history.

To choose and prepare for enrollment in college courses, students meet one-on-one with the counselor at the MCHS and frequently with college counselors as well. Usually starting in the 11th grade, the counselors help to map out a schedule that allows students to take college courses to meet some of their requirements. While most students at MCHS begin taking college-level courses in the 11th grade, exceptions are made for ninth and 10th- grade students that exhibit the maturity and academic ability to enter the college environment.

The California Community College district has established procedures for all public school students who wish to enroll in college courses. In addition to completing the regular college application, students submit an additional application form that is signed by their parents and their principal, for each course they wish to take. California Community College reviews this form along with any previous course work completed at the college. While non-MCHS students must be interviewed by college officials in order to be approved for admission, the college omits this step for MCHS students, trusting that the high school has sufficiently screened them. In addition to completing the application forms, students must pass the college placement exams in mathematics and language arts prior to enrolling in credit-bearing courses. These procedures have been established to ensure that students are successful in their college course work.

College Course Curriculum and Credit-Earning Process

All dual credit courses are regular college courses taught at the community college by college professors. The MCHS students

Exhibit A-2: Southern California Middle College High School–Sample Schedule for 11th-Grade Students

Time	Monday	Tuesday	Wednesday	Thursday	Friday
8:00 – 9:25 a.m.	History 11[a]– Political and Social History of the United States	Algebra	History 11— Political and Social History of the United States	Algebra	8:00 – 8:50 a.m. Period 1 Power Reading 8:55 – 9:45 a.m. Period 2 Algebra
9:55 – 10:15 a.m.	Homeroom →				9:50 – 10:15 a.m.
10:40 a.m. – 12:30 p.m.	Contemporary Composition	Chemistry	Contemporary Composition	Chemistry	10:35 – 11:25 a.m. Period 3 Composition 11:30 – 12:30 p.m. Period 4 Chemistry
12:30 – 1:10 p.m.	Lunch →				
1:15 – 3:10 p.m.	Spanish 2	Theater 100[b] – Introduction to Theater	Spanish 2	Theater 100 – Introduction to Theater	1:15 – 2:10 p.m. Period 5 Spanish 2 2:15 – 3:10 p.m. Period 6 Power Reading

[a] History 11 is a college course taught at the community college.

[b] Theater 100 is a college course taught at the community college.

usually comprise a small number of the students in these courses; therefore no adjustments are made to the curriculum or the textbooks. Exhibit A-2 illustrates how the courses offered at the high school and at the college are integrated to develop individualized student schedules.

Award of Credit for Courses

Units earned at the community college are doubled when applied towards meeting high school requirements. Therefore, a one-semester three-unit community college course is valued at six high school credits.

At the college. Students are awarded credit upon completion of a course, and credits are reflected on their college transcript.

At the high school. After completing college courses, the students take their college transcripts to their high school counselor, who

enters the courses on the high school transcript. Only college classes that count towards high school requirements are factored as part of the student's GPA.

Support Services

Numerous supports are provided to students either through the MCHS staff or through the three main counseling centers at the California Community College. These three centers, each of which has its own facilities and staff, focus on the areas of assessment, careers, and transfer. MCHS students enrolled in college courses have access to the college services because of their official status as college students; however, even MCHS students not enrolled in college courses are welcomed by the centers' staffs.

Academic Counseling. The MCHS counselor meets with all students to ensure that they have the classes they need to graduate from high school. The counselor usually does six graduation checks, meeting one-on-one with students to review courses taken and courses needed for graduation. A critical check occurs in the junior year, when letters are sent at the end of the semester listing the classes students still need to take to meet their high school graduation requirements.

To ensure that students enrolled in college courses are provided the academic supports they need to succeed, the high school conducts a 10-week or midsemester review. Students enrolled in college courses must provide a progress report from the college to the high school. The counselor reviews this report to determine if there is a problem and what supports are needed in order for the student to successfully complete the course.

Academic Tutoring. Since most college courses do not meet on Friday, the school provides extra support during that time period to those students taking college courses. While the title of the course, Power Reading, does not always reflect the activities taking place, it provides students an opportunity to complete their college assignments in an environment supervised by a MCHS teacher. The teacher monitors students' progress and determines if any interventions are necessary. High school students enrolled in college courses also have access to college tutoring services.

Career Awareness. Students are exposed to different career options through both the high school and college counselors. The MCHS counseling office is in the process of implementing a computer-based career assessment tool. At the college's career center, MCHS students can speak to counselors and attend workshops on resumé writing, or participate in special industry-themed seminars, such as a semester-long seminar presented in the spring of 2004 by real estate professionals.

To ensure that MCHS students are aware of the career center and its services, all ninth-graders are provided with a tour of the center.

College Awareness. Because MCHS students enroll in California Community College courses and have full access to the college campus and college services, college awareness is a daily activity. To further promote a

college-going culture, the high school sponsors or collaborates with the community college on field trips to other college campuses and college fairs. The high school counselor also coordinates in-class presentations by college speakers. In addition, counselors from the different college counseling centers make presentations to MCHS classes to encourage students in their college aspirations.

The required ninth grade life skills class focuses on steps that students must take to prepare for and enter college. Themes explored include the high school courses needed to enter college, the range of college options available to students, the college application process, and the federal, state, and private financial aid application processes.

College Transition. Since the MCHS is a small school, with 64 seniors in the 2003–04 school year, the counselor works with each one to ensure that all students continue in college after high school graduation.

The college's transfer center holds presentations, open to MCHS students, for students at California Community College who wish to transfer to a baccalaureate-granting institution. The transfer center also works with students individually to help them transfer any credits earned at California Community College to other colleges.

The MCHS provides individual counseling for financial aid, as well as workshops on applying for state and federal aid. The counselor uses homeroom time to speak with the students about upcoming application deadlines and to encourage them to apply for both college and financial aid. College counseling staff also assist in these efforts.

Professional Development

While regular professional development is provided through the school district, most teachers also participate in targeted professional development that is encouraged by the principal. For example, the school started implementing the Advancement via Individual Determination (AVID) program in the fall of 2004. In preparation, several staff members attended an AVID summer training institute. AVID promotes the college-going theme across the curriculum by incorporating specific techniques such as writing, critical reading, and inquiry through group or research projects. As another example, a new science teacher attended a conference on watershed education and subsequently participated in a collaborative program between the school district and city environmental officials.

Funding

Full-Time Equivalent (FTE) and Average Daily Attendance (ADA). California state policy stipulates that public school students enrolled in college courses are counted in the same way as matriculated college students for funding purposes. As such, the community college receives FTE funding for all MCHS students enrolled in college credit courses. However, the state limits students to taking no more than 11 units per semester. The school district also receives funding provided the students are enrolled in high school for a minimum of four hours per day.

Fees and Textbooks. The California Community College district waives tuition for public school students enrolled in college courses, provided they enroll for no more than 11 units per semester. The school district, on the other hand, pays the cost of college textbooks. In order to decrease program costs, an agreement among the MCHS, the community college and the school district allows the district to receive credits for returned books. During the buy-back period, students return books to the MCHS, it returns the books to the community college, and the college issues a credit to the district.

Exhibit A-3: Southern California Middle College High School Outcomes, 2003–04

Student Outcomes[a]
■ The total enrollment at the middle college was 304 students, with 72 percent eligible for the National School Lunch Program's free or reduced price lunches.
■ The senior class included 64 students. Sixty-three (98 percent) graduated from the school.
■ During the fall of 2003, 150 students were enrolled in college courses at the community college. Of those, 142 completed their courses with a grade of C or better.
■ During the spring of 2004, 175 students were enrolled in college courses at the community college. Of those, 162 completed their courses with a grade of C or better.
■ The total number of credits earned by California MCHS students was 545 in the fall of 2003 and 735 in the spring of 2004.
■ Students enrolled in college courses in the fall of 2003 earned, on average, 3.6 credits. Those enrolled in the spring of 2004 earned, on average, 4.2 credits.
■ Fifty-six of the 63 seniors that graduated during the 2003–04 school year plan to attend college. Twelve of the graduates plan to attend California Community College, the postsecondary partner of Southern California MCHS.

[a] All data come from school staff and were not externally validated.

Metropolitan Counties, Iowa, Dual Enrollment Program Profile

As previously described in the Accelerating Student Success Through Credit-Based Transition Programs October 2004 site profiles,[1] the CBTP in Iowa is composed of a partnership between Rural High School, Iowa Community College, and a local health care center, Regional Medical Center. Because Rural High School is small, the program includes students from multiple high schools in the area. The dual enrollment[2] program in Metropolitan Counties, Iowa, is focused on health careers and allows students to earn both college and high school credits simultaneously and prepare for a career in the health field.

Iowa Community College serves seven counties surrounding a metropolitan area.[3] In addition to the main campus, located in a major city in the center of its service area, Iowa Community College has five satellite campuses. These are part of the college's efforts to be accessible to all students in the area; without them, students in the far reaches of the seven counties would be an hour's drive from the college. The main campus is large, with manicured lawns and 26 academic buildings. It also has a number of agricultural fields, new sports facilities, an equestrian center, and student apartments.

In the fall of 2002, Iowa Community College enrolled 14,000 students. The student population was approximately 80 percent white.

Rural High School is located 45 minutes from the main campus of Iowa Community College. The high school enrolls approximately 400 students in grades nine through 12 and it is the only secondary school in its town. It is a single story building with two wings leading out from a central gathering area. Three percent of its students are African-American or Hispanic, and the rest are white. Eighteen percent of students are eligible for free or reduced lunch.

The dual enrollment program runs from 1:30 to 3:00 p.m. each afternoon. Students leave high school in order to attend the program. During the second semester of the program, students complete clinical rotations in addition to their classroom studies, in order to practice their nursing skills.

In past years, the dual enrollment program has met at the Regional Medical Center, which is a small health care center only a few minutes drive from Rural High School. The Regional Medical Center has 25 beds, an emergency room, and outpatient services for the surrounding community. Classes were held at the medical center's cafeteria, which

1 Please see the Accelerating Student Success Through Credit-Based Transition Programs study's Web page on the U.S. Department of Education's Web site to download and view two-page profiles of each of the study's five case sites at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

2 Please also see on the study Web page, listed above, the program description for more information on dual enrollment.

3 This descriptive information is provided so the reader has a better understanding of the program environment.

is a large, bright room on the first floor suitable for such activity. For the 2004–05 school year, a space shortage at the medical center resulted in the program changing its location. Classes now meet at a satellite campus of Iowa Community College, a 20-minute drive from Rural High School.

The Metropolitan Counties, Iowa, Dual Enrollment program is one of nearly 200 dual enrollment programs overseen by Iowa Community College. Therefore, the college has an extensive administrative organization devoted to overseeing and coordinating dual enrollment opportunities in its service area. This includes four college-based administrators who serve as liaisons among the high schools, college academic departments, and employer partners. There is also an advisory board, through which industry professionals provide guidance to program administrators and staff.

There are two dual enrollment instructors teaching in the Metropolitan Counties, Iowa, Dual Enrollment program. The course instructor, who is also a registered nurse on staff at a local hospital, is responsible for day-to-day instruction and student evaluation. The clinical instructor is also a registered nurse, and is responsible for overseeing small groups of students as they practice their skills in workplace settings. Both instructors are considered employees of the college. At Rural High School, one of the two guidance counselors oversees the coordination of the dual enrollment program.

Student Outreach

Metropolitan Counties, Iowa, Dual Enrollment staff use multiple methods to inform potential students about the program. Typically, Iowa Community College provides information to Rural High School, and Rural High School staff members use this information to encourage students to enroll.

Iowa Community College has created and produced a number of outreach materials, including glossy brochures and posters in order to attract students to the program. These materials highlight the benefits of program participation, explain the program, and provide information about enrollment. They are provided to the high school for display in the guidance office, classrooms and hallways. This information is also available to students through a Web site maintained by Iowa Community College. In addition, Iowa Community College provides high schools with information about the dual enrollment program that may be included in the high school's course of study guide.

Finally, Iowa Community College holds an annual recruitment day on the college campus to provide interested students with more information about the program. Prospective students can learn about the curriculum, watch a demonstration in which current students demonstrate their nursing skills, and have the opportunity to ask program administrators and instructors questions.

Although potential students receive information about the program from a variety of formal information sources, most recruitment efforts are informal. The program relies heavily on guidance counselors seeking out students who may benefit from the program and encouraging

them to enroll. Similarly, high school teachers (such as science teachers or the school nurse) often direct students with an interest in health careers to the program. Finally, Metropolitan Counties, Iowa, Dual Enrollment has a strong reputation in the Rural High School community. Many students are recruited into the program by the positive word of mouth that the program receives. Iowa Community College and Rural High School staff rely heavily on these informal recruitment mechanisms.

Metropolitan Counties, Iowa, Dual Enrollment Program Application Process

Metropolitan Counties, Iowa, Dual Enrollment is an open-access program that seeks to include all juniors and seniors interested in health careers. The college-based administrators of the program have made a deliberate choice not to require a minimum grade point average or standardized test score.

However, because the program is academically demanding and requires a high level of maturity from the students (particularly when interacting with patients), Iowa Community College asks that the staff members at Rural High School undertake an informal screening process. They expect that the guidance counselors will discourage students with poor attendance records or past disciplinary actions on record from participating in the program.

Additionally, in order to ensure that dual enrollment students are able to succeed in their college courses, Iowa Community College and Rural High School require that all dual enrollment students successfully complete a biology course and a wellness course prior to enrolling in the program. These courses provide students with the content knowledge necessary to succeed in college-level health courses. They are not, however, explicitly linked to the college curriculum used in the dual enrollment program.

Students who wish to participate in the Metropolitan Counties, Iowa, Dual Enrollment program must complete an application form. This form is essentially a registration form, on which students are asked to indicate their name, contact information, and the semester during which they would like to begin participation. This information is submitted to Iowa Community College. At the same time, students must register through Rural High School for the program, as they would for any other high school course.

Program Orientation Process

Each fall, the course instructor of the Metropolitan Counties, Iowa, Dual Enrollment program conducts an orientation for the students enrolled in the program during the first week of classes. The instructor gives the students explicit instructions regarding program expectations, including the strict attendance policy, grading policies, and immunization requirements. During this time, the instructor also describes the curriculum and gives an overview of program activities.

College Course Registration Process

Once students elect to enroll in the program, they commit to taking seven college courses.

These courses fulfill the prerequisites for most health careers programs at Iowa Community College.

As noted earlier, high school registration for the program is the same as registration for any other high school course. With regard to college registration, over the summer, Iowa Community College sends students enrolled in the program through the high school an information packet and registration forms. The students must return the registration forms to the program instructor during the first week of the classes. The instructor, in turn, submits the completed forms to Iowa Community College.

College Credit Curriculum and Program

Students in the Metropolitan Counties, Iowa, Dual Enrollment program earn 10.5 college credits by taking seven college courses: Professionals in Health, Health Skills 1, Health Skills 2, Basic Medical Terminology, First Aid Concepts, Cardiopulmonary Resuscitation (CPR) for the Health Care Provider, and Nurse Aid. Students who successfully complete the Nurse Aid course are eligible to sit for the national licensing examination to become Certified Nursing Assistants (CNAs). Upon passing the exam (which they must sign up for independently of the dual enrollment program), students may become employed as CNAs.

As a group, these courses provide students with a basic background for a variety of health professions, including nursing, dental hygiene, and physical therapy. The curriculum exposes them to the types of health professions they may enter, as well as the knowledge they need to succeed in these fields. Students learn basic anatomy and medical terminology, as well as many skills required of health professionals, including basic patient care. Students also learn immediately practical skills, including CPR and first aid.

The courses taught through the Metropolitan Counties, Iowa, Dual Enrollment program, particularly the Nurse Aid course, require students to participate in clinical practice. This includes working, under supervision, at Regional Medical Center and at a local nursing home. During their clinical practice, students practice waking patients, bathing them and bringing them breakfast, as well as taking their vital signs. For this clinical experience, Metropolitan Counties, Iowa, Dual Enrollment students are expected to arrive at the hospital at 6:30 a.m. in order to complete their duties prior to school. The students also spend three eight-hour shifts at the nursing home as part of their clinical training, which allows them to experience the hours and demands placed on CNAs working in long-term care. On days that they conduct their clinical rotations, students are excused from their afternoon class session. During both clinical experiences, students are expected to perform specific competencies, or skills, under the eye of an instructor. They are graded on their performance of these competencies, and must perform them successfully in order to be eligible to take the CNA examination.

Metropolitan Counties, Iowa, Dual Enrollment program instructors use the same

Exhibit A-4: Metropolitan Counties, Iowa, Dual Enrollment Program–Health Careers Academy Sample Course Sequence

Semester	Courses
1	Professionals in Health (2 college credits) Health Skills I (1 college credit) First Aid Concepts (.5 college credit) Cardiopulmonary Resuscitation (CPR) for the Health Care Provider (.5 college credit) Basic Medical Terminology, part I (credit earned after completion of part II)
2	Health Skills II (1 college credit) Certified Nurse Aid (3 college credits)–includes 40 hours of clinical practice Basic Medical Terminology, part II (2.5 college credits for both semesters)

textbooks and cover the same topics that instructors do at Iowa Community College. Students also are held to the same standards as their college-aged counterparts.

However, the structure of the Metropolitan Counties, Iowa, Dual Enrollment program results in a different organization of instruction than typically occurs at the college. Rather than offering the students seven discrete courses, Iowa Community College nursing faculty have worked carefully to combine them into a seamless curriculum covering multiple courses simultaneously. Students in the program attend class every day (in contrast to a college student who might only have class three days a week). Therefore, on any given day, students in the Metropolitan Counties, Iowa, Dual Enrollment program may spend 15 minutes studying medical terminology, 45 minutes learning about professionals in health, and another 30 minutes practicing first aid skills. The following day, students may spend 60 minutes on medical terminology and 30 minutes covering the Health Skills I curriculum. This structure allows the Metropolitan Counties, Iowa, Dual Enrollment instructor and students to make connections across the subjects, to spend more time on subjects that are difficult, and to eliminate redundancies among the courses.

It is important to note that, while the seven courses in the Metropolitan Counties, Iowa, Dual Enrollment program are not taught according to the same structure or schedule as they would be at Iowa Community College, the content and course expectations are identical to those at the college. Iowa Community College has created in-depth course syllabi and instructors' guides for each course. These guides include PowerPoint presentations that instructors may use during class and provide detailed information regarding the knowledge and skills that students should have at the end of each course. Each instructor is provided with, and expected to closely follow, these curriculum guides. Additionally, Iowa Community College has created companion student guides, which provide outlines of each lesson and highlight the expected learning outcomes.

Award of Credit for Courses

Although the courses at the Metropolitan Counties, Iowa, Dual Enrollment program are taught together, dually enrolled students receive discrete grades on their college transcripts for each of the seven courses. Students may fail one course (Basic Medical Terminology, for example) but pass the others; this is reflected on their college transcript. At the high school level, however, students receive only one grade—an aggregate of their college course grades—each semester.

At the high school. The dual enrollment instructor submits an end-of-semester grade to the high school counselor. The counselor enters this grade onto students' transcripts. Students receive only one high school grade per semester, an indicator of their overall performance in the Metropolitan Counties, Iowa, Dual Enrollment program, which is counted as elective credit. Students receive one high school credit per quarter (four credits total).

At the college. Students are awarded credit for each course they successfully complete. The instructor enters students' grades into Iowa Community Colleges' grading system, which is accessible online. Once the grades have been entered by the instructor, they appear on students' college transcripts.

Support Services

Students in the Metropolitan Counties, Iowa, Dual Enrollment program have access to a variety of support services. These activities are facilitated by the program's location at the Regional Medical Center and the satellite campus, as well as by the employment of a practicing nurse as its instructor.

Academic Support

Students who encounter academic difficulties with their college-level course work have a number of ways to get assistance. First, the high school is responsible for providing tutoring and supplementary academic assistance. Students, particularly those with learning disabilities and Individualized Education Plans (IEPs), receive assistance from the high school resource center. These students also receive the same academic accommodations (for example, additional test time) for their dual enrollment course as they do for their high school courses. At the high school, the guidance counselor and the school nurse also provide academic assistance to those students who need it.

Because the college-level classes offered through the Metropolitan Counties, Iowa, Dual Enrollment program are small in size (usually around 20 students) and meet daily, the students develop a strong rapport with their instructor. Frequently, the instructor offers academic assistance to students who need additional help; this is typically provided on an as-needed basis.

Finally, students in the Metropolitan Counties, Iowa, Dual Enrollment program have access to all academic support services available at Iowa Community College. These resources include tutors and academic advisors. Because the college is approximately 45 minutes away from Rural High School, however, it is not always convenient for

students to access these services. Instead, they rely heavily on high school-based academic support.

Career Awareness

Because the focus of the Metropolitan Counties, Iowa, Dual Enrollment program is on preparing students for a wide range of health careers, the program explicitly addresses career awareness, exposure, and preparation.

The curriculum covered by the program's college courses helps students explore a variety of health-related occupations. In particular, the Professionals in Health course provides an overview of the professional opportunities in health "from physicians to occupational therapy." Additionally, students learn about career opportunities during their clinical rotations at the Regional Medical Center and the local nursing home.

All students in the Metropolitan Counties, iowa, Dual Enrollment program participate in at least one job shadow and have the opportunity to participate in up to four additional job shadows. These day-long events give students an opportunity to explore one or two health occupations in-depth. They are coordinated through Iowa Community College's Workforce Learning Center (WLC), a nonprofit organization housed at and supported by the college. The WLC coordinates work-based learning opportunities for all high school students throughout the seven-county region. Occasionally, the course instructor uses her professional connections to provide interested students with additional job shadowing opportunities at the Regional Medical Center.

Career Preparation

Career preparation is explicitly addressed in a variety of ways. As with career exploration, the program's curriculum provides instruction in career skills. The Professionals in Health course includes lessons on the job skills and professional habits for success in the health careers. These include emphasizing the importance of personal responsibility, conscientious performance of job tasks, and ensuring patient confidentiality. Students also learn how to fill out a job application for health-related occupations and have the opportunity to engage in mock job interviews.

Students also develop career skills through their clinical rotations. During these experiences, they are expected to behave as a practicing nurse's aide would, including treating patients with a high level of respect, watching for patients' safety, and performing their duties in a responsible, caring manner. Throughout both the class curriculum and the clinical experiences, the instructor provides instruction regarding job skills and expectations, job hunting strategies, and professional behaviors.

Students in the Metropolitan Counties, Iowa, Dual Enrollment program also have access to a variety of career preparation services. The guidance counselors at Rural High School work with the students to develop a career plan, which includes identifying career goals and the educational experiences needed to achieve those goals.

Students in the program also may use all of the career-related services at Iowa Community College, including job placement centers.

College Transition

Students in the Metropolitan Counties, Iowa, Dual Enrollment program are given multiple resources to prepare them for the transition to college. First, Iowa Community College offers a number of on-campus events that expose students to the college campus. These events include the program orientation, as well as Transition Night during which students may visit the college and attend a "program fair" in order to learn about the academic opportunities available at the college and interact with college faculty and staff. Finally, students attend an end-of-year celebration at Iowa Community College.

Iowa Community College considers all students in the Metropolitan Counties, Iowa, Dual Enrollment program to be regularly matriculated Iowa Community College students. As such, students in the program may receive a college ID, which gives them access to the college's library, sports facilities, and special events. However, students must visit the main college campus in order to get this ID; as noted earlier, the distance between the college and Rural High School makes it difficult for many students to take advantage of this program feature.

As Iowa Community College students, dual enrollment students also have access to all of the college services related to admissions and matriculation. They may meet with college enrollment counselors in order to receive assistance in registering for additional college classes. Students in the program also are considered returning students, rather than new students, the fall after program completion. This enables them to register early for their classes. Because many prerequisites for majors in the health careers have long waiting lists, early registration is helpful in ensuring that those who wish to continue in the health care field are able to take the courses that they need.

Finally, students in the Metropolitan Counties, Iowa, Dual Enrollment program are given information about and encouraged to apply for scholarships for students in health-related programs by their program instructor.

Professional Development

State policy requires that all community college adjunct instructors engage in college-sponsored professional development. Health academy instructors participate in these activities, which include workshops on curriculum writing and lesson planning.

In addition, the Metropolitan Counties, Iowa, Dual Enrollment program asks instructors to engage in course-specific professional development activities. All new instructors attend a program orientation, during which program coordinators and curricular specialists provide information about the curriculum and instructional expectations. All instructors also attend three meetings a year. These meetings focus on curriculum, instruction, and any other related issues, such as discipline strategies or diversity in the classroom. These meetings

are run by staff members in Iowa Community College's Health Careers Department and may also include guest speakers.

Finally, program staff based at the college visit each dual enrollment class at least once during the year. These visits are used to provide feedback to the instructors and to help them improve their teaching. They serve as informal professional development opportunities.

Funding

Full Time Equivalent (FTE) and Average Daily Attendance (ADA)

By law, all high schools in Iowa must pay for students to take dual enrollment courses if an equivalent course is not available at the high school. However, in order to support interinstitutional collaboration and encourage technical education, Iowa has developed a special funding formula for technically-oriented dual enrollment programs. The state reimburses Rural High School at 1.48 times the average daily attendance rate for each student enrolled in the Metropolitan Counties, Iowa, Dual Enrollment program.[4] The high school uses this additional funding to pay Iowa Community College for the costs it incurs in running the program, including the instructor's salary, books, supplies, and staff time for program administration. The 1.48 funding Rural High School receives from the state does not cover the entire cost of the program, and so it must find additional money for the program elsewhere in its budget.

The college does not receive FTE funding for students in the Metropolitan Counties, Iowa, Dual Enrollment Program.

Fees and Textbooks

The Metropolitan Counties, Iowa, Dual Enrollment program is extremely low cost for students. Tuition, books, and fees are paid for by Rural High School, as per its agreement with Iowa Community College. Students are expected to return their textbooks; if they would like to keep them, they must pay for the books themselves. Students also must buy their own hospital scrubs to wear during their clinical rotations. The college provides the scrubs to students at a reduced price.

State policy stipulates that, if students fail their dual enrollment courses, they must reimburse Rural High School the cost of their participation in the program.

[4] Iowa Code 2003: Section 257.11

Exhibit A-5: Metropolitan Counties, Iowa, Dual Enrollment Outcomes, 2003–04

Student Outcomes[a]
■ The total enrollment at Rural High School was 392 students, with 75 (19 percent) eligible for the National School Lunch Program's free or reduced price lunches.
■ The senior class included 82 students, and the junior class included 97 students.
■ All 82 seniors graduated from Rural High School in the 2003–04 school year. The four-year graduation rate for this class was 95.7 percent.
■ During the 2003–04 school year, three students (all 12th-graders) from Rural High School, were enrolled in the Health Careers Academy. One student was eligible for the free and reduced price lunch program.
■ All 3 Rural High School students enrolled in the 2003–04 Health Careers Academy completed their fall 2003 and spring 2004 courses with either an A or a P (pass).
■ Each student enrolled in the Health Careers Academy earned 10.5 credits during the 2003–04 school year. The total number of credits earned by Rural High School students for the 2003–04 school year was 31.5 credits.
■ One hundred percent of the students from Rural High School enrolled in the Health Careers Academy in 2003–04 planned to attend college after graduation in order to pursue a nursing degree.
■ Two of the three students enrolled in the Health Careers Academy enrolled at Iowa Community College's associate degree in nursing program in fall 2004. The third enrolled in a local four-year college.

[a] All data come from school staff and were not externally validated.

Minnesota IB Program

Program Profile

As previously described in the Accelerating Student Success Through Credit-Based Transition Programs September 2004 site profiles,[1] the Minnesota site is an IB program. In general, the IB program offers college-level classes to 11th- and 12th-graders, with the possibility of earning college credit upon successful completion of examinations.[2] Courses taken before the 11th- and 12th-grade years are classified as Pre-IB classes.

The Minnesota IB program, located in a high school, has been in existence since the early 1990s. During the 2003–04 school year, the high school's total enrollment was 1,415 students, with 692 students enrolled in the IB program. The school's student body is diverse; approximately 30 percent of the students are African-American or Hispanic, 20 percent are Asian, and 50 percent are white. Approximately 45 percent of the school's students are eligible for free or reduced lunch, and 10 percent are classified as ELL. Of those in the IB program, 10 percent are African-American or Hispanic, 15 percent are Asian, and 75 percent are white.

The district in which Minnesota IB High School is located has a school choice program that allows students to select their high school based on interest rather than neighborhood. Students rank high schools in order of preference, and the district uses a lottery system to place students in the schools. This system ensures that each high school has students with a range of academic abilities and that high schools in the district draw their students from the entire city, rather than only the surrounding neighborhood.

Minnesota IB High School is located in a middle-class, affluent neighborhood with the typical wide, quiet streets and large lawns, and consists of one main building with several floors.[3] The school has been undergoing significant organizational changes during the last four years, due to its implementation of a smaller learning communities[4] grant from the Bill and Melinda Gates Foundation. The four smaller learning communities are organized around the broad themes called: Technology and Science, Global Vision, Health and Human Services, and Liberal Arts. All students in the IB program also belong to a smaller learning community.

As part of the smaller learning communities reorganization, the school implemented advisory periods, during which groups of approximately 20 students meet with a teacher

1 Please see the Accelerating Student Success Through Credit-Based Transition Programs study's Web page on the U.S. Department of Education's Web site to download and view two-page profiles of each of the study's five case sites at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

2 Please also see on the study Web page, listed above, the program description for more information on the IB program model.

3 This descriptive information is provided so the reader has a better understanding of the program environment.

4 Smaller learning communities are defined by the Bill and Melinda Gates Foundation as small high schools or schools-within-schools (ideally 400 students or fewer) that provide a personalized learning environment where every student has an adult advocate, students feel less alienated, and students are actively engaged in school activities. For more information on the Bill and Melinda Gates Foundation's Smaller Learning Communities program, please visit: www.gatesfoundation.org/education/transformingHighschools/default.htm. Last accessed on Sept. 2, 2005.

so that they develop a close relationship with at least one adult. Students remain with the same advisory teacher for their entire high school experience. (The exception to this is that students in the most intense IB pathways are placed in their own advisories for their junior and senior years). During advisories, which meet three times per week, students engage in informal activities to get to know one another and spend time developing a six-year plan encompassing high school course work and post-high school education and employment goals.

Although the IB program is the largest CBTP in the school, there are other opportunities for students to earn college credit. The school offers a number of Tech-Prep courses as well as Advanced Placement (AP) English. Students also may take a limited number of courses through College in the High Schools or the Postsecondary Enrollment Options program, which are state dual enrollment programs offering students the opportunity to take college classes, either in high school or on a college campus.

Classes run from 7:30 a.m. to 2:00 p.m. The school is on a block schedule, with classes meeting 90 minutes a day for one semester. The school administration is composed of a principal, three assistant principals, and three counselors. IB administrative staff includes an IB program coordinator and the IB calculus teacher who coordinates IB classes and testing schedules. Additional service providers include a parent coordinator, a career and college center staff person, and the coordinator of the school's Multicultural Excellence Program (MEP), a program encouraging minority students to plan for and attend college.

All students in the high school have the opportunity to participate in the IB program. In the ninth and 10th grades, students can begin taking pre-IB classes. During their 10th grade year, students meet with IB staff to discuss the three alternate pathways for continuing in the program. One pathway is to pursue a full IB diploma, which comprises the majority of a student's class schedule. Students who pursue the full IB diploma must take exams in all six IB subject areas, as well as additional requirements detailed below. The second pathway is the IB honors program, which includes most of the components of the IB diploma pathway. Finally, there is the certificate option, which allows students to choose to take an IB course or exam in their junior or senior year in at least one subject area. Students select from these options based on their interests and academic goals.

Student Outreach

Outreach and recruitment for the Minnesota IB program has historically focused on two moments in students' educational careers: when they select their high school as eighth-graders, and when they choose their IB pathway in 11th grade.

The Minnesota IB program serves to attract students to the high school itself, as the program gives parents a reason to select the high school over others in the district. Each November, prospective parents are invited to

attend an open house at the high school. An additional event is held each January, when the school participates in a citywide recruitment fair as part of the district's school choice initiative. Finally, prospective parents can visit the school during the month of February, to observe IB and non-IB classes.

The IB coordinator attends all of these events, and an IB parent volunteer, IB teachers, and current IB students often attend, as well. Parents are encouraged to select the high school for their children and enroll them in pre-IB courses beginning in the ninth grade. At these recruiting sessions, the IB coordinator communicates to prospective students and parents that the IB program will give all students the opportunity to enjoy learning, work hard, and be challenged by the program's project-based work and assessments. The coordinator also answers parents' questions and concerns. Brochures and information packets are available to provide program details.

The IB program coordinator and IB instructors encourage students to stay enrolled during the ninth and 10th grades. Usually, this includes identifying those students at risk of leaving the IB program and speaking with them one-on-one about the benefits of participating. In addition, IB instructors work to recruit additional ninth and 10th graders into the program. Because all IB instructors teach non-IB classes as well, they are able to identify potential candidates and encourage them to consider one of the three IB pathways.

At the beginning of 11th grade, students must decide whether to pursue the diploma, honors or certificate pathway. This process is more informal than the recruitment into the pre-IB program. Students meet with the IB coordinator (and, frequently, their IB teachers) to discuss the each pathway. The coordinator works with students to ensure that they enroll in a pathway that is both rigorous and aligned with their goals.

Despite the program's open-access status, and the goal of including a range of students in IB courses, IB students are not as diverse as the school as a whole. Therefore, in 2004–05, the staff instituted new recruiting mechanisms targeted at underrepresented groups. In the fall of 2004, the IB coordinator held an IB recruitment session for parents of current high school students as part of a larger school-wide parent event. This session, which was held in the evening to accommodate parents' schedules, included a presentation demonstrating that the program is appropriate for all students in the school.

The principal and the IB coordinator are also working with middle school counselors, who are responsible for registering students for their ninth grade classes, to ensure that they understand that IB is not a program only for elite students. The high school administration hopes that this will increase the number of students enrolled in pre-IB courses and that this will eventually broaden diploma, honors and certificate participation.

In addition, the IB coordinator is working with the coordinator of the school's MEP to develop support systems for students of color in IB courses. The MEP coordinator is encouraging minority students to enroll (or remain enrolled) in IB courses as part of their

MEP participation. The MEP and IB coordinators also are working together to help students of color in the IB program connect with one another in order to develop a network of supportive peers. Finally, the IB coordinator also has established relationships with community groups, such as the United States Hispanic Chamber of Commerce and the Hmong American Alliance (a local Minnesota organization that provides support services to the growing Hmong refugee population from Laos in Minnesota), in an effort to provide mentors for IB students of color.

IB Application Process

The Minnesota IB program is committed to enrolling students with a range of academic backgrounds. Therefore, it has no official application process or prerequisites. Students need only to register for pre-IB courses during the regular high school registration period.

There are two exceptions to this open-access policy. Students who have not passed the eighth grade reading exam are discouraged (though not forbidden) from enrolling in pre-IB courses. The reasons for this are two-fold: first, passing the exam is required for high school graduation, and students who have not passed it are enrolled in a special language arts class. The curriculum of this class focuses on preparation for the exam and does not align with the IB language arts curriculum. Secondly, students who cannot pass the eighth-grade exam are unlikely to have the reading and analytic skills needed for IB course work.

Students in their junior and senior years may encounter difficulties enrolling in IB Diploma courses, even with the open enrollment policy, if they did not take the pre-IB course of study. Although in theory students may switch from non-IB into the IB program at any point in their academic careers, those students who did not take pre-IB courses frequently find that they do not have the academic background and knowledge to pursue diploma-level study in their junior and senior years. For this reason, the school tries to encourage all students to take pre-IB courses, even if they do not think they will eventually pursue the diploma program.

Pre-IB Curriculum and Program

The ninth and 10th grade pre-IB program is designed to provide broad preparation for the 11th- and 12th-grade IB classes. Pre-IB classes help to develop and refine higher level thinking skills, writing techniques, and oral communications so that students are prepared for the IB classes they will take in their junior and senior years. All pre-IB classes are taught by IB-trained teachers and are closely aligned with the IB diploma curriculum. The pre-IB program offers classes in all six standard IB subject areas, as described below.

IB Curriculum and Program

The IB program has six core academic subject areas: English, second languages, experimental sciences, arts, mathematics, and individuals and societies. The curriculum of each subject area is developed by the IBO and updated every seven years. Teachers work to ensure that the IB curriculum is closely aligned with Minnesota state standards in each academic area.

The IBO offers its curriculum at two levels, the *Standard Level* and the *Higher Level.*

Although both levels are academically rigorous, the Standard Level course work and examinations require less content knowledge and mastery than those in the Higher Level. Schools may choose which courses to offer at each level based on the expertise and interest of their faculty. The Minnesota IB High School offers nine subjects at the Higher Level and ten at the Standard Level. In order to be eligible for an IB Diploma, students must take at least three Higher Level courses. Students select which courses they want to take at each level based on those offered by their school.

IB students take examinations developed by the IBO in May of their junior and senior years. IB examinations are graded by examiners from around the world, and they measure students' progress against consistent, well-defined, international standards of achievement. Examinations are scored on a scale of one to seven, and those that receive a score of four or higher generally lead to college credit, although each postsecondary institution's policies on credit acceptance and credit award vary.

IB Diploma

Students in the IB diploma pathway take classes and exams in all six IB academic subject areas, and therefore this pathway is the most academically challenging IB option. In addition to course work and examinations in all six subject areas, the IB diploma pathway also requires students to fulfill additional components. First, students must complete what is known as the *Creativity, Action, Service (CAS) project*, through which they become involved in their community by completing and reflecting upon at least 150 hours of some or all of the following: community service activities, sports, and theater or musical productions.

Students enrolled in the IB diploma pathway also are expected to take a semester-long interdisciplinary course, *Theory of Knowledge (TOK)*, during their senior year. In this class, students look at moral, political and aesthetic judgments that individuals make in their daily lives. The TOK course was designed to stimulate students' critical reflection on the concept of knowledge. It challenges them to question how knowledge is formed, to be aware of biases (subjective and ideological), and to encourage them to appreciate other cultural and social perspectives.

IB Diploma students must also write a *4,000-word essay* about a topic of special interest to them. This essay is based on independent research and is expected to convey the higher-level writing skills expected at the postsecondary level. Finally, Diploma students are enrolled in a special IB advisory section in order to provide them with additional program information and a network of peer support.

IB Honors

The second IB pathway, IB honors, includes most of the components of the IB Diploma pathway. This pathway was designed to recognize that many students want to pursue a rigorous IB course of study but may not wish to commit to pursuing the full Diploma. IB Honors requires students to take IB exams in four subject areas, instead of six. Students are still expected to complete the CAS project, take the TOK course, and participate in an IB

advisory. Students in the IB Honors pathway, however, are not expected to write the 4,000-word essay.

Certificate Option

The third pathway that students in the Minnesota IB program can select is the certificate option. In this pathway, students can choose to complete the course work and exams in one or more IB courses during their junior or senior years, yet they do not have to complete either the 4,000-word essay or the CAS project, take the TOK class, or leave their smaller learning community advisory. The Certificate option enables students who may be wary of the rigorous Diploma or Honors pathways to still participate in the program.

Although it is not considered a pathway, the Minnesota IB program does allow students who are not enrolled in the IB program to take one or more classes without taking an IB examination. This option gives all students the opportunity to take the rigorous classes.

The components of the three pathways at Minnesota IB program are further detailed in the chart below.

Exhibit A-6: Minnesota IB Program Pathways, Options and Requirements

Requirements	Full IB Diploma	IB Honors Program	IB Exam Certificate	Enrollment In IB classes[a]
IB Exams	Must take exams in all six subject areas	Must take exams in four subject areas	Must take exam in one or more subject areas	Not required
Extended Essay	Required	Not required	Not required	Not required
Community Action Service (CAS) (at least 150 hours)	Required	Required	Not required	Not required
Theory of Knowledge Course	Required	Required	Not required	Not required
IB Advisory	Required	Required	Not required	Not required

[a] Although enrollment in an IB class is not considered a pathway, it is an option available to students.

IB Course Selection Process

Students must individually decide to which pathway they can devote their time and energy, and inform the IB coordinator before registering for classes. The IB coordinator is available to discuss the academic and nonacademic expectations for all three pathways. Students also may discuss their options with IB teachers and their guidance counselor and can consult the school's course catalogue for additional information. After conferring with adults (including their parents), students select their courses and register for them as they would for any high school courses.

Because successful completion of the IB Diploma requires much advance planning, Diploma students work closely with the IB coordinator as soon as they declare their intention to pursue the pathway. The structure of the school's schedule presents some challenges. The four-period block schedule (in which classes last for only one semester) sometimes means that students are unable to take the courses they need in the proper sequence. The IB calculus teacher works with the IB coordinator to schedule pre-IB and IB classes so that such conflicts are minimized. However, if there are scheduling issues or there are not enough students to schedule a specific class, the Minnesota IB program allows students to engage in independent study so that they can complete their requirements for the Diploma pathway.

Award of Credit for Courses

Students receive college credit for IB classes depending upon their IB examination scores, and the postsecondary institution's policies on the award and acceptance of college credit. Typically, students earn credit if they receive a four or better on their IB exams. Students receive credit for each course individually, and so they do not need to earn an IB Diploma in order to be eligible for IB credit at the postsecondary level.

Support Services

The purpose of the IB program is to prepare students for a postsecondary liberal arts education. Therefore, support services focus on academics and college preparation. Career awareness is not part of the IB program's focus.

Academic Counseling

All students receive academic counseling and support (though not specific to the IB program) in their advisories and are assigned a guidance counselor who helps them with course selection. In addition, ninth and 10th graders in the pre-IB program receive group counseling, in which the IB coordinator makes sure that they have all the information they need about the IB program for their junior and senior years. Juniors and seniors meet with the IB coordinator individually, to talk about their questions, concerns, support needs, and which exams and IB pathway they are going to pursue. Most IB students also receive informal academic counseling from IB teachers.

The IB program coordinator sends out four mailings a year to the family of each student enrolled in one of the pre-IB or IB classes. The mailings focus on specific topics, such as registration or preparing for the IB examinations. In addition, throughout the

year, the IB program coordinator holds evening information sessions to talk to IB parents about the program. Finally, the coordinator and IB teachers meet to discuss the needs of individual students, if necessary.

Academic Tutoring

Most IB teachers offer tutoring after school, but there is no formal tutoring program. Because the high school's schedule consists of semester-long classes, many IB teachers offer review sessions after school for students who are preparing for May examinations, yet took the course during their fall semester. Students also act as teaching assistants for IB classes that they took the previous semester and can review the materials and content during school hours.

The IB program encourages students who are ELLs to sign up for a writing and reading class during the summer at a local community college. The program specifically focuses on students who need extra help and instruction and ensures that they build critical analysis skills.

College Awareness

College awareness is infused throughout the Minnesota IB program because the program focuses heavily on liberal arts preparation. Students are encouraged to apply to and enroll in four-year postsecondary institutions. The IB program often brings in alumni to talk to current students about their college experiences.

At the high school, a number of college awareness activities exist, and IB students are able to take advantage of these opportunities. The school works with Admission Possible, a Minnesota organization that helps students apply to college. The group works with students after school, encouraging them to take the Preliminary Scholastic Assessment Test (PSAT), ACT and Scholastic Assessment Test (SAT), and assisting them with their applications and resumes. Similarly, the Multicultural Excellence Program (MEP) is a statewide program that helps first-generation college-goers prepare for and apply to college. The high school's MEP coordinator arranges tours of college campuses and discusses with students the need to pursue advanced classes.

The high school's career and college center provides scholarship information, organizes visits and interviews, and manages college admission fairs and recruiting events. The center's staff person also works with the counseling department to provide additional college awareness information to students. The career and college center brings in college admissions people to help interested students apply for financial aid. Finally, all students are encouraged to consider postsecondary options as they develop their six-year plan.

College Transition

The rigorous curriculum of the IB program helps prepare students for the academic demands of college by developing their critical thinking skills and helping them to become independent learners. Ninety-five percent of students in the Minnesota IB program go on to a four-year postsecondary institution. Approximately 55 percent of students at the high school go on to pursue further education and training at postsecondary institutions.

The high school makes many efforts towards a "culture of high expectations." The district and the high school are in the process of aligning their courses with new state standards and course requirements currently being established by the state legislature. The school's course registration book, given to all students, contains a section that focuses on planning for postsecondary education, including the requirements for admission to the University of Minnesota and other four-year institutions. The high school also holds financial planning seminars for parents. Parent breakfasts are held by the counseling department to provide 10th- and 11th-grade parents with information and resources about college preparation and success. The high school also offers preparatory classes for the PSAT.

Funding

Full Time Equivalent (FTE) and Average Daily Attendance (ADA)

The Minnesota IB program receives state-, district-, and school-level funding. The school district, through its regular operating budget, provides the school with funds for IB equipment, instructor salaries, and textbooks. The state provides some additional funding for IB-related operating costs and professional development. In recent years, however, state funding has been drastically reduced.

Fees and Textbooks

Each IB exam costs $180, in addition to a $50 registration fee per student. In the past, state funds allocated by the school district covered these costs, making the exams free to students. Recent budgetary problems have reduced the funds available for these purposes, so that students in the Minnesota IB program now must pay the $50 registration fee themselves and possibly in the future some or all of the exam costs as well. School-level fundraising, conducted primarily by IB parents, provides additional resources that are used for field trips, materials, and textbooks not covered by the school budget.

Exhibit A-7: Minnesota International Baccalaureate Outcomes, 2003–04

Student Outcomes[a]
■ The total enrollment at the high school where Minnesota IB is located was 1,415 students; 130 students are classified as ELLs, and 216 students are classified as special education students.
■ During the 2003–04 school year, a total of 692 students (49 percent) were enrolled in either pre-IB or IB classes; 19 IB students are classified as special education students.
■ During the 2003–04 school year, 420 of the 629 Pre-IB and IB students were enrolled in the pre-IB program (ninth or 10th grade), and 272 students were enrolled in the IB program (11th or 12th grade).
■ A total of 129 Minnesota IB took 276 IB exams in the spring of 2004.
■ Eight of the nine IB Diploma candidates at Minnesota IB program during the 2003–04 school year successfully earned the IB Diploma.
■ The average number of exam points obtained by Minnesota IB candidates who passed the diploma was 31. (The maximum is 45 points—seven points for each of six exams, plus one point each for completing the Theory of Knowledge course, Creativity, Action, Service project, and the extended essay.) The average IB examination grade received by Minnesota IB students was 4.91.
■ Of the 276 IB exams taken in spring 2004 at Minnesota IB High School, 75 percent were given a score of 4 or better, which is generally the score needed for students to receive college credit.
■ The highest diploma points awarded to an IB candidate at Minnesota IB was 36 credits.
■ According to student survey data, 148 of the 158 IB graduates (94 percent) planned to attend college.

[a] All data come from school staff and were not externally validated.

New York City's College Now Program Profile

As previously described in the Accelerating Student Success Through Credit-Based Transition Programs October 2004 site profiles,[1] the CBTP in New York City is operated through a partnership between New York City Community College and New York City High School. This partnership is one within the larger College Now program, which in its entirety is composed of all the City University of New York (CUNY) colleges and approximately 200 secondary schools. The goals of College Now include improving the academic skills and achievement of high school students and ensuring that graduating students are prepared to do college-level work.[2] The colleges offer a tailored program of academic and preparatory courses and workshops to their partnering high schools.

New York City Community College offers 43 programs that can lead to one of three degrees: the Associate in Arts (AA), Associate in Science (AS), and the Associate in Applied Science (AAS). The college also offers two certificate programs. Other offerings include continuing education; cooperative and distance education; and a variety of student services, student life activities; and campus programs.

New York City Community College enrolls students originally from over 120 countries. In 2003, the college enrolled 12,768 students, 7,366 of whom were full-time. Full-time faculty members comprise approximately 37 percent of the college's employee roster. Among the current faculty and executive staff, about half have been at the college for more than 15 years.

New York City High School first opened its doors in the 1930s and many members of the faculty and staff have taught at the school for 20 years or more.[3] The school's four-story Gregorian architecture style building is set within a residential neighborhood containing both apartment buildings and older single- and multifamily homes.

The high school's enrollment has steadily increased in recent years, so that the school has become severely overcrowded. During the 2003–04 school year, enrollment was 3,255, with an average class size of 33 students. In order to accommodate these numbers, the school operated on a double session schedule for the 2003–04 school year, with 11th- and 12th-graders attending classes from approximately 8 a.m. to 2 p.m. and ninth and 10th-graders attending classes from 10 a.m. to 4 p.m. In the fall of 2004, the school day was extended to a three-session day, with classes meeting from 7:20 a.m. to 5:30 p.m.

New York City High School's student population displays great language, ethnic, and socioeconomic diversity. Twenty-three percent of the students were eligible for free

1 Please see the Accelerating Student Success Through Credit-Based Transition Programs study's Web page on the U.S. Department of Education's Web site to download and view two-page profiles of each of the study's five case sites at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

2 Please also see on the study Web page, listed above, the program description for more information on dual enrollment.

3 This descriptive information is provided so the reader has a better understanding of the program environment.

lunch in 2003. Approximately 45 percent of the students are white, which includes many immigrants from former Soviet states, 11 percent are African-American, 21 percent are Hispanic, and 22 percent are Asian. About 13 percent immigrated to the United States within the last three years, and 14 percent are ELLs.

A large proportion of New York City High School graduates attend CUNY and State University of New York (SUNY) institutions, for a variety of academic, cultural, and economic reasons.

Curriculum and Program

In general, College Now strives to create an educational experience for middle-range students that complements and extends what they are already receiving. College Now offers a sequence of courses that upgrades students' critical thinking and writing skills, helping them be successful on their high school exit exams (Regents exams) and earn college credit. Among the many College Now partnerships between individual high schools and New York City Community College, the particular courses and enrichment activities offered to students are determined at the school level. The college-based coordinator shares the college course catalogue with the high school principal and College Now liaison, and makes recommendations on which courses to offer, based on the needs of the students at that particular high school, and also on which courses tend to transfer easily. The interests and qualifications of the high school faculty also are considered. Courses cannot be offered at high schools that do not have the faculty to teach them. High school faculty must meet the requirements for adjunct faculty, which generally means having a master's degree in the subject area.

New York City High School's College Now program offers the full range of remediation, college preparatory, college credit, and enrichment activities, and while students may choose from among these offerings, they are encouraged to take a developmental sequence of courses. While the recommended sequence typically yields a combination of high school and college credits, the New York City High School College Now program does not offer dual credit. Students receive high school or college credit for any particular course, but not both.

A possible sequence of courses could be as follows: a course for Regents exam prep, a course that counts towards fulfilling the college developmental English requirement (college prep), a course that yields college credit at the participating college, and courses that likely yield transferable college credit (such as Introduction to Sociology).

The courses tend to meet two or three times weekly, for an hour and a half at a time. Most of the course work occurs at the high school, but some courses alternate between the high school and college locations. Those students whose courses are at the high school may visit the college campus at least once, to tour the facilities. College Now teachers encourage the use of the college's library for research and term assignments. College Now students have access to these facilities and

others on the New York City Community College campus through a student ID, which they are able to receive once they begin participation in the College Now program.

Precollege Curriculum and Program

As noted above, each College Now partnership works collaboratively to develop a program to meet the needs of the particular high school student. To help address the needs of the ELL population at New York City High School, College Now faculty at the high school and the college created the Learner's Academy. The Learner's Academy offers a yearlong 10th-grade English and a yearlong 11th-grade social studies courses especially for ELL students. Both courses are for high school credit only. The classes meet twice a week during school hours, once at the high school and once at the college, and are team-taught by high school and college instructors. The goal of the courses is to increase the Regents exam pass rate of the school's ELL students, as well as prepare participants for college classes. Course content and pedagogy focus on the analysis of literature as well as the development of writing skills. Current events and world issues such as human rights are used as curriculum organizing themes.

Another entry point into the program is English 99 (also called Basic Writing). This course meets after school at the high school and is open to any student at the high school. It offers one high school credit and its purpose is to strengthen students' writing skills so that they not only pass their Regents exam, but can place out of any college remediation courses.

Exhibit A-8: Prerequisites for College Now Noncollege Credit Courses

Prerequisites	Placement	Precollege Offerings
■ Student is identified as an English Language Learner ■ Teacher Recommendation	Learner's Academy	College Now Enrichment Program
■ Scoring range of 55–74 on the English Regents exam OR	Basic Writing (English 99)	Courses that do not qualify for college credit
■ GPA of 65–75 in English and social studies courses ■ Good attendance ■ Teacher recommendation		

Exhibit A-8 summarizes the prerequisites for the programs' precollege credit offerings.

College Credit Curriculum and Program

Five courses are offered after the school day that students can take for college credit. These are: Literacy and Propaganda, Critical Thinking, Sociology, English, and Oral Communication (a public speaking class). These courses have the same content as their counterparts at the college. The first two courses yield credit at New York City Community College but may not transfer to other colleges while Sociology, English and Public Speaking tend to be generally transferable.

All of the courses emphasize thoughtful discussion and writing. Instruction time often includes a lecture portion as well as

small group discussions. In particular, courses include a portion of time dedicated to the development, critique, and revision of written work. In the College Now sociology course, this portion is organized around open-ended discussion questions pertaining to the lesson presented. In other courses, classroom discussion centers around discussion questions and course writing assignments that are or will be submitted as part of the students' course grade.

Exhibit A-9: Prerequisites for College Now Credit-Bearing Classes

Prerequisites	College Offering	Transferability
■ Scoring range of 65–74 on English Regents exam **OR**	**Literacy and Propaganda** 3 credits **Critical Thinking** 3 credits	Courses that may transfer as elective credit
■ 70+ English and Social Studies Grade Point Average ■ Good attendance **OR**		
■ 480 Scholastic Assessment Test Verbal or 48 Preliminary Scholastic Assessment Test Verbal		
■ 75+ English Language Arts Regents ■ 480 Scholastic Assessment Test Verbal or 48 Preliminary Scholastic Assessment Test Verbal ■ Good attendance	**Composition I** 3 credits **Oral Communication** 3 credits **Introduction to Sociology** 3 credits	Courses that transfer as general education credit

College Course Selection Process

Students are eligible to apply for enrollment in a College Now course if they meet the prerequisites shown in the above table. For College Now credit-bearing courses, students who do not possess the required scores or who have not had the opportunity to take the specified examinations may be granted permission to enroll in the courses through alternative pathways. For example, a student who has successfully completed Basic Writing, yet does not possess the required prerequisite scores, may still enroll in Literacy and Propaganda or Critical Thinking if they receive a recommendation from their Basic Writing teacher. In order to enroll in Composition I, Oral Communication, or Introduction to Sociology, students who do not possess the required prerequisite scores but have gone through a developmental sequence of non credit and credit-bearing courses must receive a recommendation from one of their teachers.

Recruitment and Target Population

The program coordinator and program instructors take responsibility for student recruitment, which is primarily accomplished through classroom visits and word of mouth. For the noncollege credit courses, the high school's academic counseling staff assists the coordinator in identifying students who would benefit from participating. In general, students in the middle range of academic achievement are primarily targeted, although, because most of the courses take place after the school day, students must be particularly motivated to enroll.

Approximately 300 students out of the school population take College Now classes each semester. Some courses have more interested students than for whom they have space, which is one of the reasons that students in the program are limited by New York City Community College to one class per semester.

Once students apply and are enrolled, a letter is sent to their parents inviting them to an information evening at the high school. Parents of the Learner's Academy students are invited to an additional evening for a dinner during which they are able to meet Learner's Academy staff and have their questions about the program answered.

Supporting Student Transition

Counseling

While there are no counseling services specific to the College Now program, participating students do take advantage of the school's general counseling services. Academic counseling and college counseling are available. Students begin to receive advising from the New York City High School's college counselor in the spring of their 11th-grade year and continue throughout their 12th-grade year. The college counselor assists students in obtaining materials from state and city colleges and universities and making decisions about which institutions are most appropriate for them. The counselor writes letters of recommendation for every student who requests one, coordinates college fairs and financial aid nights each year, and arranges appointments with parents to talk about the college choice and admissions process.

College Awareness and Preparation

Students have a number of opportunities to visit the college. Activities that take place at the college often include tours of key college facilities such as the library and computer labs. College Now students are issued a New York City Community College ID and are able to use facilities such as libraries and computer labs just as regularly matriculating New York City Community College students.

In addition to becoming comfortable on a college campus, students begin to understand the nature of college courses. The pedagogy of many of the College Now teachers differs from the classroom management and teaching style they employ in their regular high school classes. The more relaxed classroom environment and workshop-style discussion and lessons allow students and teachers to develop relationships. The teaching styles as described by the teachers also help students engage in the kinds of student-teacher interactions (e.g., office hours, student-initiated academic conversation, and student-initiated conversation surrounding career and college advancement) that have been shown to be imperative to postsecondary success.

Many College Now courses also are designed to provide scaffolding to students as they encounter the increased expectations of self-management associated with postsecondary education. College Now teachers give their students course syllabi at the beginning of the semester, and they expect students to use online technologies to manage class assignments and course-related

communication. Additionally, the decisions that students must make related to course selection and continuing with after-school classes for which they are receiving only college credit—as opposed to dual high school and college credit—in the face of other academic and social commitments is a self-management skill that College Now instructors feel is invaluable.

Other Enrichment Activities

Students have a number of opportunities to experience curriculum extending and enrichment activities on the New York City Community College campus and through field trips. The college-based and high school-based College Now program coordinators work collaboratively with New York Community College professors and New York City High School College Now teachers to plan, organize, and supervise regular events that occur outside of the high school setting both during the week and on some weekends.

The English department at New York City Community College and the New York City High School College Now teachers work closely together to provide experiences such as writer's workshops that bring the students to the New York City Community College campus. For the workshops, authors and researchers are invited to speak about their written work (which the students have usually read in their classes) and the writing process and to participate in a cooperative activity that includes sharing student work and ideas.

Other academic departments of the college also provide opportunities for College Now students to extend their learning outside of New York City High School. Weekend programming may include trips to plays or community or government agencies to bring students closer to the issues or literature they are studying in their College Now courses. Many of the courses offer special events at the college and off-site, such as human rights discussion forums hosted by the United Nations and Amnesty International.

Professional Development and Collaboration

The high school teachers are selected for the program by the high school-based program coordinator. The coordinator has more teachers interested than can be involved, and it is generally seen as an honor to be selected. Once chosen and approved by the college, the teachers become adjunct faculty of the college. There is a great deal of collaboration among the high school teachers participating in the program; between the high school teachers and the college faculty; and among all the high school teachers, college faculty, and College Now central faculty and staff. The high school-based coordinator meets with the college coordinator at least once a month, and the entire team meets at least once a semester.

While the high-school based College Now teachers do follow a college-approved curriculum, and are observed once a semester by someone from the college, they also speak of the tremendous amount of academic freedom and creativity they can use in planning and teaching their College Now courses. Many of the College Now teachers described their teaching style in program

courses as more relaxed and emphasizing the development of skills that students show a need for, such as critical thinking and writing.

Funding

A portion of CUNY's operating budget is devoted to the College Now program, which is free to students. CUNY pays for students' tuition and provides them with free textbooks that must be returned at the end of the semester.

Because College Now is an after-school program, the high school does not lose any of its Average Daily Attendance (ADA) funding.

Exhibit A-10: New York City Community College, College Now Outcomes, 2003–04

Student Outcomes[a]
■ The total enrollment at New York City High School was 3,255 students. 23.1 percent of the students were eligible for the National School Lunch Program's free or reduced price lunches.
■ Fourteen percent of New York City High School entering ninth- and 10th-graders were English Language Learners (450 students).
■ New York City High School graduated 715 students in 2003–04. The four-year graduation rate for this cohort was 75 percent.
■ During the 2003–04 school year, 511 students from New York City High School were enrolled in the College Now program. One hundred and sixty-nine were enrolled in college credit courses.
■ Seventy-nine percent of the students enrolled in credit-bearing College Now courses from New York City Community College during summer 2003, fall 2003, and spring 2004 completed courses with either an A, B, or C. Each of these students received three credits per course.
■ During the summer 2003, fall 2003, and spring 2004 academic year students from New York City High School who participated in College Now earned 423 credits.

[a] All data come from school staff and were not validated externally.

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Dallas Tech-Prep Program Profile

As previously described in the Accelerating Student Success Through Credit-Based Transition Programs September 2004 site profiles,[1] the Dallas Tech-Prep CBTP consists of a partnership between Texas Community College, Dallas Tech-Prep High School, and The Global EDGE Tech Prep Consortium. Tech-Prep, which is federally supported,[2] is designed to link two years of high school and two years of community college course work through a sequenced program of study in a career or technical field. Tech-Prep students may earn college credit for their secondary course work.

The Global EDGE Tech Prep Consortium, with an office on the campus of the community college, facilitates the Tech-Prep program. The consortium is one of 26 Tech-Prep consortia in the state of Texas and is a partnership among the local community college district, 30 local high schools, and local businesses. The partnership has existed for more than 10 years.[3]

The Texas Community College District has four main campus locations throughout the metropolitan area.[4] Each campus has one large building with several wings organized by academic and administrative departments. The facilities at the four campuses are spacious, have multiple entrances, sizeable parking areas, and large open areas for students to meet. Texas Community College also has two satellite locations on high school campuses in surrounding counties that provide classes and training services to far-reaching exurbs and rural areas surrounding the Dallas metropolitan area. Accounting for all of its locations, Texas Community College enrolls more than 20,000 students in AA and AAS degree programs in over 60 areas of study.

Dallas Tech-Prep High School is the only high school in its school district. There are 119 teachers, five counselors, four vice principals and a principal on staff at Dallas Tech-Prep High School. Until the late 1990s, the town in which the school is located was a rural farming town; the extension of a major highway linking the area to downtown Dallas has resulted in rapid growth and suburbanization. During the 2002–03 school year the school enrolled 1,340 students, which increased to 1,640 students the following year; the growth in the student population is expected to continue. Eighty-two percent of the students are white, 12 percent are Hispanic and 5 percent are African-American.

1 Please see the Accelerating Student Success Through Credit-Based Transition Programs study's Web page on the U.S. Department of Education's Web site to download and view two-page profiles of each of the study's five case sites at: www.ed.gov/about/offices/list/ovae/pi/cclo/cbtrans/index.html.

2 Tech-Prep programs are supported at the federal level by the Carl D. Perkins Vocational and Technical Education Act of 1998. For more information on the legislation, please go to: www.ed.gov/offices/OVAE/CTE/legis.html. Additional information about Tech-Prep can be found at: www.ed.gov/about/offices/list/ovae/pi/cte/tpreptopic2.html.

3 Please also see on the study Web page, listed above, the program description for more information on Tech-Prep.

4 This descriptive information is provided so the reader has a better understanding of the program environment.

The school building is eight years old and is currently being expanded. The entire school is networked and each classroom contains a monitor through which school and district announcements and information are broadcast. In addition to the main building, there is a separate structure that houses workshop areas for a wide variety of career and technical programs, including autobody repair, welding, and computer aided design. All of these are furnished with up-to-date equipment. The consistent integration of technology and current industrial machinery throughout the curriculum and instruction at Dallas Tech-Prep High School is an indicator of the school's commitment to career and technical education (CTE). In addition, students attending the high school can participate in any of 13 competitive sports teams and more than 24 clubs and organizations.

Classes at Dallas Tech-Prep High School begin at 8:45 a.m. and conclude at 3:41 p.m. The school operates on a 90-minute alternating A and B block schedule. The schedule also includes a "zero hour" that starts at 7:30 a.m.; this hour allows school staff to provide tutoring or instruction for students with schedule conflicts. For example, a student taking courses in the information technology strand of the Tech-Prep program also may want to participate in one of the school's band programs. If the band period conflicts with the period that the largely self-directed information technology course is offered, the student can elect to complete his or her course work during the zero hour period each day.

Dallas Tech-Prep High School currently offers five of the nine Tech-Prep concentrations that The Global EDGE Tech Prep Consortium sponsors; these are: Hotel/Restaurant Management, Early Childhood Education, CISCO Networking Systems, Office Systems Technology, and Criminal Justice. These articulated career and technology sequences vary in length. Dallas Tech-Prep High School students enrolled in a particular concentration may complete the sequence of courses within an academic year, or over the course of two or three years including prerequisite courses. Though they are encouraged to select a concentration and take the entire curricular sequence, students may choose to take just one course in a given concentration.

Student Outreach

Dallas Tech-Prep High School is a neighborhood comprehensive high school. Once at the school, students can learn about the Tech-Prep programs in several ways. Teachers do much of their own publicity and recruitment, reaching out to students themselves. The Tech-Prep courses and concentrations also are described and listed in the school's course catalogue, which informs students about their options and aids in course selection and scheduling. The catalogue describes in detail which courses fit into the various career and technology concentrations offered by the high school.

The Global EDGE Tech Prep Consortium develops and disseminates brochures, flyers, and other promotional materials. These materials are mailed out to students who reside in the local community college

district. Promotional materials also are provided to all of the high schools that partner with The Global EDGE Tech Prep Consortium to hang in classrooms, offices, and hallways, as well as to distribute to students during school orientations and in counseling offices.

Tech-Prep Admissions Process

Student Selection Process

Students interested in the Tech-Prep courses and concentrations complete an application in order to demonstrate motivation and inform the instructors of their interests and any special accommodations they may need. This application varies by concentration and asks for basic information such as grade point average and grade level, along with information regarding previously taken prerequisites or similar courses and any special scheduling situations (e.g., band or sports team participation).

The high school's counselors and Tech-Prep teachers screen students to determine if they have completed recommended prerequisites as well as for past disciplinary problems. Courses within several of the concentrations require maturity and responsibility, according to Dallas Tech-Prep High School teachers and administrators. For example, the Early Childhood Education concentration includes a laboratory component that requires students to observe and assist in kindergarten classes at local elementary schools. Students must provide their own transportation, which means carpooling or driving their own vehicles to the participating schools. The information technology concentration includes a great deal of independent and self-directed work, in addition to highly sensitive technical security issues (i.e., working with a number of the school and district's servers). The Hotel/Restaurant Management concentration requires students to work with outside organizations to cater and plan events.

Tech-Prep Course Enrollment

Students can enroll in a Tech-Prep course and choose to receive only high school credit. Those who plan to petition Texas Community College for the dual credit must register with The Global EDGE Tech Prep Consortium. The online registration process must be completed within a designated time period each semester.

Tech-Prep Curriculum and Program

Curriculum and Instruction

The Tech-Prep courses are taught at the high school by high school teachers who are certified to teach secondary education as well as approved by Texas Community College as being at the same level as an adjunct professor at the college. Tech-Prep teachers at Dallas Tech-Prep High School base their Tech-Prep course curriculum and content upon that used in the analogous courses at Texas Community College. The textbooks used are either the same textbooks used in the analogous course at Texas Community College or ones that are approved by the college. Students in the five Tech-Prep concentrations at Dallas Tech-Prep High School have both traditional classroom and work-based learning experiences.

Exhibit A-11: Dallas, Tech-Prep Curriculum and Program

Program Area Concentration	Secondary Course Name	Credits (awarded in escrow)[a]	Postsecondary Course Name
CISCO Networking Systems	Internetworking Technology I	3 and 3	Local Area Networking Design: CISCO 1 and Basic Router Configuration: CISCO 2
	Internetworking Technology II	3 and 3	Local Area Management: CISCO 3 and Wide Area Management: CISCO 4
	Computer Maintenance	4	Introduction to Computer Maintenance
Criminal Justice	Introduction to Criminal Justice	3	Introduction to Criminal Justice
	Crime in America	3	Crime in America
Early Childhood Education	Preparations for Parenting and Child Development	3	Child Growth and Development
Hotel/Restaurant Management	Food Sanitation and Safety	2	Sanitation and Safety
	Introduction to Hospitality Industry	3	Introduction to Hospitality Industry
Office Systems Technology	Business Computer Information Systems I	3	Computer Applications I
	Business Computer Information Systems II	3	Integrated Software Applications
	Accounting I	3	Introduction to Accounting

[a] Credit-in-escrow refers to an arrangement whereby students receive college credit for high school work only if they subsequently enroll in and complete additional courses of the postsecondary level.

Pre-Tech-Prep Curriculum

There is no official pre-Tech-Prep curriculum. However, enrollment in some concentrations hinges on students taking appropriate prerequisites. For example, students are encouraged to have taken Algebra I and an introductory personal computer (PC) maintenance class before entering the information technology concentration. The Hotel/Restaurant Management and Early Childhood Education programs both require year-long

prerequisite courses. Taking into account the various prerequisites, many of the students at Dallas Tech-Prep High School begin taking courses within the Tech-Prep concentrations during either their sophomore or junior year.

Tech-Prep Curriculum

Among the five Tech-Prep concentrations offered, course duration varies so that a course may take place either over an entire academic year or over a semester. Exhibit A-11 lists the courses of the five concentrations that potentially yield credit at Texas Community College. It is important to note, however, that the career and technology department at Dallas Tech-Prep High School offers course work in the Tech-Prep concentrations in addition to the articulated courses. Students thus may continue in sequenced course work and related work-based learning opportunities through their senior year.

Awarding of Credit for Courses

Upon completion of Tech-Prep courses, students are awarded elective credit toward high school graduation. The courses are not weighted for the purpose of computing a student's grade point average. Tech-Prep teachers indicate to The Global EDGE Tech Prep Consortium and to Texas Community College, via the consortium Web site, whether a student is eligible to receive college credit. Depending upon the concentration, students may have to earn a grade of 80 or 85 in the course or pass an end-of-course examination for college credit eligibility. College credits are not awarded immediately but are considered "in escrow," meaning that students must complete courses at the college in order to receive the credit.

In their senior year, students who have successfully completed Tech-Prep courses are sent an ID and information about how to receive the college credits. After graduation from Dallas Tech-Prep High School, students must enroll at Texas Community College in the Tech-Prep major that matches their high school Tech-Prep concentration. Students can then submit a petition for their credit to the registrar's office. Upon completion of six credit hours in the selected major at Texas Community College, which must occur within 24 months of high school graduation, college credits for the Tech-Prep courses completed in high school will appear on their Texas Community College transcript. Transcripted credit is generally accepted by institutions nationwide, at the discretion of the receiving institution.

Support Services

Careers

Information on skills and jobs that are in demand within the field are provided by the Dallas Tech-Prep High School career and technology department instructors, many of whom come from those industries. The instructors' industry connections contribute significantly to their ability to provide accurate and valuable information about career options to their students, both in the classroom and by providing students with formal and informal mentoring and counseling relationships. The Career and Technology department at Dallas Tech-Prep

High School, which includes the five Tech-Prep concentrations, benefits from a local trust that not only provides funds to program instructors for curriculum materials and equipment, but also allows the program to bring in outside guests throughout the year to speak on various topics in career and technology education and training.

Several of the Tech-Prep concentrations have work-based learning opportunities. Students in these concentrations benefit from opportunities to apply learned skills and to explore the demands of particular career fields in a supportive environment. For example, students enrolled in the Early Childhood Education concentration complete a field placement in an early childhood classroom, where they not only assist a teacher in a classroom but are also asked to reflect through journal writing. Throughout the duration of the placement, usually a semester, the writing assignments are used to help the students process their experiences and explore issues of child advocacy and development.

College Transition

Dallas Tech-Prep offers all of its students general information on colleges and the admissions and financial aid processes; therefore these types of services are not targeted directly to students in the Tech-Prep program. The high school's local trust provides scholarships to graduating seniors who have participated and thrived in various areas of CTE during their high school career. Additionally, The Global EDGE Tech Prep Consortium has scholarships that are open to Tech-Prep students at all of the high schools with which it partners.

Professional Development

The Global EDGE Tech Prep Consortium sponsors a variety of professional development activities. High school-based Tech-Prep teachers and their college counterparts in the different concentrations are encouraged to attend annual meetings to discuss curriculum and textbooks. The consortium also organizes an annual Technology in Education conference. In addition, the consortium director is developing externship opportunities for Tech-Prep teachers. Finally, teachers and coordinators may attend the annual state-wide Tech-Prep conference.

Funding

As noted, the Dallas Tech-Prep program is supported entirely by a federal grant. This grant covers the consortium staff, stipends for college and high school Tech-Prep coordinators, and professional development activities. Texas Community College receives 3 percent of the grant for administrative expenses. The college does not receive full-time-equivalent funding for high school students enrolled in Tech-Prep courses, nor does it receive tuition.

Exhibit A-12: Dallas, Tech-Prep Outcomes, 2003–04

Student Outcomes[a]
■ The total enrollment at Dallas Tech-Prep High School was 1,671 students. Approximately 15 percent of the student population was eligible for the National School Lunch Program free and reduced price lunch program.
■ Twenty-nine students were classified as English Language Learners, and 200 students were classified as special education students.
■ Three hundred forty-two seniors graduated from Dallas Tech-Prep High School in the 2003—04 school year. The four-year graduation rate for this class was 97.8 percent.
■ The daily attendance rate for the entire school is 96 percent.
■ Five hundred sixty-seven students were enrolled in a Tech-Prep course. This included 83 ninth graders, 151 10th-graders, 184 11th-graders, and 149 12th-graders.
■ Two hundred fifty-five Tech-Prep students (45 percent) were eligible for the the National School Lunch Program free and reduced price lunch program.
■ Fifteen Tech-Prep students (3 percent) are classified as English Language Learners.
■ Eighty-three percent of Tech-Prep students are white, 14 percent Hispanic, 3 percent Asian, 1 percent as Native American, and 0.06 percent African-American.

[a] All data come from school staff and were not externally validated.