



Early College High School Initiative

Ensuring College Success:

Scaffolding Experiences for Students and Faculty in an Early College School

by Anne Newton, Jobs for the Future

and

Kristen Vogt, Woodrow Wilson National Fellowship Foundation



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The Early College High School Initiative

Early college high school is a bold approach, based on the principle that academic rigor, combined with the opportunity to save time and money, is a powerful motivator for students to work hard and meet serious intellectual challenges. Early college schools blend high school and college in a rigorous yet supportive program, compressing the time it takes to complete a high school diploma and up to the first two years of college. The schools are designed so that low-income youth, first-generation college goers, English language learners, students of color, and other young people underrepresented in higher education can simultaneously earn a high school diploma and one to two years of transferable college credit—tuition free. Since the Early College High School Initiative was launched in 2002, 160 early college schools have opened around the country.

The initiative receives funding from the Bill & Melinda Gates Foundation, along with Carnegie Corporation of New York, the Ford Foundation, the W.K. Kellogg Foundation, and other local foundations.



Woodrow Wilson National Fellowship Foundation

STAR Early College School is one of seventeen early colleges created and supported by the Woodrow Wilson National Fellowship Foundation in Princeton, New Jersey. Through active partnerships between college faculty and local school leaders, Woodrow Wilson early colleges offer high-need students rigorous, college-level courses as well as practical skills for college success.

The Woodrow Wilson Foundation identifies and develops the best minds for the nation's most important challenges. In these areas of challenge, the Foundation awards fellowships to enrich human resources, works to improve public policy, and assists organizations and institutions in enhancing practice in the U.S. and abroad.

With its historical emphasis on preparing college faculty, the Foundation created a national higher education network. Through a series of school-university partnerships over the past quarter-century, Woodrow Wilson has brought the strengths of this network to K-12 reform and enrichment programs.



Jobs for the Future, an action/research and policy organization that promotes innovation in education and workforce development, is the lead coordinator, manager, and policy advocate for the Early College High School Initiative. JFF gathers and shares data about early college high schools, provides opportunities for networking across partners and regions, and educates national, local, and state audiences about the initiative, its achievements, and its lessons for the field.

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Table of Contents

Executive Summary	iii
Introduction	1
<i>STAR Model and Mission</i>	2
<i>STAR's Partners</i>	2
<i>Progress to Date</i>	2
Scaffolding Success: The Transition Plan	3
<i>Early Immersion: College-Going Experiences in Grades 9 and 10</i>	4
<i>Increasing Challenge: Credit-Bearing College Courses in Grades 11 and 12</i>	7
<i>Cohort College Courses</i>	9
<i>Integrated College Courses</i>	10
Ensuring Success: Supports Embedded in the Transition Plan	10
Addressing the Challenges: Improving Progress in College Courses	11
Refining the Transition	11
Making It Work: Collaborative Culture Among Adults	12
<i>Partnership Governance</i>	12
<i>Annual Retreats</i>	13
<i>Curriculum Work Groups</i>	13
<i>Mentoring Relationships</i>	13
<i>Occasional Dinners</i>	14
Building on Success: The Road Ahead	14
Appendix A. STAR Early College School @ Brooklyn College Academic Plan	15
Appendix B. Typical Schedules for STAR Early College Students in Grades 9–10	17
Appendix C. Woodrow Wilson Early College Network Partnership Design Principles	18
Appendix D. College Ready Skills, Attitudes, and Knowledge	19
Endnotes	20

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Executive Summary

Early college is a bold approach that blends high school and college in a rigorous yet supportive program to help young people simultaneously earn a diploma and tuition-free credit toward a post-secondary degree. Designed for students underrepresented in higher education, these innovative small public schools focus on the preparation of low-income youth, first-generation college goers, English language learners, and students of color. Since 2002, the partner organizations of the Early College High School Initiative have created almost 160 early college schools nationwide. This includes the partnership between the Science, Research and Technology Early College School and Brooklyn College in Brooklyn, New York, which has been supported by the Woodrow Wilson National Fellowship Foundation since 2003.

Working with Brooklyn College, a four-year liberal arts campus of The City University of New York, and other partners, STAR has amassed an impressive record in its first five years. The school currently has 489 students in grades 6–7 and 9–12 and will complete a transition to a grades 6–12 school in 2008. More than 80 percent are black, 62 percent are low-income, and more than one fourth arrive with reading and math skills below grade level on New York State assessments. Many would have struggled to finish high school in other settings and never considered themselves college bound. But STAR students consistently outperform district averages and schools with similar populations on the challenging New York State Regents exams. Some 70 percent of its current seniors have earned college credit. Virtually all of its 2007 graduates went to college, many with scholarships.

These successful early outcomes are the result of the ambitious goals and careful planning of the school and its partners—Brooklyn College, the Gateway Institute for Pre-College Education at CUNY, and the New York City Department of Education, Office of New Small Schools, Brooklyn High School Superintendency. The key to the design is a multiyear transition plan that gradually introduces

students to college-going experiences and the demands of college coursework, while providing a wide variety of supports tailored to individual needs. The transition starts with low-risk, introductory activities in the ninth and tenth grades, which aim to build confidence in students' ability to succeed in a college setting, and culminates in credit-bearing college courses in the eleventh and twelfth grades. All of the activities are developed collaboratively between STAR and Brooklyn College, but college faculty are usually the instructors and all classes take place on the college campus.

In grades 9 and 10, students participate in “early immersion” activities:

- A summer bridge program on campus for incoming ninth graders focuses on English, math, and college study skills.
- Weekly pre-college orientation seminars in the fall introduce ninth graders to various college departments and facilities and provide a hands-on look at scientific study.
- Six-week academic seminars in the second semester for ninth graders begin in-depth study of areas such as anatomy, archaeology, and law.



PHOTO BY RACHEL AXINN

- In a university library-based research project, ninth and tenth graders, with support from STAR teachers, work in groups to develop a college research paper.

In grades 11 and 12, the challenge builds gradually as students take on college courses for credit. The courses include:

- Summer bridge courses fill in gaps in skills and knowledge between high school and college work.
- Summer immersion courses, such as the Archaeology Field School, offer college credit for experiential learning.
- Cohort courses are specially designed for STAR students but taught by college faculty on the college campus.

- Integrated classes, which are traditional college courses, are open to anyone.

Both STAR and Brooklyn College offer a wide array of support services to help ensure that STAR students succeed in both high school and college coursework. These include:

- Extra academic support, such as after-school homework help, Regents exam preparation classes, and individual interventions as needed;
- A “College 101” preparatory class for students enrolled in their first college course, covering topics ranging from time management to plagiarism; and
- Tutoring by undergraduates hired to attend class with STAR students and help them grasp difficult content.

STAR’s goal is to have all students graduate with transferable college credit. By the end of the first semester of 2007–08, about 70 percent of seniors had completed one or more college courses—and the majority had passed these courses. To keep moving closer to the goal of college credit for all, the school continues to reevaluate its transition plan and support services and make changes as needed.

A variety of active partnerships between STAR and Brooklyn College faculty provide critical fuel to the school and its ongoing improvement efforts. To aid this work, STAR’s governance structure features an executive board and a steering committee, both comprised of high school and college leaders and faculty.

As one of the first early college schools to be established in New York City, STAR offers lessons to new and emerging schools around the country. It also will continue to benefit from innovations proving effective at other early college schools nationwide.



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Ensuring College Success:

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Introduction

Designing and operating an early college school is bold and challenging work. These innovative small public schools offer young people who might not otherwise graduate from high school the opportunity—and the assistance they need—to earn both a diploma and credit toward a college degree. By aligning and blending the secondary and postsecondary experiences for youth historically underrepresented in higher education, early colleges defy commonly held expectations for these students and set them on a path toward academic and career success.

Since the launch of the national Early College High School Initiative in 2002, school organizers have been learning just what it takes to bridge the divide between two distinct institutional cultures to make college a reality for students who never considered themselves college bound. In doing so, they seek to answer critical questions: How can they reduce the barriers between secondary and postsecondary schools for students who are least likely to complete a college degree? How can they best prepare students for the academic and social expectations of college? How can they ensure that their students succeed in college classes?

The Science, Technology and Research Early College School in Brooklyn, New York, and its partners have begun to answer these questions and raise the achievement—and the prospects—of the primarily low-income and minority students they serve. Working closely with Brooklyn College, a four-year liberal arts campus of The City University of New York (CUNY), and with the assistance of the Gateway Institute for Pre-College Education, STAR has developed a careful sequence of college-going experiences to ease the transition of students from high school to college. At the same time, the partners have developed a professional structure that both connects and supports the efforts of high school and college faculty.

The partners' work is dynamic, continually responding to outcome data and the diverse needs of students and staff. Their focus is unchanging: to prepare traditionally underserved youth to enter and succeed in college.

STAR Early College School, 2007–08

Grades Served: 6–7, 9–12 (will serve grades 6–12 starting in fall 2008)

Enrollment: 489 students

Demographics: 85% Black, 7% Latino, 4% Mixed Ethnicity, 2.4% Asian American or Pacific Islander, 1% White, and 0.6% Native American

Eligible for Free or Reduced-Price Lunch: 62.2%

Staffing: Principal, assistant principal of administration, assistant principal for the middle school, thirty-four teachers, dean/teacher, literacy coach, two guidance counselors, special education instructor, parent coordinator, and two administrative assistants

Brooklyn College, 2007–08

Description: Four-year liberal arts college; one of twenty-three institutions that comprise The City University of New York

Enrollment: 16,087 students; 78% undergraduate, 22% graduate

Demographics: 45.84% White, 29.5% Black, 12.99% Asian American, 11.54% Hispanic, and 0.13% Native American/Alaskan Native

Mission: From its opening 76 years ago, the college has offered men and women—many of them immigrants or the children of immigrants, often the first in their families to go to college—the opportunity to receive an education that leads to productive careers and satisfying lives.

Support for Early College Schools: In addition to its partnership with STAR Early College School, Brooklyn College is the higher education partner for Brooklyn College Academy at Brooklyn College, a Middle College National Consortium site that converted to an early college high school in fall 2007.

Staffing: Full-time early college liaison, two part-time STAR teachers, and twenty-two college faculty, who are actively involved in the early college

STAR Early College School Mission

STAR Early College School strives to promote and maintain a nurturing, rigorously challenging, and stimulating college-oriented learning environment. STAR prepares all students to take college courses at Brooklyn College as part of the early college experience and equips students to pursue professional careers in science, mathematics, technology, and related health careers in college and beyond. Our learning community helps students to achieve the core values of **STAR**: **S**triving for success, **T**olerance in a multi-cultural society, **A**cademic honesty, and **R**esponsibility for self and others.

STAR Model and Mission

One of five small public schools on the historic Erasmus Hall Campus in Brooklyn, STAR Early College School opened in fall 2003. STAR currently serves 489 students in grades 6–7 and 9–12 and will complete its transition to a grades 6–12 school in fall 2008, when the first group of eighth graders begin classes. More than 80 percent of the school's students are black, primarily of Caribbean descent. About 62 percent are from low-income backgrounds, based on their eligibility for federally subsidized free or reduced-price lunch programs. More than a quarter of the students arrive in sixth grade with reading and math skills that are below proficient as measured by New York State assessments in fifth grade.

STAR's mission is to help students succeed in high school while simultaneously preparing them for the rigors of college. The curriculum focuses on preparing students to pursue careers in science, mathematics, technology, and related health professions. The ultimate goal is for all students to graduate with at least 30 college credits from Brooklyn College, which is a little more than a mile away. However, students also have the opportunity to accumulate up to 61 transferable credits toward a college degree. STAR provides both the academic support and the financial assistance to help students succeed. All of the college preparation experiences—as well as the college courses themselves—are tuition free.

STAR's Partners

Each of STAR's partners contributes to the success of its students. Brooklyn College and the Gateway Institute for Pre-College Education at CUNY were involved in the creation of STAR, serve on its executive board, and continue to have prominent roles in its implementation. Brooklyn College offers and staffs all of STAR's college courses and places students appropriately. With the leadership of the early college liaison at the college, Brooklyn College's faculty and staff have worked closely with their counterparts at

STAR to continually refine the academic plan and provide support structures that assist students' transition from high school to college. The Gateway Institute arranges internships and research projects, coordinates college fairs and tours, and co-facilitates the college preparatory course for STAR students.

As a public school, STAR receives typical resources and guidance from the New York City Department of Education, and through the city's relationship with external partnership support organizations, STAR has chosen to work closely with the CUNY School Support Organization. The CUNY SSO provides direct technical assistance to schools, peer networking opportunities for principals, college liaisons, and lead teachers, and data and analytical support.

Progress to Date

Now in its fifth year, STAR has amassed an impressive record. STAR students outpace the achievements of students from schools with similar populations, while succeeding in college courses and gaining acceptance to attend four-year colleges after graduation. Among their accomplishments to date:

- STAR students outperformed the New York City district on the New York State Regents examinations in every area but chemistry from 2004 to 2007 (see Table 1). STAR students also outperformed students in similar schools on most of the Regents exams from 2004 to 2007. The exceptions were chemistry and, in 2005–06, English. However, in 2006–07, 96 percent of STAR's students passed the English exam, up 6 percent from the previous year.¹
- Many STAR students are completing college courses at the same time as they are meeting high school standards. By the end of the fall semester of the 2007–08 school year, 70 percent of STAR's seniors had earned one or more college credits. This was a significant increase from the previous year, when 53 percent of STAR's seniors earned one or more college credits to put toward their freshman year. Overwhelmingly, students have succeeded in their college courses, with an average of 92 percent or more passing each year for the last two years.
- Ninety-nine percent of the Class of 2007 applied to college, and 98 percent were accepted. Graduates received full and partial scholarships, including the prestigious Gates Millennium, Posse, and *New York Times* scholarships, as well as awards from individual colleges.

In other schools, kids are expected to fail. . . . Here, you get to actually know your professors on a personal level. Once you do that, you can't go wrong because not only do you have a teacher, but you have a friend.

Jayson Jones
2007 STAR graduate, recipient of a Gates Millennium Scholarship, and a freshman at Cornell University

Table 1.
Performance of STAR Students on New York State’s Regents Examinations²

	Percent of Students Passing the Exam, 2004–05			Percent of Students Passing the Exam, 2005–06			Percent of Students Passing the Exam, 2006–07 ³
	STAR	Similar Schools	District	STAR	Similar Schools	District	STAR
Comprehensive English	NA	NA	NA	90%	92%	78%	96%
Mathematics A	94%	94%	81%	99%	93%	83%	97%
Mathematics B	NA	NA	NA	81%	74%	69%	94%
Global History & Geography	93%	85%	69%	86%	83%	67%	87%
U.S. History & Government	NA	NA	NA	93%	90%	80%	91%
Living Environment	93%	88%	73%	95%	89%	76%	92%
Earth Science	NA	NA	NA	NA	NA	NA	83%
Chemistry	70%	87%	78%	76%	87%	80%	74%
Comprehensive Spanish	100%	97%	98%	100%	99%	99%	94%

Scaffolding Success: The Transition Plan

STAR’s impressive early outcomes reflect the ambitious goals of the school’s founders. The idea for STAR Early College School originated in 2002, soon after the national launch of the Early College High School Initiative. CUNY’s Gateway Institute for Pre-College Education sought out Brooklyn College as a partner in creating a rigorous math, science, and technology-themed school for city youth. Together, they launched a planning process with support from the Woodrow Wilson Foundation, one of thirteen organizations across the country funded by the Bill & Melinda Gates Foundation to open early college high schools. Their goal: to open and operate an innovative small school that would provide Brooklyn students with an early start in college and the skills, confidence, and momentum to persist to a postsecondary degree.

We have a partnership with Brooklyn College . . . to help as many of our students experience college and say, “Wow! You know what? I was able to do that course.”

Henrietta Coursey,
STAR Principal

A primary task of the school’s planners was to design a coherent, supported transition to college—one that would ensure the success of students who otherwise might struggle just to finish high school. The transition from high school to college is difficult for many young people. Students often stumble academically in their first semester, they may feel lost in a new environment, and their self-confidence drops. For first-generation college goers, the transition is typically even more complex and, as a result, too many do not make it beyond their first year.

With this knowledge—and a common set of high expectations—the Brooklyn College/STAR partnership developed a series of college-going experiences to ease the transition to college. The transition plan starts with low-risk, introductory activities in the ninth

Elements of STAR/Brooklyn College’s Transition Plan

Early Immersion

- Summer orientation and bridge program
- Pre-college orientation seminars
- Six-week enrichment seminars
- University library-based research project
- Preparatory seminars and tutoring support

Credit-Bearing College Courses

- Summer immersion and bridge courses
- College courses (cohort and integrated)

Supports

- Extra academic support
- College preparatory course (“College 101”)
- Tutoring

and tenth grades and culminates in credit-bearing college courses, primarily in the eleventh and twelfth grades. The levels of challenge and support, which are tailored to meet individual needs, change as students advance through their high school career. By the time students graduate from STAR, they have had opportunities to surmount most of the challenges facing first-year college students and to acquire enough skills and momentum to complete a degree at any institution.

STAR and Brooklyn College faculty collaboratively develop the transition plan’s activities, but college professors are usually the instructors and the overwhelming majority of activities take place on the college campus. Through hands-on experiences, students learn how to apply their knowledge and skills to new and chal-

lenging situations. They engage in higher-order thinking, learn to question, and develop their own academic voice by exploring complex ideas and building arguments backed by evidence. In the ninth and tenth grades, high school teachers accompany their students to many of the activities so they can support and/or co-teach with college professors and help students link these experiences back to their high school coursework. By starting with low-risk activities and gradually building the level of difficulty, students gain a sense of confidence in their ability to “do” college and the resiliency to keep pushing forward when faced with challenging academic tasks.

I think that we’re definitely increasing their chance of succeeding at college. . . . They’ll be less afraid of it. They’ll be more inclined to do it, because they’ve known all these people that are in college, especially if their family members haven’t been in college. They know how to use the library. They’re used to a more challenging set of expectations.

David Connelly,
STAR Science Teacher

The transition plan is not only academic in focus; it also helps students adjust to the social and emotional aspects of postsecondary education. Like other early college schools, the STAR partnership recognizes the “power of place” and deliberately locates activities on the Brooklyn College campus, where students experience college first hand. The program intentionally introduces them to both college systems and college culture. Activities are designed to help students develop a sense of belonging on the college campus and to give them practice in college-level learning skills, such as finding research materials in the library and using faculty office hours. The goal is for every student eventually to feel like an “insider” who can comfortably navigate the college campus and find the academic or administrative assistance he or she needs.

**Early Immersion:
College-Going Experiences in Grades 9 and 10**

The Brooklyn College/STAR transition plan starts with low-risk orientation activities for ninth- and tenth-grade students (*see Table 2*). Generally, STAR’s freshmen and sophomores participate in these experiences in grade-level groups with their early college peers.

Summer Orientation and Bridge Program	
Participants	Incoming ninth-grade students
Description	A highly recommended but optional two-week program of math and English/language arts instruction, conflict resolution through the arts, library orientation, and guidance counseling. The first day includes an orientation for parents and diagnostic and placement assessments for students.
Goals	Help students acclimate to an early college and the college environment Preview skills that students will need to be successful in early college

The summer orientation and bridge program is coordinated by the Department of Continuing Education at Brooklyn College, which runs several summer youth programs. In the morning, the emphasis is on English, math, and key skills for college success, such as note taking, study skills, and time management. In the afternoon, students learn about the college library, receive guidance counseling, and often participate in Puppets in Practice, a program that teaches conflict resolution through the arts. Students write in their journals daily, read, discuss ideas, and articulate their thoughts via a puppet play. Situated on the college campus, this program gives students the opportunity to see first hand what it means to be in college and to mingle with college students.

STAR’s principal has observed that the benefits of the summer program are evident as soon as students begin ninth grade:

We have achieved what we wanted to achieve with the bridge program: an opportunity for students to learn about the school, to have experiences on the college campus, to build academic readiness and preparation. They get to have some fun through puppetry, and they get to know each other and bond together so that they’ve already bonded when they come in September.

Henrietta Coursey,
STAR Principal

The college’s assistant dean of continuing education, Lillian O’Reilly, attributes the summer bridge program’s success to the high school and college faculty’s facilitating the sessions, and they all make a point of responding to individual students’ needs. One of the program’s most important aspects is that students connect with peers before the school year begins.

Despite efforts to encourage students to attend, however, only about half of each incoming ninth-grade class typically participates in this optional program. To extend these benefits to the students who

don't attend, STAR now offers similar activities during the first two weeks of the school year, including assessment, guidance counseling, college campus tours, and school-wide community building events.

STAR students, more than a quarter of whom enter the school scoring below grade level in reading and math, need to learn to think differently in order to develop college-ready knowledge and skills. Many experienced school passively in the past and have not been empowered to recognize or improve their learning habits or to probe and analyze content deeply. All STAR students participate in several pre-college orientation seminars throughout the first semester of their ninth grade to help them with that transformation.

Pre-College Orientation Seminars	
Participants	Ninth-grade students
Description	Two-hour seminars on Friday mornings at Brooklyn College. Students are introduced to campus facilities, including the library and laboratories. Working with college faculty, students explore abstract concepts with hands-on activities.
Goals	Introduce students to more challenging classroom settings and expectations and to academic subjects that may be unfamiliar Provide opportunities to see the relevance of their high school courses

These seminars familiarize freshmen with various campus facilities, including the library and scientific laboratories such as the Aquatic Research and Environmental Center, the Institute of Neural and Intelligent Systems, and the Department of Computer and Information Science. They are hands-on sessions with professors about their work, providing students a window into diverse scientific fields.

I think one thing they get is a confidence and comfort level that they wouldn't have otherwise. They come to me from middle school, and they expect to be told exactly everything to do. We start to try to teach them how to develop their own questions. And then with their exposure to the college faculty and the college environment through the [seminars], they realize . . . the [college faculty member] does not know the answer that we're going to come up with. That's really hard I think for a lot of them, because there's a lot of insecurity about just getting the right answer.

Marcus Watson,
STAR Science Teacher

Pre-college orientation seminars not only introduce students to college-level expectations, they also help ease college faculty into the early college program. Conducting a one-time workshop is a low-risk commitment for faculty with little or no experience working with high school students. Yet, the workshop introduces faculty to the early college program goals and may spark their interest in becoming more involved in the future. Some later lead six-week enrichment seminars, mentor high school teachers, and teach college courses to early college students.

Six-Week Enrichment Seminars	
Participants	Ninth-grade students
Description	Investigative seminars that are directly linked to specific high school Regents courses provide in-depth experience investigating a focus area while reinforcing more general content.
Goals	Introduce students to more challenging classroom settings and expectations Provide opportunities to see relevance of high school curriculum

In the second semester of ninth grade, students participate in six-week, non-credit seminars held on Friday mornings at Brooklyn College. A high school teacher and a college faculty member often co-develop the syllabus, while the college instructor leads the sessions on the college campus. Topics have included anthropology, human anatomy, archaeology, and law.

These enrichment seminars allow students to revisit a subject over several weeks, so that they engage deeply in an issue, think critically through multiple aspects of the topic, and interact in a more sustained way with college faculty. A social studies teacher at STAR described the multiple layers of benefit for students:

They had that piece, with the college professor giving them a little dose, a little taste of what college is like, and I think it captures the interest of these students. . . . I think the mere fact that they are in a different environment, they know the expectations are high, and they feel the responsibility of college students, some of them act more mature than you will see them acting here [on the high school campus].

Maxwell Wallerson,
STAR History and Government Teacher

Initially, these seminars were supported by grant funds from the Bill & Melinda Gates Foundation and other outside sources. Since fall 2007, a National Science Foundation grant to Brooklyn College has underwritten some of them.

University Library-Based Research Project	
Participants	Ninth- and tenth-grade students
Description	A project exploring the influences of geography, politics, economy, and society in post-colonial West Indian/Caribbean nations. Ninth graders search through Brooklyn College library databases to find print resources, research their topic, develop a response to the research questions, and write group papers.
Goals	Provide a first-hand experience in using the college library to research a challenging historical question that is directly related to students' background Build skills in conducting research and writing a research paper

Ninth-grade students completed the University Library-Based Research Project, a new addition to the transition plan, in 2006–07. Over six weeks, students worked together, with high levels of support from their English and social studies teachers, to develop a research paper from start (searching for sources) to finish (writing final versions). The project is tied explicitly to the ninth-grade theme of “Adapting to Brooklyn” and a social studies unit on the Caribbean. An important feature is that students are required to use only print sources, providing them with a traditional research experience. The one Web resource allowed was the college’s online catalog, which students used to identify print sources available in the library.

It challenged the kids to figure out how to do Boolean searches [a way to conduct efficient searches online]. And because we had so many teachers and professors helping, we could work through that process, but it was hard. . . . They really got to explore what it’s like to be in the library. For me, that was the most rewarding part, because the kids were seeing how a college library is organized, and they were pulling books [from the shelves].

Rachel Axinn,
STAR Literacy Coach

Notably, the library research project blends state standards for high school curriculum with the knowledge and skills needed to write a college-level research paper. Through this experience, students learn how to take notes, paraphrase, create outlines, and cite references. They also learn strategies for identifying relevant and factual print sources and for using primary and secondary sources. They read academic literature and historical documents on their subjects and explore the topic of identity through both literary and historical frames. Instructors provide guiding questions with the assignment to help students focus on historical themes in areas such as geography, politics, economy, and society that appear on the New York

State Regents exams. At the same time, students become practical users of college library resources to investigate an issue in depth, develop a cohesive argument based on evidence, and express their own voices through writing that adheres to standard conventions.

The research project grew out of a pre-college orientation seminar, held in previous years, which introduced students to Brooklyn College’s library facilities and research assignments. A faculty member from the library and four ninth-grade teachers from STAR, along with the school’s literacy coach and principal, collaborated to develop and implement this more elaborate version. In 2007–08, the project was expanded to include a tenth-grade component focused on using and evaluating Web-based resources.

Preparatory Seminars and Tutoring Support	
Participants	Tenth-grade students
Description	Structured reviews of high school Regents courses
Goals	Prepare students for Regents exams and future college-credit courses Support and reinforce learning based on students' needs

Continuing in the tradition of the enrichment seminars for ninth graders at Brooklyn College, tenth graders participate in preparatory seminars and tutorials at the college. Brooklyn College faculty and staff facilitate the two-hour reviews with support from undergraduate and graduate students. For example, a Brooklyn College chemistry professor and his college students conduct a review and practice seminar to help tenth graders master high school chemistry material. Because this faculty member has worked directly with STAR’s chemistry teachers on curriculum and instruction, his familiarity with the material enabled him to develop effective review materials. STAR students rotate in and out of the reviews to keep the classes small and allow everyone to benefit from the faculty interaction and the additional support.

Initially, a grant from the Bill & Melinda Gates Foundation funded the summer bridge programs, preparatory seminars, and tutoring. In 2007, the partners secured ongoing funding for these experiences from The City University of New York.

Table 2.
College-Going Experiences in Grades 9–10: Non-Credit Bearing Programs, Seminars, or Projects

Activity	Participants	High School Involvement	College Involvement	Financial Support
Summer Orientation and Bridge Program (two-week, optional program)	Incoming grade 9 students	Co-plan Co-conduct	Co-plan Co-conduct Host	Initially supported by the Bill & Melinda Gates Foundation; now supported by CUNY ⁴
Pre-College Orientation Seminars (cohort introductions to different college departments on Friday mornings)	Grade 9	Co-plan Accompany students	Co-plan Conduct Host	Initially supported by the Bill & Melinda Gates Foundation; now supported by an NSF grant
Six-week Seminars	Grade 9	Co-plan Accompany students	Co-plan Teach Host	Initially supported by the Bill & Melinda Gates Foundation; now by an NSF grant
University Library-Based Research Project (six-week project linked to English and social studies classes)	Grades 9–10	Co-plan Co-teach Accompany students Provide follow-up in classroom	Co-plan Co-teach Host	University professional development funds; STAR provides teachers as part of its financial support
Preparatory Seminars and Tutoring Support (reviews and tutoring for core academic classes in preparation for statewide assessments)	Grade 10	High school teachers provide support during the seminars as well as additional support during and after school and on Saturdays	Facilitated by college faculty with support from Brooklyn College graduate and undergraduate students Host	Initially supported by the Bill & Melinda Gates Foundation; now supported by CUNY

Increasing Challenge:
Credit-Bearing College Courses in Grades 11 and 12

The majority of STAR students begin enrolling in credit-bearing courses at Brooklyn College in the eleventh grade. These courses are designed to maximize student readiness and success (*see Table 3*). STAR’s steering committee—which includes the Brooklyn College provost, early college liaison, department chairs, and professors, as well as STAR’s principal, assistant principal of the middle school, and a high school teacher—determined the entry requirements. Students must have a 75 percent or higher high school average, maintain good attendance and discipline records, and obtain a supportive teacher recommendation to enroll in college courses. For English courses, they must also pass the CUNY writing assessment. Some students may be eligible to start college classes in ninth or tenth grade if they pass designated assessments and their teachers or the principal determine they are ready.⁵

The Brooklyn College/STAR partnership takes advantage of the summer, when most high school students get a break from classes, to support the transition to college-level learning. Immersion and bridge courses, which have been developed over several years, include: Essay Writing (1 credit), Laboratory Methods (1 credit), Bridge to Chemistry (1 credit), and Archaeology Field School (3 credits).

Bridge courses provide a transitional step up to the greater academic challenge of college courses and confer both high school and college credit. For example, a chemistry faculty member developed the chemistry bridge to fill the gap between the high school Regents curriculum and Brooklyn College’s introductory chemistry course. Depending on the subject, classes are held for two to four hours per

day and are four to six weeks long. Students must apply to participate and are selected based on placement assessments for Brooklyn College courses and interest in the topic.

Summer Immersion and Bridge Courses	
Participants	Rising eleventh- and twelfth-grade students. Students must apply for these courses and are selected based on eligibility/placement assessments for Brooklyn College courses and interest in the course topic.
Description	Bridge courses are designed to fill gaps in content and skills between high school courses and introductory college courses and are offered to students who will enroll in college courses in the next school year; immersion courses are designed to offer opportunities to earn college credit via experiential learning.
Goals	Prepare students with the knowledge, skills, and attitudes needed to be successful in specific college-credit courses



PHOTO BY ANTOINETTE MARRERO

As far as science goes, it's a huge jump to chemistry. So, I wrote a summer preparatory course. . . . They are going into Chemistry 1.1; I teach 1.1 so I knew the whole curriculum. . . . I prepared the kind of problem solving, the kind of vocabulary, the kind of sequence they would get in Chem. 1.1.

George Moriber,
Professor Emeritus, Chemistry Department,
Brooklyn College

We had both groups of students in one group, digging together, and that allowed us to have two or three college students with each two, three, four high school kids. It provided mentoring for the students, it provided role models for them, it provided competition for them, and it broke up their own groups, their own cliques. I thought that both the college and the high school kids benefited by it. . . . They can see that this is the way that college kids actually work in college, and this is what they do, this is what they read, and this is what they write, this is the kind of exam that is expected of them, this is the kind of paper that's expected of them.

Arthur Bankoff,
Professor and Chair, Anthropology and Archaeology Department,
Brooklyn College

Summer immersion courses are designed as experiential learning opportunities for hands-on work related to a particular field of study. For example, each summer, students participate in the three-credit Archaeology Field School linked to STAR's "Adapting to Brooklyn" theme. It is co-taught by a Brooklyn College archaeology professor and a STAR science teacher. Brooklyn College undergraduates serve as tutors and mentors. STAR students literally get their hands dirty experiencing college-level learning in a setting different from the typical lecture-style introductory science course. They investigate, discover, and theorize out in the field, and they must collaborate with others in order to be successful. Past dig locations have included local historical sites such as the Erasmus Hall campus, the Lott House, which is listed on the National Register of Historic Places, and Fort Greene Park, which contains a Revolutionary War fort.

College Courses, 3–5.5 credits each	
Participants	Primarily eleventh- and twelfth-grade students
Description	Students apply to take college courses, and all who meet placement criteria established by Brooklyn College, CUNY, and STAR are enrolled. Brooklyn College faculty and a few STAR teachers who meet a department's requirements for adjunct status teach the courses. All courses are taught on Brooklyn College's campus.
Goals	<ul style="list-style-type: none"> Give students the opportunity to earn transferable college credits Offer students a first-hand experience with college-level expectations for learning Provide a rigorous curriculum sequence that will prepare students for college access and success

Enrollment in college-level courses is the culminating experience of the transition plan. Students apply what they have learned so far, experience growth through the challenge and support of early college coursework, and continue to build their capacity for postsecondary success. STAR students take some classes with cohorts of their early college peers and others alongside undergraduates as part of the broader college community. Cohort courses, which are conducted on the college campus, are planned specifically for STAR and enroll early college students only. The so-called "integrated" courses are available to the general student population. However, no more than 10 STAR students are enrolled in any single integrated course section with Brooklyn College undergraduates.

College departments determine the best mode of delivery for college courses. As a result, STAR students experience a variety of formats—traditional semester courses, stretch courses that extend over an academic year, and courses co-taught with high school faculty. Most of these courses fulfill dual credit requirements, offering both high school and college credit for a single course.



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Table 3.
Credit-Bearing College Courses in Grades 11 and 12

Credit-Bearing Courses					
Activity	Participants	High School Involvement	College Involvement	Financial Support	Student Support
Summer Immersion and Bridge Courses <i>Essay writing prior to freshman composition, laboratory methods, pre-eleventh-grade chemistry immersion after high school class and prior to college chemistry course</i>	Incoming students in grades 11–12	Co-plan and teach some courses	Co-plan Teach Host	Development and college tutors supported by grant from the Bill & Melinda Gates Foundation and other sources. The City University of New York pays teachers and professors. Books, tuition, and lab materials provided by CUNY. ⁶	Tutoring by college students and professors on college campus
Cohort College Courses <i>One semester courses: anthropology, English, political science, geology, health and nutrition, introduction to art, music, and political science</i> <i>Stretch courses: one-semester course completed in two semesters—Spanish</i> <i>Workshop courses: high school teacher accompanies students and reinforces concepts introduced in college course back at high school—political science</i>	Grades 11–12	Co-plan and sometimes co-teach Sometimes accompany students	Co-plan Teach or co-teach Host	Books, tuition, and materials provided by CUNY.	Tutoring is available through college’s Learning Center and by college students through modified supplemental instruction. Teachers provide additional support in workshop format courses.
Integrated College Courses <i>One semester courses: biology, math, physics</i> <i>Stretch courses: chemistry, introduction to computing</i>	Primarily students in grades 11–12		Plan Teach Host	Books, tuition, and lab materials provided by CUNY.	Tutoring is available through the college’s Learning Center or by college students.

Cohort College Courses

Cohort courses, which are specifically offered to STAR students, provide high school and college credit simultaneously (*see Appendix A, “STAR Early College School @ Brooklyn College Academic Plan”*). These courses meet both college standards and high school graduation requirements. Examples of semester-long offerings include anthropology, geology, health and nutrition, introduction to art, and music.

Some cohort courses have been modified for early college students to extend over a full year. These so-called “stretch” courses cover extensive content that has proven challenging for STAR students and first-year undergraduates to master in one semester. By stretching out the course requirements over a year and providing additional supports, this model helps students better master the college-level content. Typically students receive the equivalent of one semester of college credit and high school credit for a full year of study.

In the past, Brooklyn College has offered both Spanish and English as stretch courses. However, STAR students have performed so well in the English course that college administrators decided to offer it as a traditional semester course instead. Dacota Stewart-Dick, Brooklyn College’s early college liaison, commented on student

performance in the course: “They’ve scored as well or better than the entering freshmen on the university’s writing assessment [a prerequisite for the course], and they’ve performed fantastically in the stretch course.”

In 2005–06, Ellen Tremper, the chair of the Brooklyn College English Department, determined that STAR students in the stretch course performed “comparatively well,” as reflected in their final grades. She decided to enroll STAR students in the one-semester version of the course beginning in fall 2006. In addition to the financial benefits of this change, it also helps students move faster to more advanced coursework in English and allows them to potentially accumulate a greater number of college credits while in high school.

STAR also has experimented with cohort political science courses, in which a high school teacher leads a workshop at the high school to reinforce concepts introduced in a college course. The high school faculty member usually attends the college classes with STAR students and provides supplemental lessons on the high school campus to ensure mastery. The school also has offered courses taught jointly by a high school teacher and a college professor, such as the Archaeology Field School.

Integrated College Courses

When STAR juniors and seniors are ready, they take college courses at Brooklyn College with college students. These “integrated courses” confer college credit but do not always count for high school credit. Most are advanced classes that go beyond the required high school curriculum, such as college-level science (biology, chemistry, physics), math (pre-calculus, calculus), and psychology. Using a modified supplemental instruction model, Brooklyn College’s early college liaison hires undergraduate students to attend the college courses with STAR students and tutor them as needed.

Ensuring Success: Supports Embedded in the Transition Plan

High school teachers, college faculty, and college students offer a wide variety of academic and personal supports to students throughout their years at STAR. These services are designed to help students overcome barriers to learning that they may have faced in previous school settings, such as poor reading, writing, math, or organizational skills, as well as to prepare them for the greater challenge of college work.

Three academic supports play an important role in helping STAR students to succeed in college courses: extra academic support, tutoring, and a year-long course designed to teach college-level study skills.

Extra Academic Support	
Participants	Ninth- through twelfth-grade students
Description	Supports are provided at both the high school and college levels, based on learning needs and personal challenges.
Goals	Prepare students with the knowledge, skills, and attitudes needed to be successful in specific college-credit courses Help students meet the expectations of a demanding high school curriculum Prepare students academically and personally so they may enroll and be successful in college Provide wrap-around services that address the academic, social, and emotional needs of students

Academic supports are available to all students for both high school and college coursework. These supports include double periods of math and/or English for ninth and tenth graders (see Appendix B, “Typical Schedules for STAR Early College Students in Grades 9–10”), an after-school study center on the high school campus that offers homework help and tutoring in each subject, and a Saturday Regents exam “Prep Academy.” STAR students also may access tutoring organized by the Brooklyn College Community

Partnership for the entire Erasmus campus. A student support team provides case management and brokers interventions for individual students. The school’s approach addresses the needs of the whole student, attending to both learning and personal needs.

There are children who come here, and for some reason, there was some lack of preparation somewhere along the line. When students are bored in the classroom, or act out, or show impatience, they are crying out for help. Somehow, you have to work with them: be mindful of the reality, the conditions of the students’ [lives]. Get to know them. Get to know the parents, if possible the homes. Get to know some of their wants, let them know that they’ve got a friend on the inside, somebody they can talk to. Then they’re going to tell you about their plans, their confusions, and anxieties. They are still teenagers, you know! And then you can help them, because they want somebody.

Maxwell Wallerson,
STAR History and Government Teacher

College Preparatory Course—College 101	
Participants	Eleventh- and twelfth-grade students who are enrolled in their first semester of credit-bearing college courses
Description	A non-credit course that reviews basic academic and college-readiness skills, college and career search, and admissions/financial aid
Goals	Provide students with information to promote and support academic success in college courses

When STAR students enroll in their first credit-bearing college course, they receive academic and college-going support from a year-long, 90-hour preparatory course similar to College 101. Brooklyn College’s early college liaison developed the course and initially conducted it. Now, with more students enrolled in integrated college courses, the staff has expanded. The early college liaison, a CUNY Gateway Institute for Pre-College Education staff member, STAR’s literacy coach, and STAR’s special education teacher each facilitate sections. They use an identical syllabus and meet regularly to refine the curriculum. Groups of 15 to 20 students meet once a week in a seminar format and receive timely support in areas related to their progress with college coursework.

Experts from around the campus help make the college preparatory course relevant, practical, and effective. For example, staff from the college’s student development and counseling division discuss time management and study skills; English Department faculty explain plagiarism and introduce college ethics.

The course also supports juniors and seniors as they explore college and career options and build their high school portfolio in preparation for applying to college. Students become involved in developing the course topics by raising issues they want to discuss. During the course, the college's admissions and financial aid offices and undergraduates guide students through the college application process, and early college students interview Brooklyn College undergraduates and professionals in careers of interest to them.

Tutoring	
Participants	Eleventh- and twelfth-grade students
Description	Tutoring for college courses
Goals	Support and reinforce learning based on students' needs

When STAR students enroll in college courses in the eleventh and twelfth grades, dedicated undergraduate tutors from Brooklyn College provide an additional layer of support as needed. For example, the early college liaison hires an undergraduate to attend the college-level Chemistry 1.1 course and provide direct tutoring to the STAR students enrolled in that course, with funding provided by Brooklyn College. Many tutors are recruited through the Alliance for Minority Participation and the National Black Science Students Organization on the Brooklyn College campus.

Addressing the Challenges: Improving Progress in College Courses

The STAR partners continue to work toward their goal of having all students graduate with transferable college credit. Over the last three years, the partners have experimented with multiple strategies that will enable all STAR students to enroll in college courses in the eleventh and twelfth grades. More students have been succeeding each year.

Upon graduation in June, 53 percent of the Class of 2007, STAR's first graduating class, had accumulated one or more college credits, and 44.4 percent had 10 or more credits. With increased academic support, this number has risen significantly. By the end of the first semester of the 2007–08 school year, 70 percent of STAR's Class of 2008 had completed one or more college courses.

Overwhelmingly, STAR students have succeeded in college courses. In fall 2006–07, STAR students enrolled in 139 courses at Brooklyn College and passed 134 of them, a 96 percent pass rate.⁷ The courses included pre-calculus, chemistry, English, computer information systems, health and nutrition, political science, and Spanish. In the spring semester of 2006–07, STAR students enrolled in 150 similar courses, plus physics and theater, and passed 135 of them, a pass rate of 90 percent. These rates were similar to those in

2005–06, when students passed 95 percent of fall semester courses and 89 percent of spring semester courses.

Refining the Transition

STAR students have had many successes in college coursework, yet the school's partners would like their students to do even better. Believing that exposure to college coursework is critical for all STAR graduates, the steering committee has responded to the school's track record so far in several important ways. First, the committee decided several years ago to transition to a grades 6–12 school, ensuring that STAR students receive rigorous, supported instruction earlier in their academic careers to help prepare them better for college work. The school also has devised summer bridge courses in writing, chemistry, and lab methods and provided additional tutors, including undergraduates to supplement instruction in college courses.

In addition, STAR has begun to identify and enroll students in dual credit courses that have no prerequisites, such as music and geology. This allows students who don't meet college entrance requirements to take college courses. The Brooklyn College provost and early college liaison carefully selected professors for the music and geology courses. In the 2006–07 school year, 46 students enrolled in music and 25 in geology. Almost 83 percent of those students passed music and 92 percent passed geology. Even students who did not receive college credit for the course felt it helped them in their general preparation for the Regents examinations, according to the early college liaison, Dacota Stewart-Dick.

An additional dual credit course with no prerequisites will be added in fall 2008. This history course, which will be linked to the high school's U.S. history class, was co-developed and will be co-taught by a high school teacher and a college professor.

To better support early college students on the college campus, the steering committee's college prep subcommittee has instituted an Academic Success Program. The early college liaison now checks with professors at the end of the third and eighth weeks of each semester and follows up with individual students. In most cases where help is needed, college students provide the tutoring. Patterned after the supplemental instruction model, the college students sit in on specific courses with the students they tutor and then provide tutoring tailored to the course and individual student needs. The early warning system also allows STAR students who are likely to fail a course to withdraw prior to the tenth week in the semester; 5 percent of course attempts resulted in an early withdrawal in 2006–07.

To prepare more students for success in college classes, STAR also adopted the AVID program (Advancement Via Individual Determination) this past year for the sixth and tenth grades. AVID is an in-school college preparatory program for students who are economically disadvantaged; it is designed to increase achievement levels of typical “C” students. AVID explicitly addresses organizational, time management, and study skills, as well as academic attitudes and behaviors. Fifteen Brooklyn College students now work at STAR as AVID facilitators or tutors for grades 6 and 10. Six assist in middle school and tenth-grade AVID classrooms. The other nine college students are helping teachers develop lesson plans, working with individual or small groups of students, or facilitating book clubs.

Making It Work: Collaborative Culture Among Adults

The success that STAR students are experiencing with early college coursework would not be possible without the school’s carefully designed transition plan, and the plan would not exist without a strong and active high school-college partnership. As a member of the CUNY system, Brooklyn College has an extensive history of outreach to secondary schools that provides a foundation for its work with STAR. The partnership extends far beyond governance and administration to include valuable collaborations among the faculties of both institutions. After five years, both college administrators and individual faculty demonstrate a high commitment to the concept of early college, which provides a powerful lever for sustainability.

From the beginning, STAR’s planners believed it was critical for college and high school faculty to work together. Guided by the partnership design principles of the Woodrow Wilson Foundation’s Early College initiative (see Appendix C), the planners viewed faculty collaboration as the key to developing a common language, common expectations, and curricular alignment. Collaborative curriculum development is at the heart of the partnership’s activities.



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The early college liaison, based at Brooklyn College, is essential to the success of this partnership. She encourages and coordinates the collaborations between high school and college faculty, works with STAR staff to schedule students in college courses, brokers support to students enrolled in college courses, manages the budget, and assists with fund raising to achieve the partnership’s vision for STAR.

Partnership Governance

STAR’s executive board and steering committee oversee implementation of the early college (see box, “Membership of STAR Partnership Governing Bodies”). With some overlap in membership, the executive board is responsible primarily for budget and policy decisions, while the steering committee oversees the “meat” of the partnership—the school’s academic design and the faculty professional development activities that bring the academic design to life.

The steering committee met monthly during the school’s first two years to guide the program’s development. Among the major accomplishments of this period were reaching consensus about core college readiness skills the school should target (see Appendix D, “College Ready Skills, Attitudes, and Knowledge”) and the development of an academic plan, which lays out a path to attaining up to 61 college credits by high school graduation. The steering committee also created a plan for annual summer retreats that bring high school and college faculty and staff together to plan professional development, curriculum work groups that look at the design and content of courses at both the high school and college levels, and the pre-college orientation and six-week seminars that are critical components of the students’ transition to college work.

Now in its fifth year, the steering committee meets twice a semester, focusing on evaluating progress and making adjustments where necessary.

Membership of STAR Partnership Governing Bodies	
Executive Board Brooklyn College provost STAR’s principal Early college liaison Director of CUNY’s Gateway Institute for Pre-College Education	Steering Committee Brooklyn College provost STAR’s principal Early college liaison College department chair(s) College professors from several departments One high school teacher Assistant principal of the middle school

Annual Retreats

Each year, a team of administrators, faculty, and staff from STAR and Brooklyn College participate in a two-day retreat to refine the vision of the school and plan future educational activities. Participants include the Brooklyn College provost and early college liaison, STAR's principal, college professors, and high school teachers and staff. The retreats are designed to foster substantive conversations about curriculum and pedagogy across the high school and college levels in an informal setting. They provide time for self- and group-reflection, discussion of students and their needs, and the establishment of annual learning targets. Outcomes from these retreats have included the development of common language about the school's design, a first draft of college expectations, ideas for college-going experiences, and relationships across the two faculties that support the co-development of curriculum in core subject areas.

During the first retreat, we broke into teams and identified cross-curricular uniting themes. Most of them revolved around Brooklyn, so my group ended up with the theme of "Adapting to Brooklyn." We brainstormed all of the things that could involve—history, immigration, invasive species, and social urban ecology. Then, we met in subject-area teams, high school and college faculty, to develop six-week seminars.

David Connelly,
STAR Science Teacher

Curriculum Work Groups

Composed of college and high school faculty from specific subject areas, work groups met every six to eight weeks during the school's first year to develop, review, and align curricula. Initially, the focus was on creating curricula for living environment, chemistry, and writing courses in grades nine through eleven. As the school's inaugural class of students reached the tenth, eleventh, and twelfth grades, the curriculum work groups met monthly to focus on the design of stretch, summer-bridge, and immersion courses to ensure STAR students' success in college work. During 2007–08, work groups in chemistry, English, geology, history, and math have been refining or enhancing curriculum. For example, the English work group has focused on developing syllabi for ninth-, tenth-, and eleventh-grade English courses and a capstone project in the twelfth grade. All of these groups' endeavors emphasize developing students' skills in critical thinking, problem solving, and writing and their ability to make connections across disciplines.



PHOTO BY RACHEL AXINN

Mentoring Relationships

The STAR/Brooklyn College partnership is strengthened by individual relationships between faculty from the two institutions. Some are the result of formal mentorships, in which college professors are matched with high school teachers in key disciplines and receive a stipend from the college for their time. In some mentor relationships, the emphasis is on instructional practice: the college professor observes a STAR teacher at work in the classroom and the two discuss ways for the teacher to improve or enhance their instruction. In others, the focus is on enhancing the high school curriculum: college professors work with teachers to develop syllabi and pacing guides or to share non-fiction articles that can supplement texts and classroom activities. Some mentor relationships have become a source of professional growth for both participants, as paired faculty develop curriculum and/or assessment tools for pre-college orientations, six-week seminars, summer bridge and immersion programs, and dual enrollment courses.

"There have been 100 times that I've gone to Brooklyn College after work and talked to him [Dr. Bankoff, my mentor]. We just have a conversation, an equal conversation for the most part."

Marcus Watson,
STAR Science Teacher and Co-Planner of Archaeology Field School

"I've learned a lot about outcomes assessment in high school. It's a different approach to seeing whether students are learning or not, which I think the college is trying to understand. He's [Mr. Watson] gotten a feeling of how one can work constructively with small groups of people and the interplay between group projects and individual work."

Arthur Bankoff,
Professor and Chair, Anthropology and Archaeology Department,
Brooklyn College



PHOTO BY RACHEL AXINN

Occasional Dinners

Once STAR students began taking credit-bearing college courses, the early college liaison arranged dinner meetings throughout the year for high school teachers and college faculty who teach STAR students. The goal is to provide an opportunity to reflect jointly on what is—and is not—working for students enrolled in college courses. Some questions they consider: What are the students' strengths and weaknesses? What could high school teachers do to better prepare students for college work? What might college professors adjust to help STAR students grasp the material better?

These conversations have had at least two tangible results. One is the addition of more tutoring and guidance services for students. The other is the availability of dual enrollment courses without prerequisites (e.g., geology, music, U.S. history) that would provide all juniors and seniors with access to the college regardless of their academic achievement.

Building on Success: The Road Ahead

In June 2007, STAR Early College School held its first graduation. Virtually all of the 73 graduates were accepted to college in the fall of 2007. Many received prestigious scholarships based on their academic achievements at STAR. More than half had completed some college credit along with requirements for their high school diploma. Although the future achievements of all of these students remain to be discovered, they are all well on their way to completing a college degree.

After only five years of operation, STAR already stands out for the accomplishments of its students, the richness of its partnership with Brooklyn College, and the strengths of its transition program. However, STAR is still new and, as such, continues to refine its academic program and support systems. One major design revision is already in place: the addition of middle school grades, which provides more time for STAR students to improve academic skills prior to starting college coursework. STAR partners anticipate that students in these newest classes will complete even more college credits before finishing high school than students who entered STAR as ninth graders.

As it develops, STAR Early College School will continue to benefit from two strong allies that have played a major role in the school since its inception: the Woodrow Wilson Foundation and the national Early College High School Initiative. As part of Woodrow Wilson's network of 17 early colleges, STAR profits from relevant professional development opportunities, cross-site sharing, and technical assistance to help the school's partners continually reflect on and refine its design. At the national level, STAR has participated in professional development and peer networking activities with other early college schools across the country. Further, through its connection to the CUNY School Support Organization, STAR's designated partnership support organization within the New York City public school system, the STAR partnership also benefits from connections to other schools affiliated with CUNY colleges.

As one of the first early college schools to be established in New York City, STAR offers lessons to new and emerging schools. At the same time, it benefits from innovations that are proving effective in other early college schools locally and around the country.

Appendix A. STAR Early College School @ Brooklyn College Academic Plan

Students enrolled at the Science, Technology and Research Early College begin to take courses for regular college credit in the eleventh grade. Based on readiness and the recommendation of teachers and/or the principal, students may be accelerated into college-level courses (e.g., Spanish) as early as the ninth grade. This academic plan outlines the choices in a typical course of study for a STAR student.

KEY:
 Courses offered by the college are in **bold green**.
 Dual enrollment courses, which count for both high school and college credit and are offered every semester, are **red italic**.
 High school credits received upon successful completion of course are in brackets [3]; college credits obtained are in parentheses (3).

Area of Study	Grade 9		Grade 10		Summer Bridge Courses After Grade 10	High School Credits	College Credits
	1st Semester	2nd Semester	1st Semester	2nd Semester			
Support Seminar	Advisory & Early College Seminar	Advisory & Early College Seminar	Advisory & Early College Seminar	Advisory & Early College Seminar			
Arts	Art/Tech [1]					1	
Biology/Living Environment	Biology I/Living Environment [1]	Biology II/Living Environment [1]			Laboratory Methods (1)	2	1
Chemistry			Chemistry 1	Chemistry 2 [2]	Bridge to Chemistry (1)	2	1
ELA-English	English I [1]	English II [1]	English III [1]	English IV [1]	Essay Writing (1)	4	1
Foreign Languages	Spanish I [1]	Spanish II [1]	Spanish III [1]	Spanish IV [1]		4	
Health & Physical Education	Physical Education [1]	Physical Education [1]	Physical Education [1]	Physical Education [1]		4	
Mathematics	Integrated Algebra I [1]	Integrated Algebra II [1]	Geometry [1]	Geometry [1]		4	
Social Studies	Global History I [1]	Global History II [1]	Global History III [1]	Global History IV [1]		4	
Subtotal Credits in Grades 9 and 10						25	3

Area of Study	Grade 11		Grade 12		High School Credits	College Credits
	1st Semester	2nd Semester	1st Semester	2nd Semester		
Support Seminar	College Preparatory Seminar	College Preparatory Seminar	College Preparatory Seminar	College Preparatory Seminar		
Biology/Living Environment			Biology 3: General Biology (4.5)			4.5
Chemistry	Chemistry 1.1: General Chemistry 1A (2)	Chemistry 1.2: General Chemistry 1A (3.5)				5.5
Computer Science			CIS 1.51: Introduction to Computing (2)	CIS 1.52: Introduction to Computing (2)		4
Economics				Economics [1]	1	
ELA-English	English V [1] and English 1: English Composition (3)	English VI [1] and English 2: Expository Writing (3)	English VI: Literature & Cultural Diversity (3), [1]		3	9
Foreign Languages	Spanish V or Modern Languages 1.1 (1.5) [1]	Spanish VI or Modern Languages 1.12 (1.5) [1]	Modern Languages 2.1 (1.5) [1]	Modern Languages 2.12 (1.5) [1]	4	6
Health & Physical Education			Health & Nutrition 6.1: Personal & Community Health (3) [1]		1	3
History	U.S. History [1]	U.S. History [1]		Core 2.2: Shaping of the Modern World (3)	2	3
Humanities	Classics 0.11: Greek & Latin Elements in English (3) OR Core 1.3: Music: Its Language, History and Culture (3)					3
Mathematics	Math B [1]	Math B [1]	Math 3.11: Thinking Mathematically (3) OR Math 2.91: Pre-Calculus (1.5) OR Math 3.3: Calculus (3)	Math 2.92 Pre-Calculus (1.5)	2	3
Physics	Physics [1]	Physics [1]		Physics 1: General Physics 1 (5)	2	5
Social Studies	Anthropology 1 or 2.2 (3) OR Political Science 1.51 (3) [1]		Waiver Course Elective (3)		1	6
Elective: Humanities			Core 1.2: Introduction to Art (3) [1]		1	3
Elective: Science	Core 3.32: Geology: The Science of Our World (3) [1]				1	3
Subtotal Credits in Grades 11 and 12					19	58
TOTAL CREDITS					44	61

Appendix B.
Typical Schedules for STAR Early College Students in Grades 9–10

Ninth-Grade Schedule

Period	Monday	Tuesday	Wednesday	Thursday	Friday*
1	Global History	Global History	Global History	Global History	Global History
2	Global History	Global History	Global History	Global History	Global History
3	Integrated Algebra	Integrated Algebra	Integrated Algebra	Integrated Algebra	Integrated Algebra
4	Integrated Algebra	Integrated Algebra	Integrated Algebra	Integrated Algebra	Integrated Algebra
5	Lunch				
6	English	English	Advisory	English	English
7	English	English	Advisory	English	English
8	Physical Education	Science Lab	Physical Education	Science Lab	Physical Education
9		Living Environment	Living Environment	Living Environment	Living Environment

Tenth-Grade Schedule

Period	Monday	Tuesday	Wednesday	Thursday	Friday**
1	English	English	English	English	English
2	English	English	English	English	English
3	Geometry	Geometry	Geometry	Geometry	Geometry
4	Geometry	Geometry	Geometry	Geometry	Geometry
5	Lunch				
6	U.S. History	U.S. History	U.S. History	U.S. History	U.S. History
7	AVID***	AVID	AVID	AVID	AVID
8	Chemistry Lab	Physical Education	Chemistry Lab	Physical Education	Chemistry Lab
9		Chemistry	Chemistry	Chemistry	Chemistry

*On Friday mornings, STAR ninth-grade students participate in two-hour pre-college orientation seminars at Brooklyn College in October, November, and December and in six-week college seminars in February, March, and April. They attend in cohorts with one of their ninth-grade teachers from STAR.

**On Friday mornings, college students and professors tutor STAR tenth-grade students for two hours at either the high school or the college campus.

***Advancement Via Individual Determination (www.avidonline.org).



**WOODROW WILSON EARLY COLLEGE NETWORK
PARTNERSHIP DESIGN PRINCIPLES**

Centrality of College-Going Culture

- Building student efficacy is core to being ready for college
- High expectations are balanced with adequate and sufficient support
- Support is shared across all staff
- Continuous and ongoing scaffolding of the college experience introduces students to college expectations and the culture of college life, builds their self-efficacy and resilience, and creates a smoother transition to college
- Support for the college admissions and financial aid process is personalized
- Students' sense of belonging to the partner college campus community is essential to building a college-going culture, whether the school is located on or off the college campus

Teaching and Curriculum

- College and high school faculty work together to create a synergy of research, theory, and practice in the classroom
- Habits of mind integrate cognitive, emotional, and social development. Early college rigor is progressive, where teachers challenge students with increasing levels of independence and responsibility for their work
- College readiness standards and assessments guide curriculum development and instructional practice
- An effective academic program balances challenge with support, emphasizes student teamwork and collaborative learning, and engages students in project-based instruction and performance-based assessment
- Overall academic program design, course design, and classroom teaching is flexible and adaptive
- All students participate in a rigorous college prep and college curriculum

Governance

- Governance of the school is a responsibility shared by the school, district/charter management organization (CMO), and college
- CMO/District is ultimately responsible and liable for all aspects of the school, but college assumes some ownership: "our school, our students"
- Earning the respect of both the college community and the school/district/CMO is essential for a university director (senior administrator or senior faculty member) who has decision-making authority
- Shared governance bodies for curriculum, evaluation, and student placement are created to address and integrate district/CMO, state, and college standards and policies
- Full campus engagement is enhanced when college administrative bodies, including faculty senate, are involved in early college course approval and monitoring
- Significant engagement of college faculty is cultivated and remunerated through release time, stipends, tenure credit, and other relevant policies
- College commits considerable financial support, especially for university director and early college high school liaison at school site
- College is actively engaged in developing sustainable funding for the early college high school

Appendix D. College Ready Skills, Attitudes, and Knowledge

Brooklyn College and STAR high school faculty and staff generated the first iteration of this list during an annual retreat. The STAR Early College School's Steering Committee—which includes the Brooklyn College provost, early college liaison, department chairs, and professors, as well as STAR's principal, assistant principal of the middle school, and a high school teacher—refined and reached consensus on the following list of college-ready skills, attitudes, and knowledge.

Cognitive Development

- Shift from thinking there is one right answer to developing own questions
- Possess disciplinary literacy, including vocabulary and background knowledge
- Understand math principles and know how to solve problems when material is presented in a different format
- Develop problem-solving and critical/analytical thinking abilities to engage in difficult tasks, difficult ideas, and sustained projects

Academic Skills Development

- Know and meet expectations for assignments, papers, exams, attendance, participation
- Develop strong research and library skills; understand plagiarism
- Be able to communicate well
- Know how to read a textbook, write outlines
- Practice good study skills and time management
- Work together with peers on group projects and form study groups

Psychosocial Development

- Overcome any fears of intellectual challenge; take risks
- Know and meet expectations for social/interpersonal behavior in collegiate settings by exhibiting patterns of good behavior, such as following directions and being on time
- Be self-directed; assume responsibility for own learning; know how to learn independently
- Be a participant, not a recipient of learning
- Become used to a more challenging set of expectations
- Develop a self-understanding of own emotional, social, and academic needs
- Be able to concentrate and focus on tasks
- Ask for help, don't be afraid to ask questions
- Maintain good physical health
- Build a support network—whether faculty, peers, family—of role models and mentors to learn from them what it takes to be successful in college
- Find supportive environments—whether home, school, or other community spaces—that enable studying and completion of assignments



PHOTO BY RACHEL AXINN

Endnotes

- ¹ New York State requires that all students pass Regents exams in English, mathematics, science, and history in order to graduate from high school. The exams are aligned to content learning standards established by the State Board of Regents and the core curricula issued by the New York State Education Department.
- ² The percentages represent the proportion of students who passed the Regents examinations with a minimum score of 55 percent or higher in that subject.
- ³ The 2006–07 comparison data for the district and similar schools will be available in late spring 2008 from the New York State Department of Education.
- ⁴ CUNY funding includes state and city FTE allocations, as well as state and city support from the university's Collaborative Programs Budget.
- ⁵ Ninth- and tenth-grade students who pass the CUNY writing assessment may enroll in English courses at Brooklyn College. Those who pass a comprehensive exam in Spanish or successfully complete one year of Spanish at STAR can register for college Spanish courses.
- ⁶ CUNY funding includes state and city FTE allocations, as well as state and city support from the university's Collaborative Programs Budget.
- ⁷ The enrollment figure refers to individual course enrollments, not individual students enrolling in college courses. Some students enrolled in more than one course.

About the Authors

Anne Newton, a program director at Jobs for the Future, co-coordinates peer learning for the national Early College High School Initiative, documents promising schools, and manages the initiative's Literacy Project in which STAR and Brooklyn College participate. Ms. Newton's career in education has spanned 40 years. She has been a classroom teacher and reading specialist at the elementary and secondary levels, a staff developer, a technical assistance provider to districts and state departments of education with a focus on linking research, policy, and practice, and director of a regional effort focused on the certification and professional development of educators in the Northeast. Ms. Newton holds a Master of Regional Planning from the University of North Carolina at Chapel Hill, a Master's in Education from Boston University, and a B.A. from Ohio Wesleyan University.

Kristen Vogt is associate director for early college at the Woodrow Wilson National Fellowship Foundation. She previously served as assistant director for learning and assessment for the First Year Experience, Community Service-Learning, and Leadership Education and Development programs at James Madison University in Virginia, and as a research analyst for the institutional research offices at Oakland and Washtenaw Community Colleges in Michigan. She has coordinated two National Science Foundation-funded programs for women in engineering at the University of Maryland, with a focus on the recruitment and retention of women in undergraduate engineering and science through undergraduate research opportunities. She was a research assistant with the National Study of Living-Learning Programs. Ms. Vogt earned a B.S. from the University of Notre Dame, an M.A. in higher education from the University of Michigan, and a Ph.D. in college student personnel from the University of Maryland.



Jobs for the Future
88 Broad Street
Boston, MA 02110
617.728.4446
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