

SMALLER
LEARNING COMMUNITIES
PROGRAM

Dual Enrollment: Lessons Learned on School-Level
Implementation

Lauren Cassidy
Kaeli Keating
Viki Young

SRI International

This paper was prepared for the U.S. Department of Education (ED), Office of Elementary and Secondary Education, Smaller Learning Communities Program under Contract Number ED-07-CO-0106 with EDJ Associates, Inc. in Herndon, VA. The views expressed in this publication do not necessarily represent the positions or policies of ED, nor do references to trade names, commercial products, services, or organizations imply endorsement by the U.S. government.

TABLE OF CONTENTS

Introduction	1
Defining Dual Enrollment.....	1
Benefits of Dual Enrollment.....	2
Prevalence of Dual Enrollment.....	4
School-Level Implementation.....	5
Establishing Relationships with College Partners.....	5
Structuring Dual Enrollment Courses.....	7
Faculty Collaboration	9
Articulation.....	10
Funding Dual Enrollment.....	12
Tuition	13
Textbooks.....	14
Transportation	15
Student Attendance	15
Student Admissions, Access, and Supports.....	16
Fulfilling Equity Goals.....	16
Student Supports.....	18
Conclusion.....	20
References	23

Introduction

Accelerated learning opportunities are becoming increasingly common strategies to promote high school graduation and encourage college enrollment. Through mechanisms such as Dual Enrollment, Advanced Placement (AP), and International Baccalaureate (IB) courses, students get a head start on earning college credit while still in high school. The goals for enrolling students in these courses are to provide them with more rigorous curricula and prepare them for college coursework and expectations. In addition, accelerated learning gives them the motivation, financial incentive, and self-confidence to continue on to college. Earning college credits early can lessen the time and cost to obtaining a college degree.

Dual Enrollment, in particular, is a strategy that more and more districts and schools are using to advance the high school curriculum and promote college for a wide range of students. However, Dual Enrollment programs can be quite challenging to implement for practitioners, including high school or district program directors, guidance counselors, and college staff and faculty. High school-college partnerships, articulation, funding, and student access and supports are all critical areas to address in order to successfully implement these programs. This paper is based on a synthesis of findings from prior research. After first reviewing the status of Dual Enrollment across the Nation, we identify lessons learned and potential solutions to overcoming common barriers in implementing Dual Enrollment programs.

Defining Dual Enrollment

Despite common goals, Dual Enrollment presents some striking differences from AP and IB. AP and IB each have a national curriculum. The college-level courses are offered by the high school, where students take them with their peers. Students receive college credit by passing an end-of-course exam.

In contrast, Dual Enrollment programs require a partnership between a school or district and a local institution of higher education. Courses offered can be academic or career/technical, and students earn college credit by passing the course. Students may or may not simultaneously earn high school credit (i.e., dual credit), but their college performance is documented on a college transcript. Although Dual Enrollment began as an option for academically advanced students, similar to AP and IB, it is now also seen as a mechanism to promote college access for a wider range of students. Some programs focus specifically on students traditionally underserved in college.

Dual Enrollment programs fall into three categories: “singleton,” “comprehensive,” and “enhanced comprehensive.” Singleton offerings are student-directed and involve an individual enrolling in regular college classes (a student can take as few as one Dual

Enrollment course during his or her high school career under this scenario). Typically, this option is for students who have fulfilled the majority of their high school requirements and are interested in earning college credit while in high school. Comprehensive and enhanced comprehensive programs provide students with intensive exposure to college demands, and Dual Enrollment courses constitute a significant portion of their high school experience, especially during the last year or two of high school. An example of this type of program is a career or Tech Prep academy. Enhanced comprehensive programs provide additional academic supports and counseling to facilitate the secondary-postsecondary transition (Bailey and Karp, 2003). For example, early college high schools (ECHSs) blend high school and college in a rigorous yet supportive program, enabling students to earn up to 60 college credits or an associate's degree by the time they graduate from high school.

Benefits of Dual Enrollment

Increasing high school graduation and college enrollment and retention rates are an ongoing challenge in the United States. According to the *Condition of Education 2010*,¹ 74 percent of students who started ninth grade in 2004-2005 graduated from high school in 2008, the last year the average freshmen graduation data were available (Aud et al., 2010). Graduation rates were lower than the national average for Latinos (64 percent), African Americans (62 percent), and Native Americans (64 percent) (Aud et al., 2010). High school completion is only the first step in the battle, because many high school graduates enter college ill-prepared. More than two-thirds of high school graduates in 2008 enrolled in postsecondary education the following fall (Aud et al., 2010), and although it is impossible to pinpoint, an estimated 60 percent of students in 2-year institutions and 30 percent of those in 4-year institutions of higher education needed remediation courses (Kirst, 2007). Furthermore, only about half of all entering students graduate within 6 years (Marks and Diaz, 2009), indicating that students may need more preparation to be able to graduate from college in a timely manner.

In the 2004-2005 surveys of high school graduates, college instructors, and employers commissioned by Achieve, Inc., 39 percent of college students reported having a gap in the skills and abilities expected of them in college, and college instructors estimated that 42 percent of their students were not adequately prepared. Yet, nearly a quarter of high school graduates felt they were not challenged in high school and 82 percent of college students said they would have worked harder if their high schools had higher academic expectations and demands of them. The vast majority (94 percent) of college students believed that offering challenging courses such as honors, AP, or IB would have improved their postsecondary preparation (Achieve, Inc., 2005). These results suggest lost opportunities to better prepare secondary students for college.

¹ See <http://nces.ed.gov/pubs2010/graduates/tables.asp> for more information about the average freshmen graduation rate.

Dual Enrollment can raise academic rigor and student motivation. Students also gain early exposure to college expectations and “college knowledge.”

Dual Enrollment is one potential solution for such matters. These programs can provide students with more advanced, rigorous coursework in order to improve high school education and prepare students for the academic and behavioral expectations of college. Also, the programs can promote high school student motivation and engagement in their learning

through more interesting classes, the opportunity to attend them on a college campus (in many cases), and the experience of higher expectations and success (Karp and Jeong, 2008; Lerner and Brand, 2006). In addition, students who are able to take classes on a college campus learn about and become accustomed to the college environment, as they master logistical issues such as locating the registrar’s office and the bookstore. Research has shown that this experience helps students feel more comfortable and less intimidated regardless of which college they attend after high school (AIR/SRI, 2009).

A study on Dual Enrollment participation in Florida and New York City revealed a positive relationship between Dual Enrollment participation and high school graduation and college enrollment. Students who took Dual Enrollment were more likely to earn a high school diploma, to enroll in college in general and at a 4-year institution in particular, and to enroll in college full time than peers who did not participate in Dual Enrollment (Karp et al., 2007).

Dual Enrollment benefits high school students beyond those who are more academically advanced and who traditionally take advantage of such courses. Dual Enrollment is believed to help low-achieving students meet high academic standards. For example, the Bill and Melinda Gates Foundation’s Early College High School Initiative (ECHSI) specifically targets students who are traditionally underserved in college and often begin the ECHS academically below grade level. Not only do the vast majority of ECHS students earn at least 30 college credits by the time they graduate high school, they were found to have outperformed their peers in matched comparison districts on state assessments in math and English (AIR/SRI, 2009).

Dual Enrollment is also being offered as part of career and technical education programs as a way to increase their rigor, to prepare students for college as well as the workforce, to enable high schools to offer career and technical education programs without purchasing expensive equipment (Karp et al., 2007), and more generally to build college awareness in students who may not typically consider enrolling in college.

Student college performance has been positively affected by Dual Enrollment as well. Several studies concluded that high school students who take college courses subsequently perform better in college than those with no history of Dual Enrollment course-taking (Spurling and Gabriner, 2002; Richardson, 1999; Windham and Perkins, 2001).

Dual Enrollment also has been shown to mediate the need for developmental education classes (Adelman, 2004), which can facilitate students' completion of a degree and potentially their earning a higher degree. For example, the ability of students to complete intermediate courses in community college, such as college-level math and writing courses, increases the chances that students will transfer to a 4-year degree program (Roksa and Calcagno, 2008).

Students who participated in Dual Enrollment had higher high school persistence and retention and shortened their years in attaining a bachelor's degree.

College students who had participated in Dual Enrollment as high-schoolers had higher persistence and retention, grade point average (GPA), and credit accumulation than students who did not participate (Karp et al., 2007). In particular, Dual Enrollment students earned

15.1 more college credits than their non-Dual Enrollment peers 3 years after high school graduation (Karp et al., 2007).

Research also has shown that Dual Enrollment decreases the time to completion of a college degree. Specifically, a national study found that students who earned college credits in Dual Enrollment and similar programs completed their degree in 4.25 years compared to 4.65 years for students with no previous credit (Adelman, 2004). Similarly, another study found that students save 1.2 semesters during their baccalaureate program because of their participation in Dual Enrollment (Marshall and Andrews, as cited in Smith et al., 2007). Finally, compressing the time to a degree results in significant cost savings, with one study estimating savings of \$5,000 to \$24,000 for each full year of Dual Enrollment participation (Marshall and Andrews, as cited in Smith et al., 2007).

Prevalence of Dual Enrollment

Given these early findings about the benefits of Dual Enrollment, it is not surprising that it is growing in prevalence across the country. All states allow Dual Enrollment, with 46 having at least one statewide Dual Enrollment program established by state policies; the other four states leave programs to the discretion of local district and college policies (ECS, 2008c). Although having these programs in place does not necessarily mean that high schools and institutions of higher education must participate, many high schools

All states allow Dual Enrollment; 46 states have at least one statewide Dual Enrollment program.

and institutions of higher education across the country are offering students Dual Enrollment opportunities.

According to the most recent national data, collected in 2002-2003, 71 percent of public high schools offered courses for dual credit. Among these schools, 92 percent reported offering courses with an academic focus for dual credit, and 51 percent

reported offering dual credit courses with a career focus. However, less than 5 percent of all high school students in 2002-2003 participated in Dual Enrollment (Waits et al., 2005).

Since that time, many states have invested in programs that expand Dual Enrollment opportunities. For example, in 2008, the Ohio governor created a “Seniors to Sophomores” pathway, allowing Ohio high school students the opportunity to take college courses during their senior year of high school, earning their high school diplomas and 1 year of college credit simultaneously.

Texas also has promoted the use of dual credit courses to advance the high school curriculum. Participation in Dual Enrollment has increased more than sevenfold over the last decade, from 11,921 students in the fall of 1999 to 91,303 in the fall of 2009 (Texas Higher Education Coordinating Board, 2010). Participation of minority students, in particular, has risen, constituting 52 percent of all participants in 2009 compared to 29 percent in 1999 (Thevenot, 2010). Some of this increase is due in part to 2006 legislation that mandated that all Texas high schools provide students with the opportunity to earn at least 12 college credits (Texas Education Code Sec. 28.009).

School-Level Implementation

Across various contexts, schools attempting to increase Dual Enrollment face common implementation challenges. High school-college partnerships work within a variety of state and local policy contexts that necessarily impact how they implement Dual Enrollment programs. State policies vary in specifying components of high school-college partnerships, the articulation of college credits earned, funding requirements, and student populations and attendant supports. California, for example, does not provide strict guidelines for Dual Enrollment and has a “permissive Ed code.” Local practitioners must figure out ways to address these areas, whether the policies are supportive or prohibitive.

This section includes lessons learned by partnerships as they navigated their local and state contexts to implement Dual Enrollment programs and suggestions for implementing effective Dual Enrollment programs. These examples stem from prior research that SRI conducted on the ECHSI, Texas high school reform initiatives, and state Dual Enrollment policies, as well as other research from the field.

Establishing Relationships with College Partners

By definition, Dual Enrollment requires a partnership between a school or district and a college. In some states, policymakers establish explicit expectations for district-college relationships. For example, in one state, community colleges are mandated to enter into agreements with their local districts to offer college courses. The state examines the

agreements for inconsistencies with statutes as well as best practices. Yet in many states, local schools, districts, and colleges have considerable flexibility in the provisions of the relationship (AIR/SRI, 2009). Not surprisingly, the history and nature of the relationship can impact the partners' engagement and commitment to offering Dual Enrollment courses.

Success and sustainability of Dual Enrollment programs rests on the strength of the local district-college partnership.

The level of success in establishing and sustaining Dual Enrollment programs—from singleton to enhanced comprehensive—rests largely on the quality of the district-college partnership. Findings of the national evaluation of the ECHSI suggest that the most effective partnerships between

colleges and districts share four characteristics:

- a common understanding of the programs' purposes or goals;
- flexibility among partners, particularly in terms of policies and procedures;
- close proximity between the college and district; and
- an active and engaged college liaison (AIR/SRI, 2009).

To formalize the partnership, schools or districts and colleges sign a memorandum of understanding (MOU). The MOU outlines each partner's responsibilities and typically covers issues related to the development, implementation, and sustainability of the Dual Enrollment program. Some MOUs are revised on an annual basis, while others extend for several years. The process of developing the MOU, especially the first time, provides the opportunity for the partners to agree upon the intended goals of the program and to engage faculty on both sides in the process. The MOU, a legally binding document, specifies how financial responsibilities will be shared across the institutions, what courses will be offered, where and how they will be offered, who will teach the courses, if and how high school and college faculty will collaborate, and student access to college facilities.

Depending on the degree to which the Dual Enrollment program covers a district, its direction can be under the purview of a district coordinator or a school principal (if individual high schools negotiate their own partnerships with local colleges). In their role as director of the program, these individuals are often responsible for working with the college partners, handling financial issues, collecting and analyzing student data, and ensuring students are able to enroll in college courses per the MOU. District coordinators also make sure Dual Enrollment opportunities are available to all students in the district.

On the college side, a liaison is often central to establishing joint decision making by the two institutions. The liaison can be a college vice president, dean, department head, or staff member whose sole responsibility is the daily management of Dual Enrollment

programs.² The liaison helps in scheduling students' college classes, eases students' transition to the college campus by providing support while they are there, and serves as the conduit between the high school and the college faculty. Selecting the right person to fill this role is consequential because he or she brings stability to the partnership if either district or college leaders turn over. This person also plays an important role in soliciting buy-in from college faculty. Although in many cases the liaison is a high-level staff member, it is also important for the partnership to have the support of the college president or provost. Such buy-in helps communicate the importance of Dual Enrollment to the rest of the college faculty and staff (AIR/SRI, 2009). The initial involvement of a high-level college leader, college liaison, and school or district coordinator is important for the success and ongoing implementation and sustainability of the partnership (AIR/SRI, 2009).

A high-level, designated college liaison is central to establishing joint decision making between the high school and college and provides unity and stability.

Structuring Dual Enrollment Courses

Many educators who have started Dual Enrollment programs believe students benefit from the “power of place” associated with being on a college campus. Students learn how to navigate a college campus, interact with college professors and students, and feel more like college students (AIR/SRI, 2009). However, laying the foundation for that kind of program takes effort and can be a challenging process. For example, high school teachers may feel threatened by Dual Enrollment classes, fearing that their positions may not be needed as more courses are taught at the college. Some teachers have concerns that college instructors do not know the content standards high school students need to meet for state assessments or graduation tests.

Similarly, it can often be difficult to solicit college faculty buy-in for Dual Enrollment, especially at 4-year colleges. Sometimes faculty members simply do not want to teach high school students. Faculty members express concerns about the ability of high school students to handle college coursework, fearing that they will have to decrease the rigor of the course to accommodate them and that the students' behavior will disrupt the class or campus. Yet, often, dually enrolled students' academic performance in class impresses college faculty. As a college representative noted, “Progressively they [faculty] have embraced it. [Even the] more strenuous the class, like chemistry, microbiology . . . instructors are finding that students are very well prepared.”

² The college liaison may be an employee of the district or the institution of higher education; liaisons are most frequently college staff members.

Orienting college faculty members early about the intent to either offer Dual Enrollment courses or begin a Dual Enrollment program on campus can increase buy-in. Not

Orienting college faculty early in the process may improve buy-in and assuage concerns that high school students cannot meet college demands.

surprisingly, if faculty are not offered the opportunity to participate in planning the program, or even worse, are not informed of the program before it begins, their willingness to participate is minimal (AIR/SRI, 2009).

Colleges can utilize a variety of strategies to increase faculty commitment to the program. One strategy is to provide incentives for teaching Dual Enrollment courses. For example, at one college, faculty members earned points as part of their performance evaluations. Another strategy is to ask an amenable professor to teach a course that will include dually enrolled students. A college administrator shared that “you definitely want someone who can appreciate the younger students.” Furthermore, sharing positive outcome data of previous Dual Enrollment students with faculty members may help alleviate their concerns.

Dual Enrollment programs can be organized in many ways. The most common strategy is to integrate high school students into traditional college courses on the college

Offering Dual Enrollment classes to a cohort of high school students can help them acclimate to college expectations, as well as concentrate participation among faculty interested in teaching Dual Enrollment students.

campus taught by a college professor. Often the college faculty are not aware that high school students are in their classes. A college representative shared that the “majority of faculty do not know that they are dual enrolled students, they just take class with regular students. We like this philosophy a little bit better. It gets them to the campus, they see a little bit of college life, and [they] see what college professors are like.”

In some cases, partnerships may offer the courses to cohorts of high schools students on the college campus. This strategy provides cost-savings³ and gradually exposes students to college classes (i.e., they may have cohort classes to start, but then take traditional classes later). Another option is for high school instructors to serve as adjunct faculty for Dual Enrollment courses offered on the high school campus to a cohort of high school students. Many high school teachers already have the graduate degrees or necessary graduate coursework to qualify as adjunct faculty, and in some cases they may already be certified to teach the college courses. As an adjunct faculty member, high school teachers receive oversight from the college and use the same syllabi as courses offered at the college. This strategy can alleviate high school teachers’ fears and provide students with instructional support strategies that are not normally provided by

³ Some partnerships hire an adjunct professor to teach the cohort courses. This limits the cost to the adjunct’s salary for the courses rather than paying full-tuition for each student if they were integrated into regular college courses.

college faculty (Duffy et al., 2009), but many critics fear these courses are less rigorous than those taught by college faculty.

When classes are taught by high school instructors, partnerships may want to consider having college instructors work with and oversee the high school teachers. The college faculty can help high school teachers address course logistics, such as what texts to use and how to navigate college policies and systems. More importantly, according to Hughes (2010), “the teachers might well need input about college standards and expectations. Such a dialogue between instructors from the two education sectors may result not only in higher quality college courses for Dual Enrollment students but also in the development of a more college-like atmosphere and increased rigor.” Less frequently, partnerships facilitate this interaction by having a college and high school staff member team-teach a college course. In one example, the college professor taught the first semester of a yearlong math class while the high school teacher provided support to students in the class. By the second semester, the high school teacher taught the class with support from the college professor.

Faculty Collaboration

Partners may find that offering Dual Enrollment courses increases the type and frequency of faculty collaboration, particularly for comprehensive or enhanced comprehensive programs. Collaboration is best fostered when Dual Enrollment courses are offered on the college campus, when college instructors teach cohorts of high school students (AIR/SRI, 2007, 2008), or when college courses are team-taught, as the example above illustrates. Faculty collaboration is often hindered by scheduling

Dedicated collaboration time for college and high school faculty facilitates solutions to scheduling and instructional time conflicts, offers joint professional development, and improves college instructors’ knowledge of high school students.

difficulties, particularly when the high school and college are located in different areas, and teacher reluctance to lose instructional time to meetings. To facilitate faculty collaboration without pulling too many high school teachers away from class at one time, one ECHS had teachers meet weekly with college

faculty but rotated the teachers that met each week. As a result, each teacher met with his or her college counterparts every 3 weeks.

Along with collaboration on instruction and preparation, practitioners can offer joint professional development for both high school and college faculty to encourage cross-institution conversation. Yet, even in the ECHSI, where fostering collaboration is a specific focus of the initiative, such work is not common (AIR/SRI, 2009). In programs, particularly singleton, where college faculty may not even know they have high school students in their classes, collaboration may not be a realistic expectation. Also, it is more difficult for adjuncts at the college to collaborate because they are not at the college very frequently.

Articulation

Dual Enrollment as a strategy to encourage college-going through less time to degree completion and less expense only works if the credits students earn are transferable to the colleges they attend after high school.

Articulation agreements govern the equivalency and transferability of courses and credits between institutions. States vary in whether state or local policy governs transferability.

Articulation agreements govern the equivalency and transferability of courses and credits. Most states have articulation agreements between all public (and sometimes private) 2-year and 4-year institutions of higher education, typically for academic courses. These agreements may include

a common core list of courses, a common course numbering system, and rules on how credits are given and the transferability of college credits between institutions.

The courses outlined in articulation agreements for transfer typically are general education requirements, and are often chosen for Dual Enrollment programs. Theoretically then, Dual Enrollment courses taken at public 2-year or 4-year institutions should be accepted for transfer by other public institutions. As of 2008, 15 states clearly required all public 2- and 4-year institutions to accept college credits earned through Dual Enrollment programs, 15 did not, and 2 required it for one particular state program only (the remaining states were unclear; ECS, 2008b).

Some states, like Florida, have lists of dual credit classes that all postsecondary institutions must accept as either an elective or general education course. A Florida State representative noted, "We are hoping to get 30 courses or so, [so] that we can use it as an advising tool for students to say, 'If you don't know where you want to go to school and you want to experience some general education [courses] ... here [is] the course list you should really choose from first.'" Such lists generally do not include career and technical education classes.

For career and technical education classes, secondary schools typically have Tech Prep agreements with specific postsecondary institutions. Unlike Dual Enrollment, in which students enroll directly in college courses, Tech Prep uses a "2+2" sequence in which students follow a particular career and technical education track in high school for 2 years and then continue on that track in the partnering college for 2 years. In the end, they earn either an associate's degree or a certificate. Typically, to earn the college credits, students must enroll in the specific partnering college and students earn college credit retroactively for classes taken in high school if they follow a specific track or take specific courses in college. Research suggests that few students earn college credits in this manner, however, leading some Tech Prep programs to shift to Dual Enrollment (Golann and Hughes, 2008).

Some states allow partnerships to enter into local articulation agreements. With local articulation, secondary institutions or local education agencies and institutions of higher

education negotiate which courses will be offered for dual credit rather than having a set list of transferable courses. Some states with statewide articulation agreements still provide some flexibility for local sites to create programs through local articulation agreements that supersede the statewide agreement and allow partnerships to take into account local context and economic needs. A North Carolina policymaker explained that the State “intentionally left [local administrators] with some latitude so that local entities can design programs that meet their local needs, the needs of their students, [and] the needs of the business industry in the area.” In cases where the statewide articulation agreement does not offer a wide enough range of courses to elicit the interest of all students, local schools and districts may consider investigating their options for entering into locally developed articulation agreements.

In cases where articulation agreements are locally negotiated (e.g., in the absence of explicit state guidelines), the lack of explicit guidance allows for more autonomy and flexibility in the types of Dual Enrollment classes. However, locally negotiated agreements also require more time and attention from the partnering institutions and

Where articulation is locally negotiated, districts can achieve economies of scale by networking all schools under one agreement.

can potentially lead to redundant efforts across districts and colleges. To reduce that risk, local practitioners could communicate and collaborate with other nearby schools and districts to identify any Dual Enrollment courses that have already been negotiated with local colleges. Districts could facilitate this process by networking schools within the district or consolidating all Dual Enrollment efforts within the district. Furthermore, the locally negotiated courses for a particular partnership may not necessarily be transferable to other colleges. In such cases, program directors may want to first enroll students in the general education courses that are more likely to be transferable.

Whether a statewide or local agreement is in place, practitioners face a number of challenges to ensure that students can take a variety of Dual Enrollment courses, that the courses do not detract from their high school graduation plans, and that the credits can transfer to a variety of colleges. In many cases, regardless of state- or local-level agreement, aligning standards and high school graduation requirements is challenging.

High school-college collaboration focused on course content may help align Dual Enrollment courses to high school state exams. Alternatively, schools can direct students to Dual Enrollment courses unaffected by high stakes exams.

Dual Enrollment courses may not cover the standards students need to master for high school achievement and graduation tests, like end-of-course exams. This disconnect is often the case when Dual Enrollment courses are taught by college faculty, who have no reason to know high school standards. Partnerships may want to consider building in regular collaboration between high school and college

faculty around course content. Practitioners also may want to be more deliberate in directing students to take specific Dual Enrollment courses. For example, to make sure

students are prepared for the state tests, some schools preserve control over the standard high school courses and channel dual enrollees into college courses that are not included in their state’s high-stakes high school assessments or into courses that are at a higher content level than that covered on the tests (Adelman et al., 2008).

State policies may also limit the number of Dual Enrollment courses students can take. Some critics contend that students should not take too many Dual Enrollment courses because it detracts from their high school experience or because the quality and rigor of Dual Enrollment has not been properly documented (ECS, 2008a). Setting an explicit limit is rare, with only four states capping the number of Dual Enrollment credits students can earn (ECS, 2008a). However, high school graduation requirements, including state assessments, may limit the number of Dual Enrollment courses students can fit into their schedules. For example, some states mandate that students take the high school courses for which there is an associated end-of-course exam (i.e., a Dual Enrollment course cannot supplant them).

Where state policies deem Dual Enrollment courses as electives, waivers may allow them to count toward high school graduation requirements.

Similarly, in some states Dual Enrollment courses can only be counted as electives in their high school plans; in other words, they cannot count toward the core academic courses that all high school students must take in order to graduate. In such states, some local programs have been able to

acquire waivers to allow Dual Enrollment classes to count toward graduation requirements or to let students take an end-of-course exam without taking the associated high school course (they take a Dual Enrollment course instead). For example, as described by a state administrator, North Carolina provides an exemption process through its Innovative Education Initiatives Act, under which “our boards [the State Board of Education and the State Board of Community Colleges] could waive statutes, rules, and policies that inhibited the growth and development of innovative programs between public schools and 2- and 4-year colleges.”

Local practitioners may want to check their options for exemptions from state policies; exemptions may be precedent setting so if another school or district has received a waiver, other schools or districts should be able to receive that same waiver if they apply for it. Otherwise, students may have to take their Dual Enrollment courses after regular school hours in order to complete all of their high school requirements. Despite state policies that may hinder the allowable number and transferability of Dual Enrollment courses, local partnerships can be creative in their thinking about Dual Enrollment offerings. They may be able to negotiate at the local and state levels to provide programs that serve their students’ needs.

Funding Dual Enrollment

Key to offering Dual Enrollment to *all* eligible students are funding mechanisms that cover the myriad associated costs. Dual Enrollment adds significant expenses to the

traditional high school program, which must be paid by the state, the district, the partnering institution of higher education, or the students. These costs include tuition, textbooks, and transportation, as well as other expenses including college placement tests and lab fees. Programs also must consider the indirect costs of how students' attendance is calculated. Many of these factors are determined by state policy, but programs still must be resourceful in how they pay for the various elements of Dual Enrollment.

Tuition

Tuition is the largest expense associated with Dual Enrollment courses. Nationally, six states pay tuition for dual enrollees (ECS, 2008g).⁴ Fifteen states require districts to pay tuition on behalf of dual enrollees, or the state or colleges waive tuition for dual enrollees. In 22 states, students are required to pay tuition, and a few states make no provision for tuition, leaving it to local institutions to determine whether to pass this cost on to students (Karp et al., 2005). At least two states, Georgia and Tennessee, have

Depending on state policy, local colleges may waive tuition costs.

extended their college scholarship programs (funded through state lottery proceeds) to Dual Enrollment students who meet academic eligibility criteria.⁵

Often even in states with favorable funding policies, strict guidelines exist about the type of Dual Enrollment courses that will be covered. For example, in North Carolina, the state does not pay for college courses that supplant high school academic courses required for graduation or courses that are already offered by high schools in the district. To increase the opportunity for students to participate in Dual Enrollment programs, colleges can develop niche courses not typically offered at the high school. For example, staff at one college developed a career and technical education program based on national security issues because no high school in the partnering district offered such courses (Adelman et al., 2008).

In the absence of state funding for costs related to Dual Enrollment, colleges and districts can establish agreements at the local level to offer Dual Enrollment courses. Research from the ECHSI suggests that college leaders are willing to waive tuition for Dual Enrollment courses for several reasons, which include the need to:

⁴ Some states that do not fund Dual Enrollment will cover tuition costs for students attending middle college/early college programs and are not included in this count.

⁵ High school students who take college courses are currently ineligible for federal financial aid. Postsecondary institutions cannot admit as regular degree-seeking students individuals that have not received a high school diploma or its equivalent or who are below the age of compulsory education. Institutions that do so risk jeopardizing their Title IV eligibility. Title IV-eligible institutions participate in the Federal Student Financial Aid program.

- create a pipeline of students who will likely choose to remain at the college after high school graduation to complete their degree;
- garner positive publicity about the college’s commitment to the community;
- fulfill many public colleges’ mission to enroll underrepresented students; and
- improve the preparation of high school students for the rigor of college, and thus reduce the need for remediation once they are at the college full time (AIR/SRI, 2009).

Another strategy that significantly lowers the cost of tuition is to offer Dual Enrollment courses on high school campuses taught by high school teachers. If classes are taught during the school day and are part of the teachers’ workload, districts typically do not incur any additional salary costs for the teachers. However, as mentioned previously, students may miss out on the benefits associated with being on a college campus.

Having qualified high school teachers offer college courses may lower costs but may reduce benefits associated with students’ being on college campuses.

Textbooks

Although covering tuition is the most significant challenge in providing Dual Enrollment courses, Dual Enrollment programs also have a particularly difficult time financing college textbooks. States typically do not fund textbooks, with only 12 states explicitly addressing textbook cost issues in policy. Among those, three require students to cover these costs, six require either the district or college to pay some portion, and three provide some state grant funds to programs or students to offset textbook costs

Using state-adopted textbooks that carry state funding, maintaining the same texts for multiple years, or providing reference copies can reduce costs for high schools and families.

(WICHE, 2006). Districts that choose to or are mandated to cover textbook costs for dual enrollees do so at notable and ongoing expense. Where programs do not cover textbook costs, requiring students to do so could drastically reduce participation, particularly among traditionally underrepresented students who

are less affluent than typical college-bound students. A superintendent of a district that covers textbooks through local funds said, “My point is that if you are going to take [an] underprivileged child and give that child an opportunity, I think when you say to those kids, ‘No you’ve got to pay for this or you’ve got to pay that,’ they won’t have resources to do that and they won’t take the courses.”

Schools implementing Dual Enrollment programs have identified several cost-conservation strategies. Some schools ask professors to select from state-adopted textbook lists, because those books are often covered by state funds. Others ask faculty to use the same textbook for multiple semesters so that books can be passed along to

students each semester. Still other schools have reduced the costs for students by keeping textbooks in their libraries for reference. Often school leaders become creative in considering how to defray costs and pursue options such as purchasing books directly from the publisher or buying used books from sources other than the local campus bookstore.

Transportation

Most states do not mandate where Dual Enrollment courses must be offered or cover transportation of dual enrollees if courses are offered on college campuses. Only 13 states have policies regarding the payment of transportation costs, and most of those specify that the state bears no responsibility. A few, however, allow any family to apply to districts for reimbursement, give grants to districts for transportation, or accept requests for reimbursement from low-income families (WICHE, 2006).

The lack of transportation funding is a central factor in designing Dual Enrollment programs. When high schools are located far from colleges, access is hindered for

Transportation costs are generally covered by students. Offering Dual Enrollment courses at the high school or online eliminates transportation issues but reduces students' exposure to college campuses.

students who want to take Dual Enrollment on college campuses but have no means of transportation. As a result, many Dual Enrollment courses are offered on high school campuses. Another increasingly popular option is the use of online or virtual Dual Enrollment courses that are accessible from the high school campus. As of 2008, 17 states offered Dual Enrollment courses online (ECS, 2008f). The availability of online Dual

Enrollment courses taught by college faculty is particularly beneficial for students who may be geographically limited in their ability to access courses on a college campus.

Student Attendance

In addition to tuition and transportation costs, practitioners must consider the attendance issues associated with students taking college courses rather than high school classes. Based on structures outlined in state policy, several scenarios are common:

- Both the high school and the college receive state Average Daily Attendance (ADA) and Full-Time Equivalency (FTE, i.e., the equivalent of a student's full time participation) funds, respectively, for a student's attendance in a Dual Enrollment course.
- Only the college receives FTE funding for the student's actual time in the Dual Enrollment class.
- A proportional formula splits the reimbursement, where the high school receives a percentage of ADA funds for the time a student spends at the high school (i.e.,

the district would lose some portion of ADA for students' time in college classes during the school day) and the college receives the FTE associated with the student's attendance.

Apart from tuition, 10 states provide full ADA and FTE funding for dual enrollees (Karp et al., 2005). The funding formulas could create potential barriers to district and college involvement. In a state with proportional funding, one Dual Enrollment program director noted that the district opted not to adopt an enhanced comprehensive program because it would mean losing ADA. He reported: "Some of the [enhanced comprehensive program] teachers out there are

State policy specifies how high schools and colleges receive ADA and FTE funding for Dual Enrollment, which local program partnerships must take into account.

teaching the very minimum of 180 [minutes per day] ... the district then is receiving ... reduced ADA, and we can't afford that. We can't afford to do that." In states with this funding formula, the schools could offer Dual Enrollment courses after school. This schedule allows schools to earn all ADA for the students' time in high school during the regular

school day. The college also would receive FTE for students' time in college courses. However, it may inhibit participation because some students have other commitments after school.

State funding policies vary greatly and awareness of how to leverage policies to limit the costs for students is an important factor in increasing access to and participation in Dual Enrollment courses. Clearly, districts and colleges must bear much of the expense associated with Dual Enrollment, and in times of significant financial stress, they may be forced to make budgetary decisions that limit students' opportunities for Dual Enrollment. It is important to seek alternative solutions to defray costs when establishing Dual Enrollment programs so that programs can be sustained and the costs for students and their families are manageable.

Student Admissions, Access, and Supports

Inclusive Dual Enrollment programs aim to expand college access for traditionally underrepresented student populations such as low-income and minority students. High schools and colleges embarking on such programs thus need to examine their admissions policies and practices to determine whether they are indeed providing equitable access and sufficient supports for students to succeed in college courses.

Fulfilling Equity Goals

Dual Enrollment programs aimed at underserved students pursue, at least in part, an equity goal. At the same time, student eligibility for Dual Enrollment programs is circumscribed by state policy and may inadvertently undermine equitable access. In addition to specifying a minimum age and/or grade level for participants, state or local college policy may require students to take a placement exam, attain a certain score on

state exams or the SAT/ACT, or achieve a minimum GPA to qualify for college classes. Twenty states require Dual Enrollment students to be in grade 11 or 12; 12 states allow younger students to participate with 9 allowing Dual Enrollment for any 9th- through 12th-grader (ECS, 2008d).

Although 7 states stipulate a minimum GPA, many more states (22) require written permission or recommendation by teachers, principals, or postsecondary staff (ECS, 2008d). Written permission (as opposed to GPA requirements) may expand opportunities for students with the potential to engage in college work but who might not have excelled academically. At least 25 states demand that Dual Enrollment participants earn minimum scores on college placement exams (ACT/SAT/PSAT) or state assessments (ECS, 2008d).

Passing college placement exams has been a common and difficult barrier to increasing Dual Enrollment participation. The difficulties are especially prevalent when Dual Enrollment programs target students who do not necessarily have a strong academic track record but who might begin to see themselves as college-goers if they had some firsthand success in college-level courses.

To help struggling students overcome this hurdle, high schools can offer additional tutorials or exam preparation. For example, in one high school dedicated to increasing

Dual Enrollment programs serving underrepresented student populations may need to provide explicit supports for students to pass the college placement test, or they may want to offer college courses exempt from placement tests before integrating academic Dual Enrollment courses.

Dual Enrollment for its predominantly Latino students, the program director began recruiting interested students at the beginning of their sophomore year in high school. The sophomores then received semester-long preparation including placement exam support and study skills development. They were then able to pass the placement exam in the

spring and were ready for college courses in the fall of their junior year.

As enhanced comprehensive programs in which college courses constitute a large proportion of students' high school experience, ECHSs offer examples of strategies to increase college access. One ECHS approach is to first offer college courses that do not require placement exams or that accept a lower passing score and then to introduce core academic Dual Enrollment courses later in students' high school careers. For example, students might take physical education, fine arts, or technology courses in their 1st or 2nd year of high school. Through taking these courses, students acclimate to the college environment and develop the independence expected of postsecondary students. By exploring options that do not require the placement test or that accept a lower passing score, the ECHS gives access to its intended students sooner, while building students' preparation and confidence to take and succeed in academic Dual Enrollment courses.

As with other aspects of state policy, college placement exams might be locally negotiated. Schools may be able to obtain waivers for placement test requirements or to substitute high school state tests. North Carolina, for example, allows state policy waivers so that local partnerships can fashion Dual Enrollment programs tailored to student needs and local contexts. In another example, a Florida district worked with its college partner to lower the state-required 3.0 GPA to 2.5 to provide Dual Enrollment opportunities to students “who [in the past] would not have [had] a chance at college.”

In contrast to states with eligibility policies, those offering little guidance also risk inequitable access because local partnerships can vary widely in admissions requirements. Although local discretion arguably yields room to innovate, the lack of clear state policies expressing an equity priority means that local programs may differ in the extent to which they target underserved students.

In such state contexts, access to Dual Enrollment varies from district to district, and in some cases, even from school to school within the same district. For example, in one California district, a high school worked closely with the local community college to develop a comprehensive program designed to engage Latino students, its largest subpopulation, and to raise their educational aspirations and college-going rates. Because this program existed only at that high school, other students in this mainly Latino district did not have this same opportunity. Another California district guarded against this uneven access by implementing a districtwide Dual Enrollment program. In addition to reaping certain economies of scale (e.g., in curriculum planning and articulation), a consistent districtwide program provided students at every high school with equal access to Dual Enrollment.

Dual Enrollment programs with an equity goal can monitor student participation to assess whether those goals are being met. For example, the California high school serving predominantly Latino students consistently reviewed its Dual Enrollment rolls to see whether participation was proportionate to its student demographics. When the data showed that Latino students were underenrolled, the school extended its outreach to attract more Latinos and increased academic supports to improve the students’ chances of being successful in the college courses.

Student Supports

Equitable access to Dual Enrollment programs only opens the door for students if they are aware of the opportunities. Twenty states explicitly require local partnerships to notify students and/or families about Dual Enrollment programs, and in one State, Georgia, interested students must be counseled on eligibility requirements, the process for earning credits, and financial costs (ECS, 2008e).

Once they participate, students who are first-generation college-goers or those who may not have considered themselves potential college students often need additional supports to succeed. Many Dual Enrollment students—especially those from traditionally underrepresented groups—struggle with the different norms and expectations at the college level. For example:

- College course grades typically comprise fewer tests or assignments so students have fewer chances to improve their final results.
- Students need the discipline to monitor their own progress, manage their time, and work independently.
- College instructors typically do not seek out students who might be struggling to offer additional help and students must advocate for themselves.
- College campuses can be bewildering and intimidating for students with little prior exposure.
- On-campus supports such as counseling and tutoring can be difficult to find.

Supports such as regularly scheduled advisories ensure that a high school teacher is aware of how well Dual Enrollment students are coping with workload, rigor, and expectations for independent learning in their college classes.

To equip students with the appropriate skills and establish their expectations for what college will be like, some high schools offer regularly scheduled advisories or counseling classes. With advisories, a high school teacher can compensate for a lack of college instructor attention by frequently checking in with Dual Enrollment students to make sure they feel comfortable at college. The high school

teacher can encourage the student to attend the college instructors' office hours or seek out academic supports on the college campus if needed. At one ECHS, all students participated in a noncredit advisory class once a week so that at least one adult in the school could monitor the academic and emotional needs of each student (AIR/SRI, 2009). In some cases, the advisory teacher obtains the syllabus for every college class in which advisory students participate so he or she can monitor whether students are completing their assignments on time. The advisory teacher may also contact the college professor to discuss student progress. The advisories or counseling classes can also develop the specific skills necessary in college. One ECHS offered a course teaching students "college life skills," which included effective note-taking, test-taking, and time management. That school also required all incoming students to pass a one-credit AVID (Advancement Via Individual Determination) course to gain valuable study habits before enrolling in college courses (AIR/SRI, 2009). Other important skills for Dual Enrollment students to be successful include appropriate ways to approach college instructors and being able to monitor their own learning and performance.

Schools can also offer classes on "college life skills" to prepare Dual Enrollment students.

Although taking a course with a professor introduces students to college-level academics and interactions with a college

professor, students can find it challenging because professors typically use different instructional strategies from high school teachers. College instructors expect students to do much of the real work of the course outside of the classroom, either independently or with their peers (Duffy et al., 2009). Advisories and counseling classes can also support students in organizing their time outside of the classroom to complete required assignments and to study for exams.

To provide Dual Enrollment students with more academic and emotional support, ECHSs also have engaged regular college students as mentors. The college students are closer in age to the high school students and may be able to relate to them more so than teachers. The college students can also give the high school students insights based on their own transitions to postsecondary education.

Perhaps as important as setting students' expectations about college life is communicating with parents about the likely college demands and the ways they might help their children. This information is particularly valuable for parents who did not attend college themselves and have few connections for finding out what happens on college campuses. Some ECHSs have mandatory parent nights to introduce parents to the program. For families that might rely on their teenage children to work after school or to look after siblings, it is crucial to set expectations for their children's schoolwork and college participation early on.

Conclusion

Although research on the effectiveness of Dual Enrollment is still fairly limited, initial findings suggests Dual Enrollment can increase high school graduation rates and college enrollment and persistence and decrease the costs of and time to complete a college degree. Through more rigorous coursework and course options, it can generate and increase high school students' interest in school. By exposing students to the college environment and expectations, it can show students that they can succeed in college and encourage them to continue their education. Once at college, students who participated in Dual Enrollment in high school have a head start on completing their degrees. Preliminary research has shown that these students perform better in college than their peers who did not participate in Dual Enrollment; former dual-enrollees need less remediation, have higher GPAs, and accrue more credits.

Given these results, Dual Enrollment can be a beneficial program for students. However, local implementation of Dual Enrollment programs is often challenging and is necessarily influenced by state context. Practitioners thinking about starting Dual Enrollment programs should become well versed in their state's respective policies, which vary in how explicit or permissive they are in their guidance. How prescriptive the policies are determines the amount of local discretion and negotiation that must take place between high schools or districts and institutions of higher education.

Across all contexts, several components are critical to successful implementation—high school-college partnerships, articulation, funding, and student access and support. Experiences of others in the field provide common challenges and potential solutions in these areas that can assist practitioners implementing Dual Enrollment programs.

High school-college partnerships are at the heart of Dual Enrollment programs. Schools or districts and institutions of higher education must negotiate all components of the program, such as finances, where and what courses will be offered, and who will teach them. In developing partnerships, the following steps are especially important:

- Have clear roles and expectations for all partners and designate a college liaison to handle the daily operations of the program.
- Include high level leadership and college faculty from the beginning stages of the partnership to increase buy-in.
- Have a district or school coordinator run the program on the high school side and ensure equitable access, particularly in states where policy guidance is not explicit.
- Develop MOUs that provide stability in case of leadership changes and specify how tuition and associated costs will be covered and sustained.

Articulation agreements, either at the local or state level, outline transferability of Dual Enrollment courses to other institutions of higher education and their applicability to high school graduation requirements. The agreements determine the time- and cost-savings from which families may benefit. Articulation can be a significant investment for partnerships if statewide agreements are not in place. In designing Dual Enrollment programs, practitioners may consider:

- becoming familiar with state articulation and transfer agreements, if they exist, and directing students to those courses that both are of interest to them and transferable to other colleges in the state;
- developing local agreements with local economic needs and student interests in mind, as well as Dual Enrollment courses that may have been already developed by other schools or districts with local colleges; and
- investigating state waivers or exemptions to high school graduation or exam requirements if they pose barriers or disincentives to Dual Enrollment.

The level of funding can be prohibitive to developing or expanding Dual Enrollment programs. State funding policies vary in whether and how colleges and districts are reimbursed for Dual Enrollment, and affect how partnerships might want to structure their programs. It is important for practitioners to take the following steps:

- Bear in mind additional costs associated with college course taking, such as textbooks, transportation (if applicable), and lab and other college fees.
- Investigate funding options outside of state provisions to support the program.
- Consider creative solutions to challenges in covering such costs as textbooks, like encouraging professors to keep the same textbooks from year to year and having students share them.

State or local eligibility policies influence who can participate in Dual Enrollment courses. If access for students who are traditionally underrepresented in college is an explicit goal, programs may need to provide extra supports to help these students pass into and succeed in college classes. Programs might include

- additional tutoring and preparation classes for college placement exams;
- advisories, college life skills classes, and mentor programs;
- tiered entry to college classes, beginning first with courses that do not require placement exams or that accept a lower passing score and then enrolling students in core academic courses later in high school; and
- parent programs to inform parents of the expectations of college courses.

Although challenges associated with implementing Dual Enrollment programs may exist, the growing body of research suggests that such programs can make a difference for students in educational engagement, persistence, and attainment. Practitioners' experiences and their lessons learned, which are summarized in this paper, may be helpful to others embarking on their own programs.

References

Achieve, Inc. (2005). *Rising to the Challenge: Are High School Graduates Prepared for College and Work?* Retrieved July 9, 2010, from http://www.achieve.org/files/pollreport_0.pdf.

Adelman, C. (2004). *Principal Indicators of Student Academic Histories in Postsecondary Education, 1972-2000*. Washington, DC: U.S. Department of Education, Institute of Education Sciences.

Adelman, N., Keating, K., Young, V., Cassidy, L., and Bosetti, K. (2008). *Bridging the Divide: Policies That Affect Acceleration of Secondary and Postsecondary Education Programs*. Washington, DC: SRI International and Jobs for the Future.

American Institutes for Research (AIR) and SRI International (SRI). (2007). *Evaluation of the Early College High School Initiative: Select Topics on Implementation*. Washington, DC: AIR.

American Institutes for Research (AIR) and SRI International (SRI). (2008). *2003-2007 Early College High School Initiative Evaluation: Emerging Patterns and Relationships*. Washington, DC: AIR.

American Institutes for Research (AIR) and SRI International (SRI). (2009). *Six Years and Counting: The ECHSI Matures*. Washington, DC: AIR.

Aud, S., Hussar, W., Planty, M., Snyder, T., Bianco, K., Fox, M.A., Frohlich, L., Kemp, J., and Drake, L. (2010). *The Condition of Education 2010* (NCES 2010-028). Washington, DC: National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education.

Bailey, T.R., and Karp, M.M. (2003). *Promoting College Access and Success: A Review of Dual Credit and Other High School/College Transition Programs*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

Duffy, H., Cassidy, L., Keating, K., and Berger, A. (2009). *Instruction Across the High School-College Divide*. Washington, DC: AIR (in press).

Education Commission of the States (ECS). (2008a). *Dual Enrollment: Cap on Number of Credits Students May Earn*. Retrieved July 12, 2009, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic=de.

Education Commission of the States (ECS). (2008b). *Dual Enrollment: Public Postsecondary Institutions Required to Accept Credits*. Retrieved July 12, 2009, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Education Commission of the States (ECS). (2008c). *Dual Enrollment: Statewide Policy in Place*. Retrieved July 12, 2009, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Education Commission of the States (ECS). (2008d). *Dual Enrollment: Student Eligibility Requirements*. ECS. (2008d). Retrieved 19 July 2010, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Education Commission of the States (ECS). (2008e). *Dual Enrollment: Students/Parents Must Be Notified of Dual Enrollment Opportunities*. Retrieved July 19, 2010, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Education Commission of the States (ECS). (2008f). *Dual Enrollment: Where Courses Provided*. Retrieved August 11, 2010, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Education Commission of the States (ECS). (2008g). *Dual Enrollment: Who Is Primarily Responsible for Paying Tuition*. Retrieved July 19, 2010, from http://www.ecs.org/html/offsite.asp?document=http%3A%2F%2Fwww.ecs.org%2Fhtml%2Feducationissues%2FHighSchool%2Fhighschooldb1_intro.asp%3Ftopic%3Dde.

Golann, J.W. and Hughes, K.L. (2008, August). *Dual Enrollment Policies and Practice: Earning College Credit in California High Schools*. *Insight*. San Francisco: James Irvine Foundation.

Hughes, K.L. (2010). *Dual Enrollment: Postsecondary/Secondary Partnerships to Prepare Students*. *Journal of College Science Teaching*, 39(6): 12-13.

Karp, M.M., Bailey, T.R., Hughes, K.L., and Fermin, B.J. (2005). *Update to State Dual Enrollment Policies: Addressing Access and Quality*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.

Karp, M.M., Calcagno, J.C., Hughes, L.H., Jeong, D.W. and Bailey, T.R., (2007). *The Postsecondary Achievement of Participants in Dual Enrollment: An Analysis of Student Outcomes in Two States*. St. Paul, MN: National Research Center for Career and Technical Education, University of Minnesota.

Karp, M.M., and Jeong, D.W. (2008) *Conducting Research to Answer Your Questions About Dual Enrollment*. Washington, DC: U.S. Department of Education.

Kirst, M. (2007, Winter). *Who Needs It? Identifying the Proportion of Students Who Require Postsecondary Remedial Education Is Virtually Impossible*. National Crosstalk. Available from <http://www.highereducation.org/crosstalk/ct0107/voices0107-kirst.shtml>.

Lerner, J.B., and Brand, B. (2006). *The College Ladder: Linking Secondary and Postsecondary Education for Success for All Students*. Washington, DC: American Youth Policy Forum.

Marks, J.L., and Diaz, A.A. (2009). *Fact Book on Higher Education 2009*. Atlanta, GA: Southern Regional Education Board.

Richardson, R.M. (1999). *Community College and AP Credit: An Analysis of the Impact on Freshmen Grades*. University of Arizona. Retrieved April 11, 2002, from <http://aer.arizona.edu/Enrollment/Papers/dualenr.pdf>.

Roksa, J., and Calcagno, J.C. (2008). *Making the Transition to Four-Year Institutions: Academic Preparation and Transfer* (CCRC Working Paper No.13). New York, NY: Columbia University, Teachers College, Community College Research Center.

Smith, M.A., Place, A.W., Biddle, J.R., Raisch, C.D., Johnson, S.L., and Wildenhaus, C. (2007). The Ohio Postsecondary Enrollment Opportunities (PSEO) Program: Understanding Its Underutilization. *Journal of Educational Research & Policy Studies*, 7(2): 80-114.

Spurling, S., and Gabriner, R. (2002). *The Effect of Concurrent Enrollment Programs Upon Student Success at City College of San Francisco: Findings*. San Francisco: Office of Research, Planning and Grants, City College of San Francisco.

Texas Higher Education Coordinating Board. (2010). *Overview of Dual Credit*. Austin, TX: Texas Higher Education Coordinating Board.

Thevenot, B. (2010). Dual-Credit Classes in High School on the Rise. *The Texas Tribune*. Retrieved July 15, 2010, from <http://www.texastribune.org/texas-education/public-education/dual-credit-classes-in-high-school-on-the-rise>.

Waits, T., Setzer, J.C., Lewis, L. (2005). *Dual Credit and Exam-Based Courses in U.S. Public High Schools: 2002–03*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Western Interstate Commission for Higher Education (WICHE). (2006, June). *Accelerated Learning Options: Moving the Needle on Access and Success. A Study of State and Institutional Policies and Practices*. Boulder, CO: Author.

Windham, P., and Perkins, G. (2001, June). *Dual Enrollment as an Acceleration Mechanism: Are Students Prepared for Subsequent Courses?* Paper prepared for the 41st Annual Association for Institutional Research Forum, Long Beach, CA.

Dual Enrollment: Lessons Learned on SchoolLevel college enrollment. Students who took Dual Enrollment were more likely to earn a high school ...Documents. APS-NOVA Dual Enrollment Program Dual-Enrollment (DE) Classes for APS Students.Documents. Dual enrollment for high school levels of dual enrollment opportunities dual enrollment for high school students Intermediate Composition ...Documents. Presentation for WCHS dual-enrollment studentsEducation. Students enrolled in a dual enrollment course may pay college tuition; however, because FCPS provides the instructor as well as the facility, the tuition is significantly discounted from what a student would pay if they took the course at the college or university. Currently, the dual enrollment tuition for Northern Virginia Community College (NOVA) is at no cost. Students who wish to take a dual enrollment course must meet the criteria set by the college or university for admission into the course. Students enrolling in a dual enrollment course will work directly with their high school to reg

Dual enrollment is the opportunity for high school students within New River Community Collegeâ€™s (NRCC) service areas (Floyd County, Giles County, Montgomery County, Pulaski County, City of Radford, and the Southwest Virginia Governorâ€™s School) to take college classes for which they earn college credits, under the oversight of the Virginia Community College System (VCCS).Â Students who have not completed the college-level mathematics course specified in the prerequisite must complete testing and receive a placement recommendation. 4. Students with qualifying PSAT, SAT or ACT scores meet the MTE 1-9 math requirements.Â Student Learning Outcomes To ensure that dual enrollment courses taught at the high school