



Ten Key Decisions in Creating Early Colleges

Design Options Based on Research

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TEN KEY DECISIONS

- Decision 1: What students will we serve?
- Decision 2: What core structures does the school need?
- Decision 3: Where will the school be located?
- Decision 4: What blend of high school and college courses will students take?
- Decision 5: How do we get students ready to begin college coursework?
- Decision 6: How do we support students in their college classes?
- Decision 7: How will we find and support the right faculty?
- Decision 8: What does high school-college collaboration really mean?
- Decision 9: How do we obtain and keep sustainable funding?
- Decision 10: How will we know if we're succeeding?



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INTRODUCTION

WHY THIS PUBLICATION?

Where do you turn if you want to know how to design an Early College? While there are lots of resources on this topic, there is no summary of the research that provides direction on making key design decisions. Since 2002, the National Center for Restructuring Education, Schools and Teaching (NCREST) at Teachers College, Columbia University has been involved in research and development projects related to Early Colleges. We have worked with a range of schools and intermediaries, but the majority of our work has been carried out in partnership with the Middle College National Consortium.

We wrote this publication to share the findings of our studies and those of many other researchers whose work can be used in making key design decisions. Ultimately, our goal is to support school leaders in creating great Early Colleges – those that offer life-changing experiences to traditionally underserved students and lead to excellent educational outcomes.

WHAT ARE EARLY COLLEGES?

Early Colleges¹ are small schools, developed through partnerships between school districts and colleges, that provide students with an opportunity to graduate high school with a year or more of college credit earned – or even an associate’s degree. Often located on college campuses, they allow traditionally underserved students to experience themselves as “college material” from the very beginning. The original design was based largely on that of Middle College High Schools, developed and supported by the Middle College National Consortium, and also informed by the work of the Bard High School Early Colleges.

Many Early Colleges commit to a set of core principles,¹ as follows:

Core Principle 1: Early college schools are committed to serving students underrepresented in higher education.

Core Principle 2: Early college schools are created and sustained by a local education agency, a higher education institution, and the community, all of whom are jointly accountable for student success.

Core Principle 3: Early college schools and their higher education partners and community jointly develop an integrated academic program so all students earn one to two years of transferable college credit leading to college completion.

¹ Early Colleges are sometimes called early college high schools or early college schools. Note that they are very similar to middle college high schools; in fact, the only distinction is that Early Colleges provide opportunities and pathways that allow students to graduate with both a high school diploma and an associate’s degree.

Core Principle 4: Early college schools engage all students in a comprehensive support system that develops academic and social skills as well as the behaviors and conditions necessary for college completion.

Core Principle 5: Early college schools and their higher education and community partners work with intermediaries to create conditions and advocate for supportive policies that advance the early college movement.

Early College students typically begin their studies in regular high school courses. As early as the 9th grade, students may begin to take college courses as well, some of which count for both high school and college credit. Early Colleges provide multiple supports to make sure that students succeed academically and socially.

As of 2011, there were over 240 Early Colleges, many of them started or redesigned with funds provided by the Bill and Melinda Gates Foundation with oversight from Jobs for the Future, the national “coordinator.” Almost all were associated with intermediary organizations² who guided their development. In 2011, schools associated with the ECHSI served over 75,000 students across 28 states.³

HOW WELL DO EARLY COLLEGES WORK?

Early Colleges were designed to serve students traditionally underserved in higher education and to help them to graduate high school, matriculate into college, and earn two and four year degrees. Studies have shown that Early College students⁴:

- Graduate with an average of 20 credits earned;
- Are more likely to take and pass advanced math courses;
- Have an impressive 92% high school graduation rate;
- Go to college after graduation from high school – 86% went directly into college;
- Accomplish these important steps despite being predominantly members of groups traditionally underrepresented in college.

HOW SHOULD THIS PUBLICATION BE USED?

This publication is organized around ten *Design Decisions* that Early College leaders⁵ must make when creating or considering ways to improve their schools. In each case, we provide a summary of research that can inform decisions, as well as some “images of practice.” We include research of two main types: 1) evidence of effectiveness and 2) information on what has worked for others.

In our experience, those involved in developing Early Colleges have creativity, passion, and belief in the possibility that all students can learn. We hope that this report will help partnering schools and colleges to create and continuously improve Early Colleges that allow students to reach their potential—academically, socially, and as successful college students.

DECISION 1

What students will we serve?

WHAT STUDENTS ARE EARLY COLLEGES *SUPPOSED* TO SERVE?

Early Colleges are intended for students traditionally underrepresented in college. However, the term “underrepresented” is interpreted in varying ways by different Early College leaders. Schools associated with the national Early College High School Initiative (ECHSI) define this term in accordance with Core Principal 1 and its descriptors⁶:

Core Principle 1: *Early college schools are committed to serving students underrepresented in higher education.*

- ❖ Early college schools recruit low-income students, racial and ethnic minorities, first-generation college goers, and English language learners.
- ❖ Early college schools recruit students at risk of dropping out of high school, not matriculating to college, and not completing a degree, (i.e., students with poor attendance, struggling learners, students who are overage and under-credited).
- ❖ Student admission is not based solely on prior academic performance.⁷

WHAT STUDENTS DO EARLY COLLEGES AROUND THE US SERVE CURRENTLY?

As of 2010, Early Colleges were serving large numbers of students underrepresented in College. Overall, 37% of Early College students were Latino/a, 25% were Black, 30% were White, and 8% were members of Asian-American, Native-American, mixed or other racial/ethnic groups.⁸ The proportion of minority students in these schools was 6% higher, on average, than in the districts of which they are part.⁹ Fifty-nine percent of students were eligible for free or reduced lunch¹⁰. A little under half of students reported that neither of their parents had attended college.¹¹

WHAT ADMISSIONS CRITERIA DO EARLY COLLEGES USE?

Early Colleges walk a delicate tightrope. On the one hand, their mission is to admit students who are not well represented in college; on the other, they are committed to enrolling students who will engage in a challenging curriculum wherein students earn 1-2 years of college credit before graduating from high school. How do these schools accomplish this? According to a report from the ECHSI evaluators, “In 2007–08, although some Early Colleges had minimum entrance assessment requirements, many of these requirements were set quite low... Instead, most Early Colleges relied on alternative criteria such as essays (77%) and interviews (79%).” They observed that many schools seek out “the diamonds in the rough” who will do well in these unique academic environments.¹²

In Early Colleges associated with the Middle College National Consortium (an Early College intermediary), schools were surveyed on the criteria that they *considered* or *preferred* in their admissions decisions¹³. As can be seen in the tables below, a range of criteria were used. When *academic* criteria were considered, schools were more likely to look for lower or mid-range students. When considering *social* criteria, schools often sought to enroll students from groups traditionally underserved as well as those who showed that they were motivated.

Figure 1. Percent of schools that PREFER each ACADEMIC factor in admissions decisions (of 15 schools)

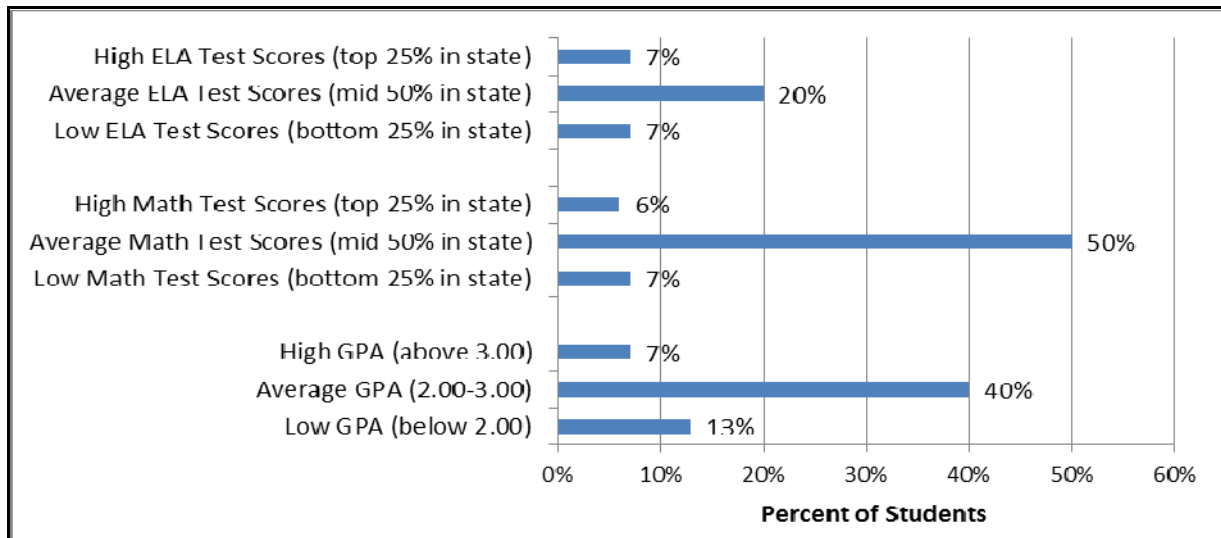
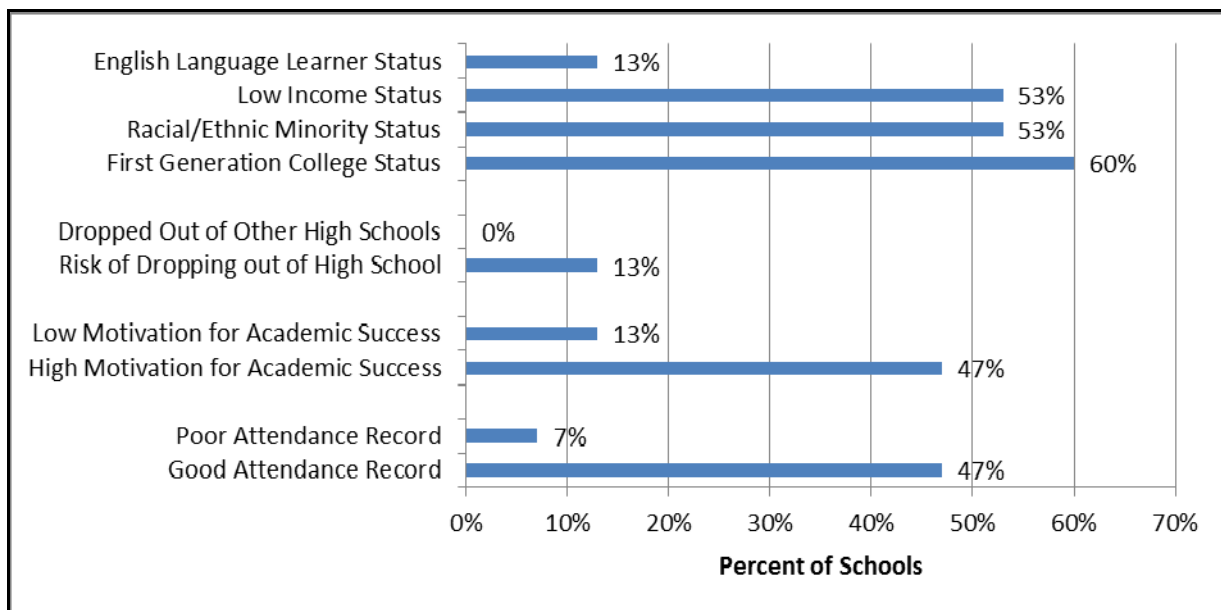


Figure 2. Percent of schools that PREFER each SOCIAL factor in admissions decisions (of 15 schools)



WHAT GROUPS OF STUDENTS SUCCEED IN EARLY COLLEGES?

Making decisions about who to admit into Early Colleges is easier than it was in the past. We now have research that shows which students succeed in Early Colleges—in short, nearly everyone! NCREST has conducted analyses to see what groups of students were able to attain good college outcomes. Among students who took college courses in MCNC Early Colleges in 2006, their college GPAs and the number of college credits they earned:

- Did not differ by racial or ethnic group;
- Were the same for both males and females;
- Did not depend on whether there was a mother or father in the home;
- Were the same whether students were born in or out of the United States;
- Did not differ according to students’ eligibility for free or reduced lunch.¹⁴

Moreover, in 2009 NCREST undertook a study of student performance in relation to prior academic achievement. Students who entered Early Colleges with low (below proficient) 8th grade test scores performed less well in their college courses than those who came in with higher 8th grade test scores—but the difference was not great by the time they graduated. Table 3 shows that both groups were quite successful.¹⁵

Table 1. Prior achievement and subsequent college GPA and college credits in high school

STUDENTS’ PRIOR ACHIEVEMENT	COLLEGE GPA AT HS GRADUATION	COLLEGE CREDITS EARNED BY HIGH SCHOOL GRADUATION
Below 8 th grade state standard (n=117)	2.35	30
Met or exceeded 8 th grade state standard (n=183)	2.78	42

HOW CAN I ADMIT STUDENTS WHO ARE LIKELY TO SUCCEED IN COLLEGE COURSEWORK AND STILL SERVE “AT-RISK” STUDENTS?

In the Early College model, it’s less about which students you admit and more about what you offer them. Early Colleges and middle college high schools, some of which have been around 20 years or more, are leading the way—demonstrating that, given the opportunity and support, students generally do well.

DECISION 2

What core structures does the school need?

Seventy percent of Early Colleges are public schools and thirty percent are public charters.¹⁶ Most are guided by the core principles of the ECHSI, but they vary in the specific design choices they make. Some of the research that may influence structural design decisions is discussed here.

HOW MANY STUDENTS SHOULD BE SERVED – AND IN WHAT GRADE LEVELS?

Early Colleges were explicitly designed to be small, based on studies highlighting the advantages of smaller classes and schools and a personalized environment.¹⁷ During the 2007-08 school year, the average size of an Early College was 211 students, but individual schools served from 20 students to 1,300 students.¹⁸

More than half of Early Colleges (58%) adhere to a 9-12 grade level design. Thirty-two percent of Early Colleges span additional grade levels, with 17% including middle school grades and 15% incorporating a fifth or 13th grade year. There are also some (10%) Early Colleges that are ungraded.¹⁹ Typically new schools start with one or two grade cohorts and add additional grade levels in subsequent years.

The different Early College grade level designs align with the school's goals. Four-year programs (grades 9-12) generally provide students with the opportunity to earn up to 30 college credits by the time of graduation from high school. Five-year programs (grades 9-13) allow students to obtain up to 60 college credits, with a concentrated load of college courses during the fifth or 13th year.²⁰ Schools that include grades 6-12 want to give their students a head start in preparing to be successful in college.²¹

WHAT SHOULD I TAKE INTO ACCOUNT WHEN SELECTING A COLLEGE PARTNER?

The right higher education partner is important in the development and implementation of Early Colleges. The majority of Early Colleges (74%) partner with two-year institutions, while 26% partner with a four-year institution.²² In addition, some schools partner with both a 2-year and a 4-year institution.

Historically, community colleges have focused on serving the needs of the local community and often have existing relationships with school districts; they often have high numbers of low-income, minority, and academically underprepared students.²³ Since Early Colleges aim to serve similar target populations, 2-year institutions are the most common partnering organizations. Further, community colleges are often experienced in managing programs in which high school students take college classes (i.e., dual enrollment), a great advantage in working with Early Colleges²⁴.

SHOULD THE SCHOOL HAVE A THEME?

Theme-based schools became popular as a part of the small schools movement, and often focus on specific careers or academic subjects. Advocates argue that theme-based options can help to engage

students who may feel alienated from school and increase achievement and high school completion. If integrated into the vision and culture of the school, themes can function as a powerful lever for student engagement.²⁵ Career academies, small theme based schools within larger schools, have been shown to improve student outcomes, especially with regard to later employment earnings.²⁶

While college readiness or liberal arts is the focus in most Early Colleges, some schools are organized around more narrowly defined themes. Table 2 shows the themes of schools associated with the Middle College National Consortium.²⁷

Table 2: MCNC Early College themes

THEME	PERCENT OF MCNC SCHOOLS INCLUDING THESE THEMES IN THEIR SCHOOL DESIGN (19 SCHOOLS)
ESL/bilingual	11%
Math, science, & technology	16%
Liberal arts	47%
Teacher preparation	16%
Recent immigrants	5%
Dropout recovery	5%

Within the overall Early College network of schools, the number of STEM (Science, Technology, Engineering, and Math) and allied-health themed schools is increasing. These types of schools typically have strong local and state support since they are intended to meet local economic needs and align with current job prospects. Based on school data collected through the national Early College High School Initiative, close to one-third of all Early Colleges included a STEM focus.²⁸

Henry Ford Early College, located in Dearborn Heights, Michigan, is a five-year program designed to allow students to graduate with a high school degree, an associate's degree, and a certificate in an allied health field. The school was created in response to concerns about an aging workforce in the local Henry Ford Health System. In addition to taking a range of health and science related courses, the students participate in clinical experiences in the health system.

In this five year program, students concentrate their coursework in one of the following health-related fields: Respiratory Therapist, Surgical Technologist, Physical Therapist Assistant, Pharmacy Technician, Ophthalmic Technician, Biotechnology, Medical Practice-Clinical Management, Medical Practice-Facility Business Management, Pre-Nursing, Paramedic, Clinical Technician Dialysis or Radiographer. Qualified graduates have opportunities for employment with the Henry Ford Health System.

(Source: <http://earlycollege.dearbornschools.org/>)

SHOULD I WORK WITH AN INTERMEDIARY ORGANIZATION?

In the Early College Initiative, intermediary organizations (often non-profit organizations or state educational agencies), generally oversee and guide the development of a cluster of schools. Intermediary organizations have become increasingly prevalent in education reform efforts and can bring new resources to schools in the form of knowledge, political and social ties, and administrative support.²⁹

While Early College intermediary organizations have worked collaboratively with Jobs for the Future (the original coordinator of the Early College High School initiative) and the Gates Foundation over the years, they bring their own unique cultures and expertise to the schools as well as a range of strategies for implementing the core principles. Major functions of intermediary organizations associated with Early College designs include³⁰:

- Facilitating the formation of postsecondary – secondary partnerships;
- Attracting funds from philanthropy and business;
- Ensuring fidelity to school and program design principles;
- Providing a range of professional development services, including leadership training and instructional coaching;
- Coordinating and convening networks of similar schools to share knowledge and resources;
- Collecting data and carrying out research;
- Marshaling external support and educating policymakers.

Decision 3

Where will the school be located?

While the Early College model calls for a close connection to a college campus, space considerations and agreements with individual colleges do not always allow for them to co-locate. As a result, there are many different location options. Of the 197 schools that were part of the Early College High School Initiative in 2008-09, 53% were located on college campuses, 43% were stand-alone high schools, and 3% were on Native American reservations.³¹

WHAT IS THE RANGE OF LOCATION OPTIONS?

Early Colleges on college campuses: There are different space utilization plans among schools that are located on college campuses. Some have an entire building on the campus where the Early College principal, administration, and guidance departments are located, where students take high school courses, and where support services are offered. Students leave this building to attend college classes located in other buildings on the college campus. Other Early Colleges do not have their own building. They may have a floor of a building or have their activities scheduled in rooms across the campus.³²

In Dayton Early College Academy's first year of the operation, the high school was spread out over the college campus as the college partner tried to find space to accommodate it. During the second year of the partnership, the college allocated one central area of the college campus for the school's exclusive use. Teachers preferred the second option because it allowed them to communicate with each other and work as a team. However, the students preferred having the Early College spread across the campus because they felt more integrated into the college and thought that it caused them to behave more maturely. Some said that having the Early College one central location felt too much like a regular high school.³³

Stand-alone high schools: Stand-alone Early Colleges have their own building away from the college campus. In general, they function as regular high schools, but have to figure out where their students will take college courses. One option is for high school teachers with adjunct status at the college to teach college courses at the high school.³⁴ Another option is for college professors to teach "satellite" courses at the high school.³⁵ Sometimes high school teachers and college professors co-teach EC classes.³⁶ Students may also take on-line courses offered by the college.³⁷

Hybrid Early Colleges: In hybrid schools, students spend parts of their day or week in different locations. An example would be a stand-alone high school located away from the college campus where high school students spend about half of their day on the high school campus and half on the college campus.³⁸

WHAT ARE THE PRACTICAL IMPLICATIONS OF LOCATING ON A COLLEGE CAMPUS VERSUS ANOTHER AT ANOTHER SITE?

The location of the Early College can have a major influence on the school environment. Some of the ways that school life can be affected include:³⁹

- *Student identity and behavior* - When Early College students attend class on a college campus it helps them to identify themselves as college students. Some students report that being on a college campus helped them to act more maturely.

A female student interviewed in one study said, "You were expected to be on time for yourself, you had to know when your classes started. There were no bells or teachers telling you where you need to be." This student also noted that being on a college campus made her feel "more grown up or mature..."

Another student in the same study commented, "At the college location, I literally felt my concentration increase and I was more meticulous with my notes. I guess it doesn't make sense, but I took it more seriously" ⁴⁰

- *Extra-curricular activities* - Early Colleges located on college campuses may not be able to offer sports teams or a range of high school clubs. While some college partners may have these opportunities, not all will allow high school students to participate.
- *Transportation* - Early Colleges located on college campuses may be far away from students' homes. The question of who will provide transportation is important. For those that operate as stand-alone high schools, students need reliable transportation to campus for their college courses.
- *Scheduling* - Stand-alone Early Colleges have to consider the time it will take for students to travel to and from the college when creating class schedules. If the travel time is long, students may only be able to take college classes in the evenings or after regular school hours.
- *Support services* - For schools located on college campuses, students can readily access support services provided by the college such as the writing center or math tutoring. For stand-alone schools, all support generally needs to be provided by the high school.
- *Teacher cooperation* - High school staff and college faculty may have an easier time working together to align the curriculum and coordinate the program if they are located on the same campus.

DOES LOCATION INFLUENCE STUDENT OUTCOMES?

In an extensive longitudinal evaluation of Early Colleges, AIR and SRI International found that location was a strong predictor of both academic and behavioral outcomes of students⁴¹. This study found:

- *State assessments* - Early Colleges located on college campuses had average proficiency rates that were 18% higher in English and 13% higher in math than schools in other locations.
- *Number of college credits set in school goal* - Of the Early Colleges located on college campuses, 67% set college credit accumulation goals of 60 credits or an Associate's degree as compared with 29% of schools located off the college campus.
- *Aspirations* - Students at Early Colleges located on college campuses had an .85 probability of aspiring to at least a 4-year degree compared with a probability of .69 for students at other locations.
- *Behavior of peers*- On a 5 point scale with a score of 5 signifying good peer behavior, Early Colleges on college campuses had a mean score of 4.2 compared with a mean score of 3.8 at schools located elsewhere.
- *Attendance* - Early Colleges on college campuses had average attendance rates of 95% compared with 93% at schools located off the college campus.
- *Engagement* - A student survey measured both interest and persistence on a 5-point scale. For Early Colleges located on college campuses, the average score was 3.5 for interest and 3.8 for persistence. For students at Early Colleges located elsewhere, the average scores were 3.3 and 3.6 respectively.
- *Academic self-concept* - On a 4 point scale, students at Early Colleges located on college campuses had an average score of 3.2 compared with students at schools not located on college campuses with average scores of 3.0.

Decision 4

What blend of high school and college courses will students take?

Schools take many factors into consideration when deciding what courses students should take. These vary greatly depending on contexts and priorities.

WHAT IS AN APPROPRIATE ACADEMIC PLAN FOR EARLY COLLEGES?

The academic plans used by Early Colleges vary widely. Some schools enroll students in middle school to have additional time to prepare students.⁴² Some Early Colleges develop very specific academic plans which all students follow while others allow students to enroll in courses in any order.⁴³ Other schools are more flexible and allow students to begin college classes when each individual student is ready. Yet others blend these two approaches.

When state regulations allow it, many schools count college classes for both high school and college credit and toward high school graduation requirements. See Appendix A for an example of an academic plan template for an Early College.

In general, the following should be taken into consideration when developing academic plans for EC schools⁴⁴:

- A clear goal in terms of the minimum number of high school and college courses and credits expected of students;
- A continuum of courses that progress from easier to more difficult, and provide a good transition from the high school to the college experience.
- Offering opportunities for students to engage in a rigorous high school curriculum;
- Any college entrance exams or other pre-requisites required by the partner college for students to enroll into college courses;
- Whether to offer college orientation or college skills courses, to whom, and at what time in students' academic careers;
- State and national tests (e.g., ACT, SAT) for high school students;
- Dual enrollment and articulation agreements in the state or with specific colleges;
- Availability of supports to help students succeed in rigorous courses;
- The appropriate level of challenge to keep students engaged but not discouraged.

At STAR Early College in Brooklyn, New York, the school runs weekly pre-college seminars in fall of 9th grade to introduce students to college departments and professors. This is followed by a 6-week academic semester in the spring of 9th grade to begin in-depth study of an academic discipline. At the same time, 9th and 10th graders are assigned group research papers to get accustomed to college level work. Students begin taking college courses in the 11th grade.⁴⁵

At California Academy of Liberal Studies, in Los Angeles, California, all students take the same set of high school and college courses, an elective in the summer, and then can choose to enroll for a 13th year comprised of all college classes.⁴⁶

WHAT ARE THE CRITERIA USED TO DETERMINE WHEN STUDENTS SHOULD BEGIN THEIR COLLEGE COURSEWORK?

Early Colleges have different methods for determining when students are ready to start college classes. Some include⁴⁷:

- *College entrance exams* - In many schools, students must pass college entrance exams in math and English before enrolling in college level courses.
- *Progression through an aligned sequence of classes* - Some Early Colleges have a specific sequence of classes that build toward entry into college courses. For example, a school may offer a remedial math class, followed by a high school math class, and then college math classes.
- *Early College or college staff approval* - In other schools, the guidance department or a team of staff at the Early College determine which students are ready for college classes on a case by case basis. In some cases, the college professor makes the determination of whether a student can enroll in his or her class.

Wallis Annenberg High School, a charter school in Los Angeles, California, operates with a team comprised of teachers, the principal, and the college liaison who evaluate students on “EC eligibility criteria” including getting As and Bs and having no behavior problems in 9th and 10th grade. This evaluation helps assess whether students are ready to begin college classes.⁴⁸

- *Courses with no pre-requisites* - Some courses, such as college success classes or electives in certain subjects such as art or physical education, do not have pre-requisites and students can enroll in these classes at any time.

WHAT ARE THE TYPICAL “STARTER” COLLEGE COURSES FOR EARLY COLLEGE STUDENTS?

The types of starter college courses that students take depend on the academic plan of the Early College. It is common for students to start with “College 101” or a similar class that teaches skills needed for college. Other common options are computer or arts classes.⁴⁹ Table 4 shows the enrollments of the 1,729 ninth graders in 20 Early Colleges associated with the Middle College National Consortium in 2009-10.⁵⁰ This provides a good idea of the “starter” college courses used in these schools.

Table 3: 9th enrollments in 20 MCNC Early Colleges (2009-10)

SUBJECT AREA	NUMBER OF ENROLLMENTS IN GRADE 9	PERCENT OF ALL 9 TH GRADE ENROLLMENTS
PHYSICAL EDUCATION	571	25%
COMPUTERS	377	16%
COLLEGE SKILLS	303	13%
FINE/ PERFORMING ARTS	287	13%
HEALTH	226	10%
COMMUNICATIONS/ DESIGN	179	8%
LANGUAGES	159	7%
SOCIAL SCIENCE	110	5%
MATH	35	2%
EDUCATION	19	<1%
ENGLISH	12	<1%
SCIENCE	7	<1%
BUSINESS	5	<1%
PROTECTIVE SERVICE	3	<1%

HOW MANY COLLEGE CREDITS SHOULD STUDENTS BE EXPECTED TO EARN DURING THEIR YEARS IN AN EARLY COLLEGE?

There is a wide disparity among Early Colleges in the number of college credits that students earn by the time they graduate. Most set goals for the number of credits students should have upon graduation, though not all students in the school may meet this goal and some students may exceed it. Out of the

20 Early Colleges visited by AIR & SIR International as part of a national Early College evaluation, 16 schools had a clearly established college credit goal.⁵¹ Of these,

- 6 (38%) set credit accumulation goals of 24-30 credits;
- 2 (13%) set goals of between 40-50 credits;
- 8 (50%) set goals of 60 credits to an Associate's degree.

In general, the college credit accumulation goal will depend on various school characteristics. For example, Early Colleges that enroll students who are more academically prepared, begin with a middle school, allow students to take college courses in 9th and 10th grade, and/or offer a summer program may have students who graduate with more credits.⁵² Schools that specifically accept students with low test scores or English language learners or schools without a fifth year option may not expect students to graduate with as many credits.

Early Colleges in the Middle College National Consortium:⁵³

- The 1,302 students who graduated from MCNC Early Colleges in 2009-10 had earned an average of 31.7 college credits per student. However, there were big differences from school to school. At one, students graduated with 72.1 credits while at another graduates had earned 11.4 credits on average.
- Of 17 Early College schools included in a survey of schools in 2010, academic plans varied in terms of the number and type of college credits that students were able to earn:

Academic Credit Options	Percent of MCNC Schools (n=17)					
	None	Less than 1 year	1 year	More than 1 year, but less than 2	2 years	More than 2 years
College credits students <u>can</u> earn during high school	0%	6%	6%	6%	65%	18%
College credits students <u>must</u> earn to graduate from high school	44%	44%	6%	6%	0%	0%

Decision 5

How do we get students ready to begin college coursework?

Early Colleges generally must take explicit measures to make sure that their students can succeed in college courses at an early age. Over time, the understanding of what it means to be college ready has been refined and certain practices have emerged that are now in widespread use.

ARE THERE SPECIFIC KNOWLEDGE AND SKILLS ASSOCIATED WITH DOING BETTER IN COLLEGE?

David Conley's framework for college readiness has been adopted by many Early Colleges⁵⁴. This includes:

Conley's Four Key Dimensions of College Readiness

Key Cognitive Strategies: Analytic reasoning, problem solving, inquisitiveness, precision, interpretation, evaluating claims.

Key Content Knowledge and Skills: Writing skills, algebraic concepts, key foundational concepts and "big ideas" from core subjects.

Academic Behaviors (Self-Management): Persistence, time-management, study group use, awareness of performance.

Contextual Skills and Awareness: Knowledge of college admissions requirements, types of colleges, college culture, getting needed help, how to work with professors.

This framework can provide helpful guidance as Early Colleges think about how to prepare students to do well in college courses. Explicitly embedding instruction on the key dimensions within regular courses can help students to succeed.⁵⁵

In addition, NCREST's research identified certain skills that were associated with Early College student success in college courses.⁵⁶ In a study conducted in 2006, 11th grade MCNC students were surveyed to learn about school-related skill areas that they felt were easy or difficult for them. These responses were then compared with their college GPAs and total college credits that they had earned. Students with higher college GPAs AND higher numbers of college credits earned found these skills easier:

- Using the library;
- Taking good notes.

In addition, several other skills were associated with higher college GPAs. These included:

- Planning schoolwork;
- Getting homework done on time;
- Arranging a place to study without distractions.

Early Colleges can provide students with opportunities to master these skills over time.

WHAT CAN EARLY COLLEGE TEACHERS DO TO PREPARE STUDENTS TO DO WELL IN COLLEGE?

Clearly, classroom instruction is the key contributor to student learning in general - and in terms of the knowledge and skills needed for college.⁵⁷ But what do Early College teachers do to prepare students for college? NCREST research found that Early College math and English teachers regularly incorporate certain practices in their teaching to increase college readiness, such as:⁵⁸

- Expectations of extensive note-taking and writing;
- Providing encouragement to students; helping them to overcome their fears related to learning difficult material;
- Supplementing planned content with *just in time* content that responds to students' needs and interests;
- Providing opportunities for students to conduct original research.

Both English and math teachers emphasized the use of specific academic skills.⁵⁹ English teachers were especially likely to emphasize intellectual openness, inquisitiveness, analysis, and reasoning/ argumentation/ proof. Math teachers were most likely to emphasize precision and accuracy as well as problem solving.

Early colleges also promote the creation of a “college going culture,” facilitated by their close ties to, and frequent co-location with, colleges and universities.⁶⁰ Researchers have found that Early Colleges give students the opportunity to “live” aspects of the college experience, by using dining areas, libraries, and college tutoring centers.⁶¹ As a result, students come to think of themselves – and begin to function as – true college students.

WHAT ABOUT STUDENTS WHO ARE ACADEMICALLY BEHIND WHEN THEY ENTER THE EARLY COLLEGE?

Some Early Colleges begin in the 6th grade to give students a better chance to succeed in college courses in high school.⁶² Others provide extra opportunities to accelerate learning such as extended days (55%) or block scheduling (55%).⁶³ A number of schools offer summer boot camps or bridge programs to boost students' skills before they enroll in the fall.⁶⁴ What is most important, however, is ongoing academic assistance. Schools must work every day to provide multiple forms of academic support in the context of a culture of high expectations.⁶⁵

Harbor Teachers Preparation Academy, located on the campus of Los Angeles Harbor Community College, serves approximately 300 students in a rigorous Early College program. It graduated two thirds of its fourth year (12th grade) students with Associate of Arts degrees in June 2006, and most of the remainder completed the program during the summer or after the 13th grade. Harbor's students, who are predominantly Latino and African American, are usually the first in their family to attend or graduate from college. Most meet the requirements for free or reduced lunch.

They begin the transition to college through a class called Personal Development, which is taken during their first semester at Harbor. This course, taught by a college instructor, shows students how to study, take notes, fill out study packets, and manage time—lessons that get repeated many times, from many sources, and in many venues over the next four years.

At Harbor, the mantra is “study! study! study!” and assistance usually means students need to do more: show more self-discipline, read material again, attend after-school tutoring or Assignment Workshop, a homework help session. The consistent repetition that students are responsible for their own success has its rewards—students recognize their ability to control their future.⁶⁶

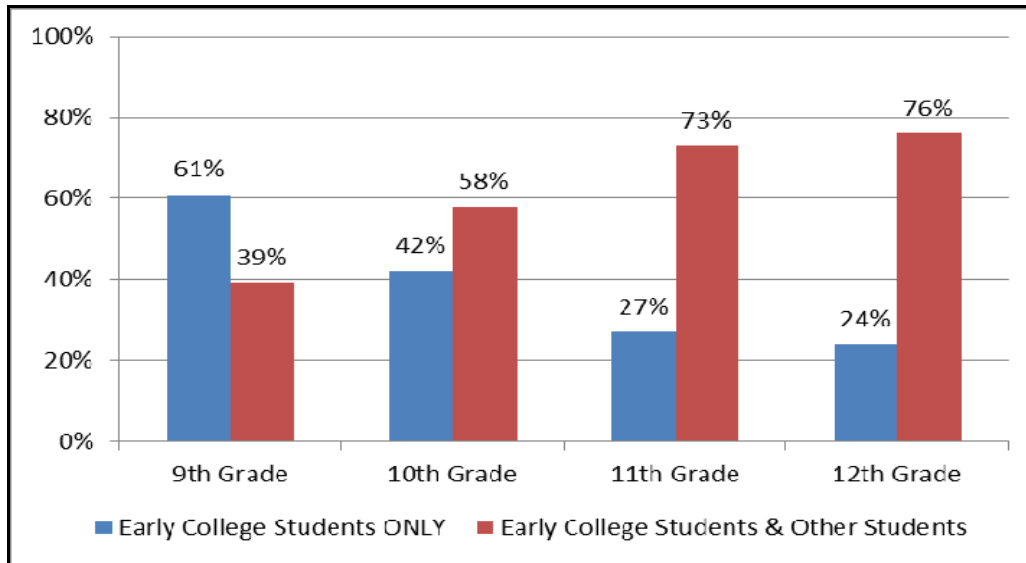
Decision 6

How do we support students in their college classes?

SHOULD STUDENTS TAKE COLLEGE COURSES SINGLY OR IN GROUPS?

Across the country, Early College students most commonly take their college courses in groups in the 9th grade and then singly or in small groups that are integrated into a regular college class later on. These decisions are made based on students' maturity levels as well as on policies of the college that influence what courses are open to Early College students and who pays for them. The following chart shows the distribution of MCNC Early College students in college courses in 2007-08.⁶⁷

Figure 3: Early College Student Enrollment in College Courses



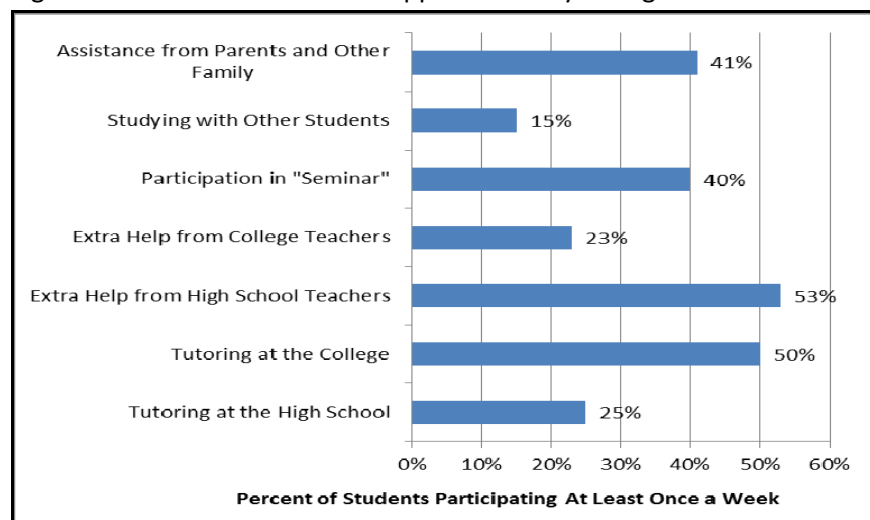
WHAT COLLEGE COURSE FORMATS SHOULD BE CONSIDERED?

In most cases, Early College students enroll in the regular college courses offered by the college partner. These are taught in whatever way the college considers most appropriate. However, there are some schools and colleges that offer courses in a different format to meet students' needs. Stretch classes involve a semester-long college class that is taught over a full academic year to give students more time to master difficult material.⁶⁸ Shadow courses are classes taught at the high school that reinforce the material that students are covering in a college class.⁶⁹ Team teaching by a college and high school faculty is sometimes done to make sure that a course can count for both high school and college credit, as well as for pedagogical reasons.⁷⁰

WHAT TYPES OF SUPPORT ARE COMMON IN EARLY COLLEGES?

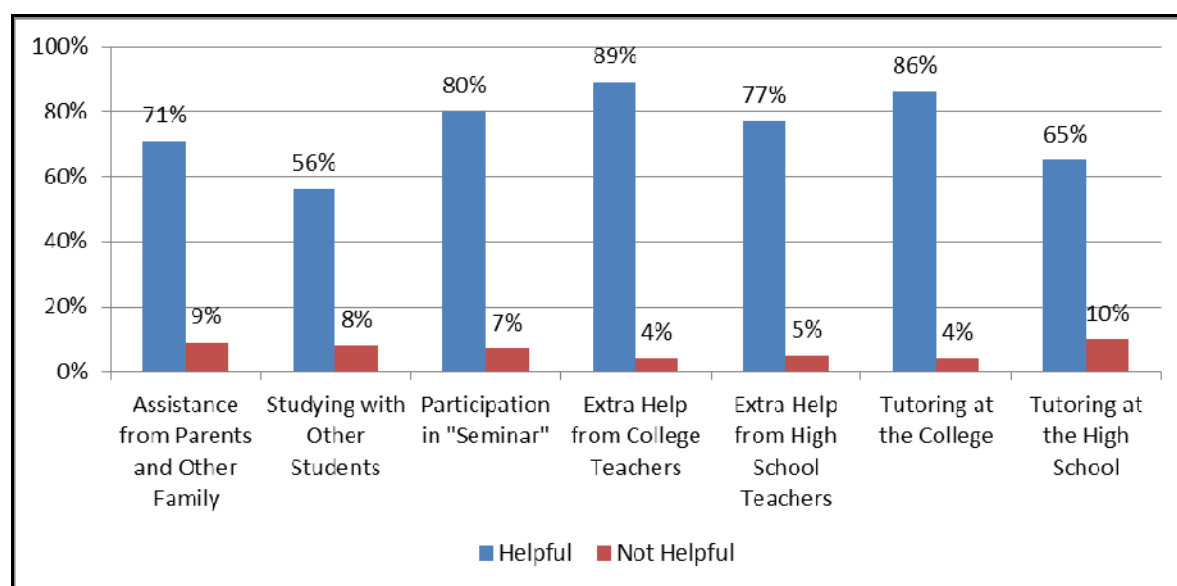
Early College students often need extra support to succeed in their college courses. Common academic supports include extra help from teachers, tutoring, and studying with peers. Graduating seniors in Middle College National Consortium schools who participated in an end-of-year survey indicated that they had received the following kinds of *academic* support at least once a week during the 2009-10 academic year.⁷¹

Figure 4: Sources of Academic Support for Early College Students



Some of these forms of support were rated by MCNC Early College students as more helpful than others, as shown in Figure 5 (note that students who did not participate are not included in the percentages).

Figure 5: College Course-taking Students' Perceptions of Helpfulness of Academic Supports



To assist students undertaking college courses, some Early Colleges offer *Seminar*, designed to help students “unpack” college-level coursework, navigate college systems, and obtain help with assignments. In one study, students reported that seminar provided step-by-step help with “doing” college. The support that they received was not limited to academic issues. Students explained that seminar was also a place to obtain personal support and to solve other types of problems, including those that might occur within their families.⁷²

Of all of our classes, Seminar is the one. It's really great [for a] 16 year old or 17 year old kid who cannot do college right away. You need to go step by step. In seminar they help us go through each step.

I think Seminar helped us with [being prepared for college classes]... At the beginning some of us were having trouble with the classes and we didn't really know how to approach [the college instructor] so then we would go back to seminar and talk about all these things that were bothering us or that we were having trouble with and [the high school teachers] would tell us what we could do.⁷³

Another study looked at the most common features of Seminar in MCNC Early Colleges.⁷⁴ These included:

Targeted students - Seminar was originally designed to support college course-taking students. In all but one school, which required *all* students (college course-taking and non-college course-taking) to participate in a Seminar designed around the Advancement Via Individual Determination (AVID) curriculum, this was the case.

Frequency and duration - In the majority of schools, Seminar occurred 1 to 4 times per week. Many schools scheduled Seminar on alternating days with college course meeting times. In these cases, scheduling depended on how often the college course met and for how long. However, some schools must hold Seminar wherever students have schedule openings.

Credit and assessment- Just over half of schools offered Seminars for high school credit, ranging from 0.5 - 3.0 credits.

Curriculum and materials- Aside from one school's use of AVID, few utilized a specific curriculum for Seminar. In most schools, Seminar was taught based on teacher- and/or counselor-developed lessons addressing particular topics (e.g. using a syllabus, time management, when to ask for help from a professor, and reading a college textbook). Other Seminars were directly tied to specific college courses and reinforced what was being taught in the course. Still other Seminars incorporated supplemental materials such as test preparation books and college readiness or “College 101” publications.

Middle College High School (MCHS), the first middle college in the country, opened in 1974 on the campus of LaGuardia Community College in New York City. It is now considered a Middle-Early College. MCHS's Early College Seminar, designed to support high school students in their college classes, is taught by high school teachers and meets two times each week during the initial summer orientation, laying the foundation for the high school to college transition. During students' junior year, the first year they enroll in college, the Seminar increases to four weekly meetings of 70 minutes each. Students receive one high school credit for attendance and participation. There are four Seminar teachers at the school, each of whom is expected to make contact informally with college instructors, gather college assignments, and address any problems.

A former English teacher at MCHS who is a Seminar instructor, describes her job as a dispenser of "unlimited support." This teacher feels it is her obligation to be prepared to assist students with curricular issues, so she consults with college faculty, collects midterms, and reads the novels required in English classes. During the Seminar, she addresses basic college expectations such as writing thesis statements and following Modern Language Association bibliography style, but the seminar is often a time for students to catch up on their studies, type, do research, and lament about how hard it is to be a college student at age 16.⁷⁵

Social supports are also integral to the Early College model. Research suggests that the most important way that Early Colleges influence student success is through relationships with adults.⁷⁶ Specially, researchers state that the key is "a different type of relationship with teachers, one that...kindles interest in future possibility development, and supports engagement... It is a relationship in which students describe learning as 'fun' because it is interactive, cooperative, relevant, and culturally responsive to their lives."

Rather than being separate, academic and social supports are most often blended. Common types of blended supports in Early Colleges include the following⁷⁷:

- House or Advisory, in which students meet regularly in groups with a caring adult to talk about school and life;
- Freshman orientations, summer bridge programs, academic boot camps;
- College Success (or College 101) courses, often offered for college credit;
- Individual or small group mentoring provided by older peers or teachers;
- A designated college liaison whose role includes help with access to college courses and services.

DECISION 7

How will we find and support the right faculty?

Early Colleges are designed to blend academic and social experiences that lead to positive outcomes in high school and college. Finding the right school leaders, faculty, and support staff is essential to helping students succeed.

WHAT KINDS OF TEACHERS WORK IN EARLY COLLEGES?

There is little research on the kinds of teachers that are – or should be – hired to work in Early Colleges. Early evaluation reports on Early Colleges indicated that principals often sought teachers who were willing to work flexibly in a non-traditional environment.⁷⁸ Some schools make an effort to recruit teachers who carry the credentials needed to teach postsecondary courses.

It is not unusual for faculty and staff to juggle multiple responsibilities and undertake non-traditional roles. Because Early Colleges offer extensive supports for students, teachers often double up as advisors, tutors, and counselors.⁷⁹ Other Early College staff may combine roles as well. For example, counselors may collaborate with teachers on preparing students for the college admissions process. At Southwest Early College in Colorado, along with teachers and counselors, the principal teaches a section of *recitation class*, a seminar-style college support course.⁸⁰

HOW DO FACULTY INFLUENCE STUDENT OUTCOMES?

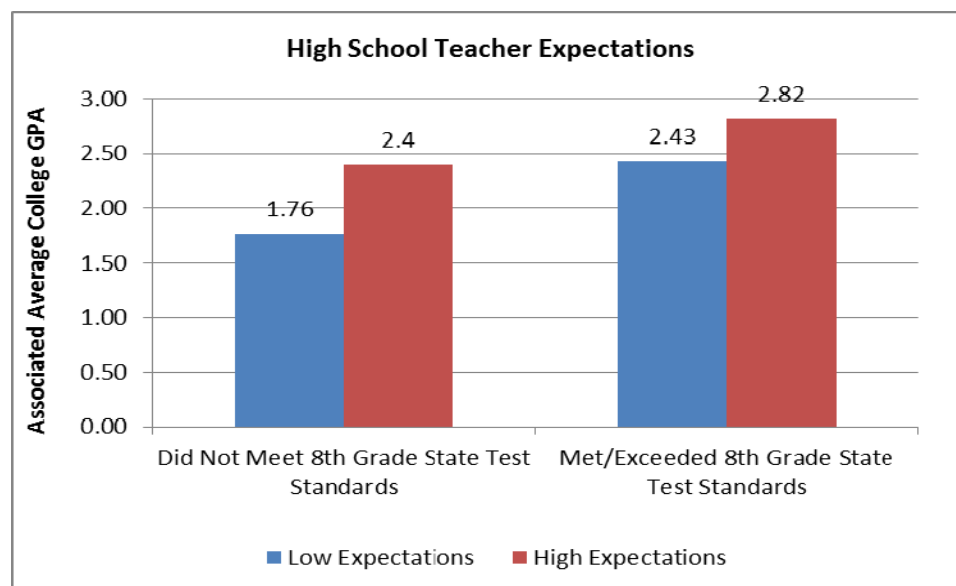
Early Colleges, as small schools, have a student to teacher ratio that allows close teacher-student connections, shown to help foster high academic achievement.⁸¹ Both teachers and students find that the Early College design fosters a familial atmosphere in which students can connect with at least one adult. In a study by AIR and SRI International, both high school and college instructors indicated that the close relationships they developed with students allowed them to better individualize instruction.⁸²

Research by NCREST looked at predictors of college success among MCNC Early College students. Students were more likely to do well in *college* when they perceived their *high school* teachers as having high expectations.⁸³ This was especially true for students who had entered Early Colleges underprepared, as shown in Figure 6.

WHAT PROFESSIONAL DEVELOPMENT WORKS BEST FOR EARLY COLLEGE TEACHERS?

AIR and SRI International found that Early College leaders and teachers highly value networking and professional development opportunities, but feel that these options are limited.⁸⁴ Overall, they indicated that more Early College-specific professional development activities would benefit their practice. They also learned that teachers most often wished for professional development in technology, Early College program implementation, curriculum planning, inquiry-based and discovery learning, and working with students with low basic skills.⁸⁵

Figure 6: High School Teacher Expectations and College GPA



Intermediaries frequently offer professional development for teachers. Several have drawn on the services of University Park High School's Institute for Student Success, developed out of extensive research on what helped their own traditionally underserved students to succeed.⁸⁶ They emphasize writing, balancing rigorous content with skills practice, teacher and student collaboration, and differentiating instruction.

WHAT CAN BE DONE TO KEEP EARLY COLLEGE TEACHERS ENGAGED AND COMMITTED TO THE SCHOOL AND STUDENTS?

The small, personalized learning environments inherent in the design of Early Colleges help create a supportive culture not only for students, but also for faculty and staff. Cultivation of shared leadership in decision-making among administrators, teachers and support staff is a feature found in many Early Colleges.⁸⁷

A number of the MCNC Early Colleges utilize the *peer review* system, a school-based distributed leadership model that has been shown to keep teachers engaged, provide professional development, and reduce pressure on the principal. In this system, teachers form a *Personnel Committee* in which they take responsibility for hiring as well as for helping incumbent teachers to reach their potential in the classroom. Harbor Teacher Preparation Academy in California utilizes a Personnel Committee made up of school leaders, faculty and staff who are involved with prospective teacher interviews. Harbor has found that developing a powerful culture of collaboration has resulted in decreased teacher turnover.⁸⁸

DECISION 8

What does high school-college collaboration really mean?

Partnerships with institutions of higher education are a key feature distinguishing Early Colleges from traditionally structured high schools. Whether partnered with a 2- or 4-year college, a strong relationship between the high school and postsecondary institution is critical to the success of the partnership.⁸⁹

IN WHAT WAYS DO HIGH SCHOOLS AND COLLEGES COLLABORATE IN THE CONTEXT OF EARLY COLLEGES?

Typically, key stakeholders from the high school, college, and sometimes other involved organizations plan and make decisions around the Early College's organizational, financial, and academic design.⁹⁰ These stakeholders may also formally serve as governing, advisory and/or planning committees.

Access to college resources and services can enhance Early College students' experiences. In a number of Early Colleges, students use the college library, computer lab, cafeteria, and dining hall; they also may work with advisors, career counselors and college tutors.⁹¹ Researchers conducted a study of 10 Early Colleges and described the various ways that high school and colleges collaborate.⁹² A summary of their findings is presented in Table 4.

Table 4. Forms of High School-College Collaboration

Type of Collaboration	Number of Early Colleges
Tutoring/access to student success center	5
Students meet with college liaison	3
College sponsors the Early College or supports it financially	2
Postsecondary students volunteer	2
Postsecondary faculty provide research	2
College provides staff development	1

WHAT ARE THE BENEFITS TO EACH INSTITUTION IN THE COLLABORATION?

One study described a number of ways that both the college and high school benefit from working together in the context of Early Colleges.⁹³ They found that incentives for colleges to participate in the development of Early Colleges included:

- Recruiting students;
- Providing research opportunities for higher education faculty and doctoral students;

- Improving prospective students' readiness for college;
- A commitment to social justice;
- An interest in changing the curriculum from middle school through college (P-16 approaches);
- "Putting our money where our mouth is as an education school;"
- Improving high school and higher education curricula and pedagogy;
- Providing the opportunity for faculty to meet across education sectors to discuss pedagogy.

College leaders in another study mentioned several benefits associated with developing an Early College:⁹⁴

- Creating a pipeline of future students;
- Generating positive press for the college;
- Fulfilling the college's mission statement;
- Providing resources to the college.

In Utah Early Colleges, college and high school personnel work closely to address dual enrollment course quality. Dual enrollment instructors use college assessments in their courses to ensure a high quality, college-level education. In addition, there are annual site visits to the schools by college department faculty. Further, the Utah System of Higher Education and the state Public Education system take part in "a study of the impact and effectiveness of the concurrent enrollment program every 5 years," which involves college faculty, participating high school instructors, principals, and guidance counselors.⁹⁵

WHAT FACTORS INFLUENCE THE DEVELOPMENT OF PRODUCTIVE PARTNERSHIPS?

The foundation - Researchers have found that a power balance must be forged by clearly establishing the purpose of the partnership, clarifying the roles of the high school and college, and fostering a sense of commitment to program sustainability by the leaders in a collaboration.⁹⁶ The National High School Center found that building in time and incentives to strengthen a partnership can produce a more mutually beneficial collaboration.

The MOU - In many Early Colleges, the high school-college partnership is formalized through the development of a Memorandum of Understanding (MOU) or other agreement detailing the parameters of the partnership.⁹⁷ MOUs provide clarity on the terms of the partnership related to financing, credit award, access to college resources and facilities (especially use of space), and other related issues.

The college liaison - In an evaluation of Early Colleges, AIR and SRI International highlighted the role of the college liaison as key in managing the high school-college partnership⁹⁸. In general, liaisons facilitate communication between the high school and college and assist in problem-solving related to curriculum, student services, and operations. The AIR and SRI evaluation found that liaisons may participate in:

- Contributing to or making planning decisions for the Early College;
- Recruiting, communicating with, and supporting college faculty;
- Enrolling, scheduling, and registering students in college classes;
- Advising students as they make the transition to college course taking.

The Early College liaison position may be funded in different ways, sometimes fully covered by either the college or high school and sometimes jointly funded. The position is generally filled by existing college staff such as deans, department chairs, college counselors, or faculty.

HOW CAN EARLY COLLEGES AVOID THE DIFFICULTIES IN THEIR PARTNERSHIPS?

Some partnerships may experience problems that prevent full implementation of the Early College model. Researchers Vogt and Venezia suggest that common difficulties in the high school-college relationship can be avoided through careful planning. These may include:⁹⁹

- Potential resentment by college faculty related to teaching high school students;
- Lack of understanding both college and K-12 standards and assessments;
- Teaching a “college lite” version of courses;
- Overextending faculty commitments and time;
- Working out relevant logistics (calendar, schedule, transportation);
- Identifying appropriate faculty and providing them with support and professional development.

They also suggest that faculty (both college and high school) be included in planning activities from the beginning of the partnership so miscommunications, misconceptions, and opposition can be avoided.

In addition, college faculty and leaders often worry about having high school students on the college campus, foreseeing behavior problems and immature behavior. In most cases, Early Colleges quickly establish systems to minimize problems of this kind.¹⁰⁰ Middle College High School at Contra Costa College and the college share a commitment to clearly communicate expectations to high school students so they see themselves – and behave – as college students from day one.

McKinley Williams, former president of Contra Costa College, found that the key to addressing high school student behavioral problems was treating the students with the same level of expectations that had been established for the college students. As 9th graders, students at Middle College High School at Contra Costa College enrolled in a College Success course in which there is a strong message: “You are a college student! You are a college student! You are a college student!”

According to Dr. Williams, “It’s our attempt to acculturate the students. This introduction to what it means to be a college student goes beyond teaching them study habits and note-taking skills. We teach them about how to behave on a college campus and the expectations of the institution. “Having the high school and college on the same page around matters of procedures and policies is critical to decreasing potential student incidents. “Students receive the message from both the high school and the college. They see that we all treat them as college students and they begin to live up to those expectations.”¹⁰¹

DECISION 9

How do we obtain and keep sustainable funding?

Identifying adequate funding for long-term program sustainability is a critical issue for Early Colleges. Early College resources are varied, greatly depending on the type of high school-college partnership, district and state budget allocations, and external funding sources.

WHAT EXPENSES DO EARLY COLLEGES NEED TO PLAN FOR?

In addition to conventional public school budget items, Early Colleges need to consider additional expenses related to college course tuition, transportation, college fees, laboratory charges, course instructor payment, and textbooks. In a report by AIR and SRI, school leaders identified their main funding concerns as being: a) funding for tuition and textbooks, b) continued support from the college partner or district partner, and (c) dependence on funding from soft money sources such as limited or one-time donations.¹⁰²

Helpfully, Hoffman and Vargas list sample planning and startup costs specific to Early Colleges:¹⁰³

- Engaging high school teachers and college faculty in designing the curriculum and sequence of courses.
- Establishing a process for defining and approving courses for both high school and college credit.
- Creating middle school outreach and preparation programs to ensure students and families are aware of the opportunity to take college courses.
- Supporting a liaison between the high school and college.
- Coordinating secondary and postsecondary support services, academic calendars, and transportation.
- Developing data collection plans, including the use of data for student and instructional improvement.

HOW ARE EARLY COLLEGES AROUND THE COUNTRY FUNDED?

To cover typical public school operational costs as well as expenses specific to Early Colleges, all available financial resources to support start up and implementation must be considered:

State and district funding - As with other public schools, Early College high schools receive an operational budget based on district and/or state policies around student enrollment. While property taxes remain a primary funding source for public schools, those serving special populations, such as students with exceptional needs and economically disadvantaged students, are also entitled to receive additional federal money and resources.¹⁰⁴

In addition, some states are providing funds to support the start up of clusters of Early Colleges, sometimes with specific themes. In North Carolina, the state has funded 75 *Learn and Earn* schools.¹⁰⁵ In Michigan, the state has provided funding for Early Colleges that have a health careers focus.

High school-college partnership - State policies also vary on whether money based on full-time equivalent (FTE) enrollment can be allocated to a postsecondary institution (similar to per pupil funding in the K-12 landscape) for dual enrollment courses. A Memorandum of Understanding (MOU), customarily developed when starting an Early College, should include how college-related costs such as tuition, transportation and college course instructor payments will be handled.¹⁰⁶ For Challenge Early College, the Board of Trustees of its partner college, Houston Community College, waived college tuition and the state legislation allows for reimbursement from the state for dual enrollment courses. At Youngstown Early College High School, the district covers 51% of college tuition, fees and books while the college partner pays 49% of the expenses, offset by a state grant to encourage low-income students to matriculate to college.¹⁰⁷

For schools facing funding constraints, the ability to utilize college facilities, resources, services, and personnel, in the form of counselors, libraries, tutors, and space for classrooms can ease financial strains. If a school is co-located on college campus, there is potential for the school to avoid facility-related expenses. The Middle College National Consortium has developed a school conversion model in which a space agreement is established between the high school and college giving the school space on the college campus at no charge during the day; these rooms are then used for evening college courses.¹⁰⁸

Intermediaries. Intermediaries can play critical roles in assisting school leaders, staff, and planning teams in identifying, securing and managing external funding. As advocates for Early Colleges, intermediaries act on the behalf of the schools to promote state and district policies that support the program and implementation design. In 2005, the KnowledgeWorks Foundation worked with the Ohio Department of Education and Ohio's Board of Regents to allocate \$10.8 million to fund tuition, books, and fees for existing and proposed Early Colleges.¹⁰⁹

CAN AN EARLY COLLEGE BE RUN ON REGULARLY AVAILABLE PUBLIC FUNDS (ADA) ONLY?

According to an ECHSI study, the funds needed to run Early Colleges are about on par with those of a traditional high school.¹¹⁰ However, because of the extra costs associated with college course taking, it is estimated that Early Colleges will need 5-12% more funds than are available from public sources.

Early Colleges may identify other funding sources to offset operating costs such as:¹¹¹

- Partnerships with community-based organizations that can provide resources and services at little to no cost to the school;

- The National High School Center found that some Early Colleges are developing capital campaigns and using other fundraising strategies to secure money to purchase materials such as textbooks;
- In certain circumstances, families and students may be required to contribute to the cost of the college related expenses. For example, at Challenge Early College, college course-taking students pay a one-time \$25 college courses registration fee and \$10 for book rental;
- Other college and career readiness programs can supplement available money streams. Examples include federally funded Gear Up and Tech Prep/Perkins programs.

DECISION 10

How will we know if we're succeeding?

Like many educational reform initiatives, Early Colleges aim to increase college readiness and access to college for traditionally underrepresented students. But how can Early Colleges tell if they are succeeding in this endeavor?

WHAT ARE INDICATORS OF EARLY COLLEGE SUCCESS?

Two ECHSI leaders, Hoffman and Vargas, suggest that the following indicators be used in assessing the success of Early Colleges:¹¹²

- The number of underrepresented students participating;
- Graduation rates of Early College students as compared to local high schools;
- The absence of remedial coursework needed upon fully entering college after high school;
- Continued enrollment in college immediately following graduation from high school;
- Degree completion of students.

Some of these measures are ones that Early Colleges can obtain information on without much difficulty because they depend on data that the school itself collects. Others are more difficult to assess as students may attend many different colleges after graduation from high school.

Additional measures of success that are commonly of interest to Early Colleges are as follows:

*Student outcomes*¹¹³

- Proficiency on standardized assessments;
- Grade to grade progression;
- Completion of college coursework;
- High school and college grades;
- High school and college credit accumulation.

*Student behaviors*¹¹⁴

- Attendance;
- Referrals for poor behavior;

School designs and processes

- Alignment of the school with core principles (e.g., AIR implementation Index 2008; ECHSI benchmarks documents).

*Student attitudes and aspirations*¹¹⁵

- College going aspirations;
- Applications to college
- Satisfaction expressed by alumni of an Early College;
- Students' view of the schools' influence on their academic performance.

Teacher and staff satisfaction

- Teachers' views of school climate.¹¹⁶

WHAT ARE EARLY COLLEGES DOING TO COLLECT DATA?

Data come in many forms. Some involve numbers and statistical processes; others may involve narrative descriptions of people's perceptions, insights and concerns. Data may involve observations, stories, model plans and designs, the results of student assessments, or AYP information. The key to their usefulness is that they be obtained systematically through processes that are considered trustworthy, and that they are of value in forming judgments or making decisions.¹¹⁷

Since the start of the Early College Initiative, Jobs for the Future has coordinated two national data collection efforts: the Integrated School Survey and the Student Information System (SIS). The first obtains information on school designs and core measures of school development. The SIS is used to gather data on student characteristics and outcomes. In addition, many intermediary organizations have data support staff in-house or partner with an external organization such as a college or university.¹¹⁸

WHAT SYSTEM WORKS BEST FOR DATA COLLECTION?

Early College schools and partnering organizations should take stock of the data that are already available in-house or at the district and state levels; they can then assess data collection needs specific to their Early College program. This way, any new data collection efforts compliment what schools are already gathering.¹¹⁹

In order to assess Early College student success, NCREST (2011) recommends collecting several types of data (as feasible) in addition to those required for accountability purposes. These include the following (see Appendix B for details):

- College transcript data;
- A survey of students' social and academic experiences and plans after high school;
- National Student Clearinghouse data on postsecondary enrollment and persistence following graduation from high school;
- Prior academic achievement data such as 8th grade test scores.

An online resource that can help with data collection and use is the Early College Data Use Tool Kit at <http://datause.jff.org/front>, developed by NCREST and Jobs for the Future.

WHAT CONDITIONS IN A SCHOOL FACILITATE DATA USE?

It is one thing to collect data; it is another thing to use it to improve students' experiences and outcomes. NCREST summarized the conditions and actions that facilitate data use in schools based on a review of research on this topic:¹²⁰

- A teacher who is knowledgeable about data management and analysis serves as a “data guru” or mentor at each school;
- Teachers, organized into school improvement teams or study groups, develop data-driven improvement plans;
- All teachers and administrators are involved in process of data analysis;
- Principals lead and support the use of data;
- Schools allocate time—or modify existing schedules—so that teachers may analyze and reflect upon data and plan revisions to their curricula and teaching practices;
- Schools rearrange the day to allow for more professional development time related to data use;
- Multiple indicators/pieces of data are used to make decisions and gauge outcomes;
- Schools have a philosophy that supports data use and continual growth on the part of students, teachers, and administrators;
- Conversations on data are focused on: 1) improvement, not blame, and 2) what the data show, not what the staff think should be done to solve the problems;
- Conversations guard against early conclusions of why the data look like they do;
- Schools have a mechanism to analyze and disaggregate data quickly.

Appendix A: SAMPLE ACADEMIC PLAN (4-5 YEAR)

List high school and college courses in the most appropriate subject row AND indicate the number of credits for each course in parentheses next to all courses. Please highlight or underline all COLLEGE COURSES. In the last two rows, list the state standardized tests students take in any given grade, as well as Entrance/Exit College Tests (ex. Compass or Accuplacer Tests) administered.

	Grade 9 Fall	Grade 9 Spring	Grade 9 Summer	Grade 10 Fall	Grade 10 Spring	Grade 10 Summer	Grade 11 Fall	Grade 11 Spring	Grade 11 Summer	Grade 12 Fall	Grade 12 Spring	Grade 12 Summer	Grade 13 Fall	Grade 13 Spring
English														
Math														
Science														
Social Studies, History & Government														
Physical Education														
Language														
Elective														
Seminar														
Other														
TOTAL Credits														
Standardized HS Tests														
Entrance/Exit College Tests														

Total HIGH SCHOOL units earned =	Total COLLEGE credits earned =
----------------------------------	--------------------------------

College coursework data provides important information about enrollment in college courses, credit accrual, and overall success. The following student and course level variables typically appear on student transcripts:

- GPA
- Credit accumulation
- Course name
- Course credits
- Course grade
- Course term and year

Student surveys, particularly of students about to graduate from the program, provide rich insight into the students' school experience and plans beyond high school. The following are important topics that the question items should address:

- Demographics
- Course rigor and relevance
- Perseverance and self-efficacy
- Instructor expectations and quality
- College readiness and future plans
- Available support structures
- Sense of belonging

National Student Clearinghouse data provides data as to whether students are enrolled in a postsecondary institution at any point after high school, and whether they persist and complete a degree. Many schools belong to school districts already enrolled in the National Student Clearinghouse, and can obtain school and district level data.

Prior academic achievement data can be very useful in understanding student achievement gained during the high school experience. Student level on 8th grade state tests are best obtained when students enter in grade 9, and the minimum of the following are recommended:

- 8th grade Math and ELA test scores
- 8th grade Math and ELA proficiency levels
- 8th grade Math and ELA state mean scores (for comparison purposes)

NOTES

¹ From the ECHSI Core Principles (Early College High School Initiative, revised October 2008), available at <http://www.earlycolleges.org/Downloads/ECHSICorePrin.pdf>.

² In education reform, "intermediary organizations" are school development organizations that support a cluster of schools to follow a particular model or set of design principles. They provide a range of support services to schools including technical assistance, data analysis, professional development, and/or political advocacy. From Honig, M. (2004). The new middle management: Intermediary organizations in education policy implementation. *Education Evaluation and Policy Analysis*, 26(1), 65-87.

³ Early College High School Initiative (2011). Early College graduates: Adapting, thriving, and leading in college. Policy brief available at http://www.jff.org/sites/default/files/ECPrepareGradtoThriveCollege_032411.pdf.

⁴ See Edmunds, J. A., Bernstein, L., Glennie, E., Willse, J., Arshavsky, N., Unlu, F., Bartz, D., Silberman, T., Scales, W.D., & Dallas, A. (2010). Preparing students for college: The implementation and impact of the early college high school model. *Peabody Journal of Education*, 85, 348-364; Hoffman, N. & Webb, M. (2009). Early-College High School: Modest experiment or national movement? *Ed Week* – June 11, 2009; and Hoffman, N., & Vargas, J. (2010). A policymaker's guide to early college designs: Expanding a strategy for achieving college readiness for all.

⁵ Early College leaders include school principals, teachers and other staff; they also include district and college administrators, college liaisons and faculty, and intermediary staff.

⁶ See <http://www.earlycolleges.org>

⁷ Early College High School Initiative core principles available at <http://www.earlycolleges.org/Downloads/ECHSICorePrin.pdf>

⁸ Early College High School Initiative: A Portrait in Numbers (2010) available at http://www.jff.org/sites/default/files/a_portrait_in_numbers_110110_0.pdf

⁹ American Institutes for Research & SRI International (2009). Fifth annual Early College High School Initiative evaluation synthesis report: Six years and counting: The ECHSI matures. Washington, D.C.: AIR

¹⁰ Early College High School Initiative: A Portrait in Numbers (2010).

¹¹ American Institutes for Research & SRI International (2009).

¹² American Institutes for Research & SRI International (2009).

¹³ NCREST (2010). 2009-10 Aggregate MCNC Senior Student Survey Data. New York, NY: Teachers College.

¹⁴ Barnett, E. (2006). *Helping high school students succeed in college classes*. Policy brief available at http://www.tc.edu/ncrest/projects_middlecollege.htm

¹⁵ NCREST (2010, July). How Can Students' Academic and Social Experiences Influence their College Achievement? [PowerPoint slides]. Presented at the annual conference of the Middle College National Consortium Summer Professional Development Institute. Jersey City, NJ.

¹⁶ American Institutes for Research & SRI International (2009).

¹⁷ Darling-Hammond, L., Anness, J., & Ort, S. (2002). Reinventing high school: Outcomes of the coalition campus schools project. *American Education Research Journal*, 39(3), 639–673

¹⁸ American Institutes for Research & SRI International (2009).

¹⁹ Early College High School Initiative: A Portrait in Numbers (2010).

²⁰ Hoffman, N., Vargas, J., & Santos, J. (2009). New directions for dual enrollment: Creating stronger pathways from high school through college. *New Directions for Community Colleges*, 145, 43-58

²¹ Goldberger, S. & Haynes, L. (2005). *Lessons from the California Academy of Liberal Studies: Designing and financing an integrated program of college study*. Boston, MA: Jobs for the Future.

²² Early College High School Initiative: A Portrait in Numbers (2010).

²³ Brint, S. & Karabel, J. (1989). *The diverted dream: community colleges and the promise of educational opportunity in America, 1900-1985*. New York: Oxford University Press.

²⁴ Barnett, E., & Stamm, L. (2010). *Dual enrollment: A strategy for educational advancement of all students*. Washington, DC: Blackboard Institute.

²⁵ Anness, J., & Allen, D. (2006). Implementing small theme high schools in New York City: Great intentions and great tensions. *Harvard Educational Review*, 76, 401–416

²⁶ Kemple, J. (2004). *Career academies: Impacts on labor market outcomes and Educational attainment*. New York: Manpower Development Research Corporation.

²⁷ NCREST (2011c). Middle College National Consortium Early College High School Initiative Integrated School Survey Aggregate Data 2010-11. New York, NY: Teachers College.

-
- ²⁸ North, C. (2011). Designing STEM pathways through early college: Ohio's metro Early College High School. Boston, MA: Jobs for the Future
- ²⁹ Honig, 2004; Rogers, B. (2007). The power of practitioner expertise: Building and using teacher knowledge in service of school reform. *New Educator*, 3(3), 199-220.
- ³⁰ Hoffman, N., & Vargas, J. (2010). A policymaker's guide to early college designs: Expanding a strategy for achieving college readiness for all.
- ³¹ Nodine, T. (2009). Innovations in college readiness: How early colleges are preparing students underrepresented in higher education for college success. Washington, D.C.: Jobs for the Future.
- ³² Nodine, T. (2009).
- ³³ Nakkula, M. & Foster, K. (2006). Growth and growing pains: Second-year findings from a longitudinal study of two early college high schools. Cambridge, MA: Harvard Graduate School of Education & Jobs for the Future.
- ³⁴ Barnett, E., Gardner, D., & Bragg, D., (2004). Dual credit in Illinois: Making it work. Champaign, IL: University of Illinois at Urbana-Champaign
- ³⁵ Nakkula, M. & Foster, K. (2006).
- ³⁶ American Institutes for Research & SRI International (2008). *2003–2007 Early College High School Initiative evaluation: Emerging patterns and relationships. An Evaluation for the Bill & Melinda Gates Foundation*. Washington, D.C.: AIR
- ³⁷ Barnett, E., Gardner, D., & Bragg, D., (2004).
- ³⁸ Ibid.
- ³⁹ American Institutes for Research & SRI International (2008); NCREST (2010); Burns, H. & Lewis, B. (2000). Dual-enrolled students' perceptions of the effect of classroom environment on educational experience. The Qualitative Report, 4. Retrieved from <http://www.nova.edu/ssss/QR/QR4-1/burns.html>; Foster, K. & Nakkula, M. (2005). Igniting and sustaining educational identity development: Findings from two early college high schools. Cambridge, MA: Harvard Graduate School of Education & Jobs for the Future; NCREST (2011b). Middle College National Consortium ECHSI Integrated School Survey Data 2009-2010. New York, NY: Teachers College.
- ⁴⁰ Burns, H. & Lewis, B. (2000). Dual-enrolled students' perceptions of the effect of classroom environment on educational experience. The Qualitative Report, 4. Retrieved from <http://www.nova.edu/ssss/QR/QR4-1/burns.html>
- ⁴¹ American Institutes for Research & SRI International (2008)
- ⁴² Nodine, T. (2009).
- ⁴³ Hughes, K.L., Mecher Karp, M., Fermin, B.J. & Bailey, T.R. (2005). Pathways to college access and success. Washington, DC: US Department of Education.
- ⁴⁴ American Institutes for Research & SRI International (2008); Adelman, C. (2006). The toolbox revisited: Paths to degree completion from high school through college. Washington, DC: U.S. Department of Education; Anderson, G. M., Alfonso, M. & Sun, J.C. (2006). Rethinking cooling out at public community colleges: An examination of fiscal and demographic trends in higher education and the rise of statewide articulation agreements. *Teachers College Record*, 108(3), 422-451; Zeidenberg, M., Jenkins, D., & Calcagno, J. (2007). Do student success courses actually help community college students succeed? [Brief]. New York: Community College Research Center; Willingham, D.T. (2009). Why students don't like school. San Francisco: Jossey Bass; Hindo, C., Barnett, E., & Kim, J. (2010). Seminar: A support program for high school students undertaking college courses. New York: NCREST, Teachers College; NCREST (2011b). College Access and Success Report 2009-10 Students: MCNC Early College Aggregate College Transcript Data. New York, NY: Teachers College.
- ⁴⁵ Nodine, T. (2009).
- ⁴⁶ Goldberger, S. & Haynes, L. (2005).
- ⁴⁷ Nakkula, M. & Foster, K. (2006); American Institutes for Research & SRI International (2008); Nodine, T. (2009); Hughes, K.L., Mecher Karp, M., Fermin B.J., & Bailey, T.R. (2006). Pathways to college access and success, CCRC brief number 27. New York, NY: Community College Research Center, Columbia University.
- ⁴⁸ Nakkula, M. & Foster, K. (2006)
- ⁴⁹ Nodine, T. (2009).
- ⁵⁰ NCREST (2011b).
- ⁵¹ American Institutes for Research & SRI International (2008)
- ⁵² Nodine, T. (2009).
- ⁵³ NCREST (2011c).
- ⁵⁴ Conley, D. T. (2007). Redefining college readiness, Volume 3. Eugene, OR: Educational Policy Improvement Center.
- ⁵⁵ Barnett, E., Philippeaux-Pierre, R. & Stembridge, A. (2010). Early college English and math instruction that leads to success in introductory college coursework. New York: NCREST, Teachers College.
- ⁵⁶ Spence, K., & Barnett, E. (2006). Supporting high school students in the transition to college. New York, NY: Teachers College
- ⁵⁷ Elmore, R. (2008). Improving the instructional core. Cambridge, MA: Harvard University Graduate School of Education.
-

-
- ⁵⁸ Barnett, E., Philippeaux-Pierre, R. & Stenbridge, A. (2010).
- ⁵⁹ Conley, D. T. (2007).
- ⁶⁰ Harris, M., Tucker, T. & Willis, R. (2008). College going culture in urban high schools. Dallas, TX: University of North Texas. This research paper is available at http://www.tgslc.org/pdf/College_Going_Culture_in_Urban_School_Summary9-22-08.pdf
- ⁶¹ Nakkula, M. and Foster, K. (2007). Academic identity development: Student experiences in two early college high schools. In N. Hoffman, J. Vargas, A. Venezia, and M.S. Miller (Eds.), *Minding the Gap: Why integrating high school with college makes sense and how to do it* (pp. 123-132). Cambridge, MA: Harvard Education Press.
- ⁶² Goldberger, S. & Haynes, L. (2005).
- ⁶³ NCREST (2011c)
- ⁶⁴ Nodine, T. (2009).
- ⁶⁵ Hindo, C., Barnett, E., & Kim, J. (2010).
- ⁶⁶ Born, T. (2006). Middle and early college high schools—Providing multi-level support and accelerated learning. *New Directions for Community Colleges: Academic Pathways To and From The Community College*, 135:49-58.doi: 10.1002/cc.247
- ⁶⁷ American Institutes for Research & SRI International (2009).
- ⁶⁸ Cunningham, C, & Matthews, R. S. (2007). Lessons from the field: A tale of two Early College High Schools. In N. Hoffman, J. Vargas, A. Venezia, and M.S. Miller (Eds.), *Minding the Gap: Why integrating high school with college makes sense and how to do it* (pp. 123-132). Cambridge, MA: Harvard Education Press.
- ⁶⁹ Nodine, T. (2009).
- ⁷⁰ Jobs for the Future. (2007). Final report to the W.K. Kellogg Foundation: Early College High School Initiative (Grant #P0104493). Boston: MA.
- ⁷¹ NCREST, 2010.
- ⁷² Spence, K., & Barnett, E. (2006)
- ⁷³ Spence, K., & Barnett, E. (2006)
- ⁷⁴ Hindo, C., Barnett, E., & Kim, J. (2010).
- ⁷⁵ Born, T. (2006).
- ⁷⁶ Foster, K. & Nakkula, M. (2005).
- ⁷⁷ Goldberger, S. & Haynes, L. (2005); Nodine, T. 2009; NCREST, 2010; Newton, A., & Vogt, K. (2008). *Ensuring College Success: Scaffolding Experiences for Students and Faculty in an Early College School*. Boston, MA: Jobs for the Future.
- ⁷⁸ American Institutes for Research & SRI International (2006).Early college high school initiative evaluation: 2003-2005 early college high school summary report. Washington, D.C.: AIR
- ⁷⁹ American Institutes for Research & SRI International (2008).
- ⁸⁰ Hindo, C., Barnett, E., & Kim, J. (2010).
- ⁸¹ American Institutes for Research & SRI International (2008).
- ⁸² Ibid.
- ⁸³ Barnett, E., Gardner, D., & Bragg, D., (2004).
- ⁸⁴ American Institutes for Research & SRI International (2008).
- ⁸⁵ American Institutes for Research & SRI International (2006).
- ⁸⁶ See <http://www.upcsinstitute.org/UPCSDesign/Overview.html>
- ⁸⁷ Hoffman, N., & Vargas, J. (2010).
- ⁸⁸ American Institutes for Research & SRI International (2007).Early College High School Initiative evaluation: 2006-2007 early college high school summary report. Washington, D.C.: AIR
- ⁸⁹ National High School Center (2007). Findings from the Early College High School Initiative: A look at best practices and lessons learned regarding a dual enrollment program. Washington, D.C.: National High School Center
- ⁹⁰ Ibid.
- ⁹¹ Palaich, R., Augenblick, J., Foster, S., Anderson, A. B., & Rose, D. (2006). Return on investment in Early College High Schools. Denver, CO: Augenblick, Palaich, and Associates, Inc.
- ⁹² Venezia, A., & Jaeger, L. (2010). An analysis of student supports in Early College High Schools. Paper presented at the 2010 AERA annual meeting, Denver, CO.
- ⁹³ Vogt, K. and Venezia, A. (2009). College faculty engagement in early college. Paper presented at the American Educational Research Association, San Diego, CA.
- ⁹⁴ American Institutes for Research & SRI International (2009).
- ⁹⁵ Nodine, T. (2009).
- ⁹⁶ Hughes, K.L, Mecher Karp, M., Fermin, B.J. & Bailey, T.R. (2005); New Schools Venture Fund (2007).PUC schools: The design and implementation of an Early College High School Program. San Francisco, CA: New Schools Venture Fund
- ⁹⁷ Hoffman, N., & Vargas, J. (2010).
-

-
- ⁹⁸ American Institutes for Research & SRI International (2008).
- ⁹⁹ Vogt, K. and Venezia, A. (2009).
- ¹⁰⁰ Lieberman, J. (2004). The Early College High School concept: Requisites for success [report]. Boston, MA: Jobs for the Future.
- ¹⁰¹ Personal communication with McKinley Williams, president of Contra Costa College. Interview conducted by phone on October 5, 2011.
- ¹⁰² American Institutes for Research & SRI International (2008).
- ¹⁰³ Hoffman, N., & Vargas, J. (2010).
- ¹⁰⁴ Ibid.
- ¹⁰⁵ Edmunds et al, (2010).
- ¹⁰⁶ Hoffman, N., & Vargas, J. (2010).
- ¹⁰⁷ Ibid.
- ¹⁰⁸ Webb, M. (2004). What is the cost of planning and implementing Early College High School? Boston, MA: Jobs for the Future.
- ¹⁰⁹ American Institutes for Research & SRI International (2008).
- ¹¹⁰ Webb, M. (2004).
- ¹¹¹ Palaich, et al, (2006); National High School Center (2007); Hoffman, N., & Vargas, J. (2010); Venezia, A., & Jaeger, L. (2010).
- ¹¹² Hoffman, N., & Vargas, J. (2010).
- ¹¹³ Berger, A., Adelman, N., Cole, S. (2010). The Early College High School Initiative: An Overview of Five Evaluation Years. *Peabody Journal of Education*, v85 n3 p333-347. Nodine, T. (2009); NCREST (2011b).
- ¹¹⁴ These behaviors are usually selected because they predict better student outcomes. See Nodine, T. (2009); Berger, A., Adelman, N., Cole, S. (2010); Edmunds et al, 2010
- ¹¹⁵ Berger, A., Adelman, N., Cole, S. (2010); Nodine, T. (2009); NCREST (2010)
- ¹¹⁶ Nodine, T. (2009)
- ¹¹⁷ Barnett, E. (2009). Coaching and data use [brief]. New York: NCREST, Teachers College, Columbia University.
- ¹¹⁸ Nodine, T. (2009)
- ¹¹⁹ Boudett, K. P., City, E.A., & Murnane, R.J. (2008). *Data Wise: A Step-by-Step Guide to Using Assessment Results to Improve Teaching and Learning*. Boston: Harvard Education Press.
- ¹²⁰ Spence, K. (2006). Data driven decision making mini-lit review [brief]. New York: NCREST, Teachers College, Columbia University.