



Who enrolls in dual enrollment and other acceleration programs in Florida high schools?





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Prepared by

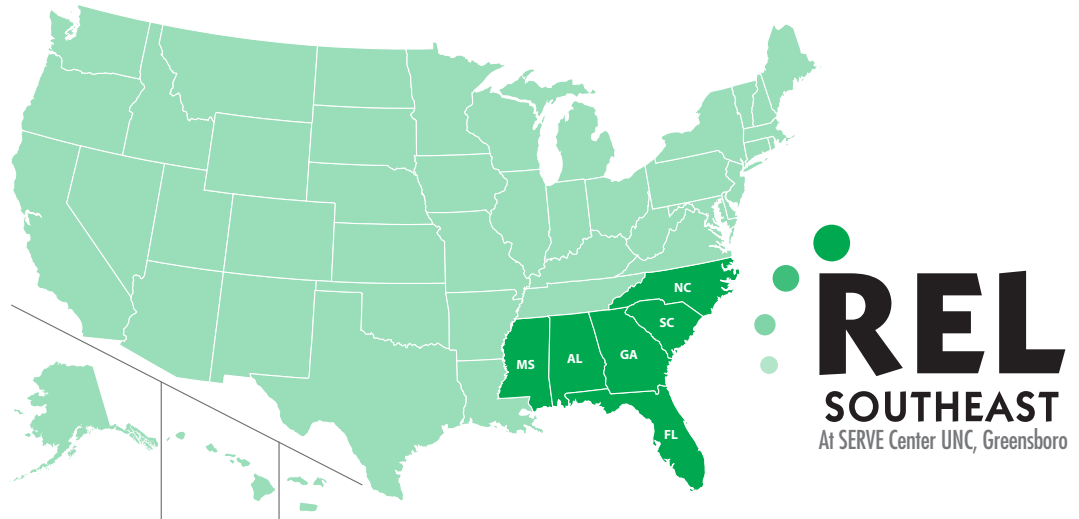
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Who enrolls in dual enrollment and other acceleration programs in Florida high schools?

This study of advanced-level high school courses that offer credit toward both a high school diploma and a college degree in Florida compares one such program (dual enrollment) with others, describing the number and characteristics of grade 11 and 12 students enrolled overall and by district. It also examines dual enrollment partnerships between high schools and colleges in nine sample school districts.

With rising concerns about persistently high dropout rates, the continuing need for remedial postsecondary courses, and workers who lack the skills to succeed on the job, school leaders and elected officials are focusing more on college and career readiness (Amos 2008). States are adopting acceleration programs (advanced-level courses that offer credit toward both a high school diploma and a college degree) to better prepare students for the demands of postsecondary education and the job market. Programs such as Advanced Placement (AP), International Baccalaureate (IB), Advanced International Certificate of Education (AICE), and dual enrollment (collaborative programs allowing high school students to enroll in college-level courses and earn credit toward both a high school diploma and a college degree or a career certificate) are intended to increase students' academic engagement,

ease the transition from high school to college, and boost college completion rates.

Recent policy changes in Florida's school improvement accountability system encourage dual enrollment and similar programs. Since 2009/10, Florida's formula for grading high schools has included participation and success in dual enrollment and other acceleration programs (Florida Legislature 2008). The lower cost of dual enrollment compared with AP programs could fuel interest in making dual enrollment more accessible and successful (Florida Department of Education 2009).

This mixed methods study of acceleration programs in Florida compares dual enrollment with AP, IB, and AICE programs. It describes the number and characteristics of grade 11 and 12 students enrolled in acceleration programs in Florida overall and by district during 2006/07 and examines dual enrollment district-college partnership agreements (articulation agreements) in nine school districts using data collected in 2009/10. Student data from the Florida Department of Education (2007) were used to determine enrollment. Document reviews of district-college dual enrollment articulation agreements and interviews with school district and college administrators during the 2009/10 academic year were used to examine

the motivations for such agreements and the challenges.

This study examines the following research questions:

- What was enrollment in dual enrollment programs (including college-credit and career dual enrollment) in 2006/07, and how did it compare with enrollment in AP, IB, and AICE acceleration programs?
- How did grade 11 and 12 students enrolled only in dual enrollment programs in 2006/07 compare with students enrolled only in AP, IB, and AICE programs?
- How was participation in dual enrollment distributed across the state in 2006/07?
- What factors contributed to the establishment of dual enrollment articulation agreements in nine selected school districts as of 2009/10, and what challenges did the districts encounter?
- What policies did districts' dual enrollment articulation agreements cover?
- How did the nine selected school districts and their college partners inform high school students of dual enrollment options?
- Dual enrollees were more likely than the population of grade 11 and 12 students to be women (62 percent versus 51 percent) and White (72 percent versus 51 percent) and less likely to be economically disadvantaged (eligible for free or reduced-price lunch; 16 percent versus 31 percent) and English language learner students (0.4 percent versus 4.6 percent).
- Of the 98,395 students in grades 11 and 12 taking any type of acceleration course in 2006/07, more students enrolled in AP, IB, or AICE courses only (74 percent, driven mainly by AP enrollment) than in dual enrollment only (16 percent); 11 percent participated in both dual enrollment and one or more other acceleration program.
- Students in dual enrollment only were less likely than students enrolled in AP, IB, or AICE only to be Hispanic (9 percent versus 23 percent), economically disadvantaged (17 percent versus 19 percent), and enrolled in special education (11 percent versus 17 percent).
- Dual enrollment rates among grade 11 and 12 students ranged from 2.9 percent in Orange County School District to 38 percent in Bay County School District. Of the state's 67 districts, all 5 of the largest districts (Orange, Miami-Dade, Broward, Hillsborough, and Palm Beach) were in the fourth quartile of districts ranked by student participation in dual enrollment. Half of the 16 districts in the first quartile (with the highest dual enrollment rates) were in rural locales.

The findings indicate that

- Across Florida, 7.3 percent of students in grades 11 and 12 participated in a college-credit or career dual enrollment course during 2006/07.
- Four district and five college partner administrators (in six districts) identified

Florida K–20 Education Code (Florida Statute) section 1007.235 as a primary reason for establishing articulation agreements. In addition, four district and four college partner administrators (in seven districts) mentioned using the state requirement on dual enrollment service areas for guidance on establishing these agreements.

- The most commonly cited challenge in implementing dual enrollment programs (reported in four district and three college partner interviews in five districts) was administrative challenges. Four district administrators and one college partner administrator (in four districts) identified a lack of qualified high school teachers as a challenge. Other challenges (reported in three or fewer districts) included geographic proximity (the distance between high schools and colleges; three districts), communication with parents and grade point average requirements (two districts), and communication with school personnel (one district).
- The articulation agreements in the nine districts included information on ratification; available courses and programs; recruiting and informing students; student eligibility; institutional responsibility for student screening, program monitoring, and quality assurance; institutional

responsibility for program costs; and transportation.

- Districts reported using a variety of approaches to inform students of dual enrollment options. These involved print materials, high school counselors, college recruiters at high schools, individual and group meetings, media, word of mouth, and promotion of the College Placement Test.

References

- Amos, J. (2008). *Dropouts, diplomas, and dollars: U.S. high schools and the nation's economy*. Washington, DC: Alliance for Excellent Education.
- Florida Department of Education. (2007). Student data file. Received from PK–20 Education Data Warehouse, Florida Department of Education, April 6, 2010.
- Florida Department of Education. (2009). *Dual enrollment participation, 2007–08*. Retrieved July 6, 2010, from www.fldoe.org/cc/OSAS/Evaluations/pdf/Zoom2009-03.pdf.
- Florida Legislature. (2008). Senate Bill 1908. Retrieved October 1, 2010, from www.flsenate.gov/session/index.cfm?BI_Mode=ViewBillInfo&Mode=Bills&ElementID=JumpToBoxSubMenu=1&Year=2008&billnum=1908.

TABLE OF CONTENTS

Why this study?	1
What is dual enrollment?	2
Research questions	4
Study findings	4
What was enrollment in dual enrollment programs in 2006/07, and how did it compare with enrollment in AP, IB, and AICE acceleration programs?	6
How did grade 11 and 12 students enrolled only in dual enrollment programs in 2006/07 compare with students enrolled only in AP, IB, and AICE programs?	7
How was participation in dual enrollment distributed across the state in 2006/07?	9
What factors contributed to the establishment of dual enrollment articulation agreements in nine selected school districts as of 2009/10, and what challenges did the districts encounter?	9
What policies did districts' dual enrollment articulation agreements cover?	13
How did the nine selected school districts and their college partners inform high school students of dual enrollment options?	15
Notes	17
Appendix A Methodology	18
Appendix B Florida Department of Education sample articulation agreement	24
Appendix C District interview protocol	28
Appendix D College interview protocol	30
References	32
Boxes	
1 Key terms	2
2 Data sources and analysis	5
Map	
1 Dual enrollment rates for grade 11 and 12 students in Florida, by district quartiles of low to high participation levels, 2006/07 (percent)	9
Tables	
1 Dual enrollment participation among grade 9–12 students in Florida, by grade level, 2006/07	6
2 Type of dual enrollment participation among grade 11 and 12 students in Florida, 2006/07	7
3 Grade 11 and 12 students in Florida participating in acceleration courses, 2006/07	7
4 Characteristics of grade 11 and 12 students in Florida, by dual enrollment participation, 2006/07	8
5 Characteristics of grade 11 and 12 students in Florida, by acceleration program participation, 2006/07	8
6 Characteristics of nine sample Florida districts as of 2006/07, by extent of district dual enrollment participation in 2007/08 (percent unless otherwise indicated)	10

7	Characteristics of acceleration programs in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08	11
8	Factors that contributed to the establishment of articulation agreements in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08	11
9	Challenges to articulation agreements in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08	12
10	Approaches used by school districts and college partners to inform students and parents of dual enrollment, as of 2009/10	15
A1	Summary of sample exclusions	18
A2	Codes for categorizing dual enrollment courses	19
A3	Dual enrollment rates by quartile, PreK–12 enrollment, and Florida school district, 2006/07	21
A4	Definition of locale codes	22
A5	Codes for qualitative analysis	23

This study of advanced-level high school courses that offer credit toward both a high school diploma and a college degree in Florida compares one such program (dual enrollment) with others, describing the number and characteristics of grade 11 and 12 students enrolled overall and by district. It also examines dual enrollment partnerships between high schools and colleges in nine sample school districts.

WHY THIS STUDY?

With rising concerns about persistently high dropout rates, the continuing need for remedial postsecondary courses, and workers who lack the skills to succeed on the job, school leaders and elected officials are focusing more on college and career readiness (Amos 2008). States are adopting policies intended to better prepare students for the demands of postsecondary education and the job market. Programs such as Advanced Placement (AP), International Baccalaureate (IB), Advanced International Certificate of Education (AICE), and dual enrollment (see box 1 for definitions of key terms) are intended to increase students' academic engagement, ease the transition from high school to college, and boost college completion rates. This study focuses on dual enrollment, which is offered in nearly three-quarters of U.S. high schools (Waits, Setzer, and Lewis 2005), and compares it with enrollment in AP, IB, and AICE among grade 11 and 12 students in Florida.

Florida has supported dual enrollment through state policy mechanisms since 1979. Florida K–20 Education Code (Florida Statute) section 1007.235 requires all school districts and members of the Florida College System, a consortium of community colleges and branch campuses, to have an articulated acceleration program that sets policies for high school students seeking to take college classes (Florida Legislature 2009a). The acceleration programs receive funding through the Florida Education Finance Program (Florida Office of Program Policy Analysis and Government Accountability 2008).

This study responds to a request from the Florida Department of Education to describe student participation in dual enrollment and other acceleration programs and to examine dual enrollment partnerships between high schools and community colleges. Recent policy changes in Florida's school improvement accountability system encourage dual enrollment and other acceleration programs. Thus, the current study is timely for Florida educators and policymakers as they

BOX 1

Key terms

Articulation agreement. A formal agreement between school districts and colleges documenting how students will enroll in dual enrollment programs, the eligibility requirements of participation, and the financial and administrative responsibilities of each partner.

Dual enrollment program. Collaborative effort between high schools and colleges that allow high school students to enroll in college-level courses and earn credit toward a high school diploma and a college degree (college credit dual enrollment) or a career preparatory certificate (career dual enrollment). Unlike other credit-based acceleration programs, dual enrollment courses can be taken at the college or at the high school. Dual enrollment programs include course offerings for both college credit and career preparatory certificates.

Other acceleration programs.

Advanced-level courses at the secondary level that offer credit toward

both a high school diploma and a college degree, reducing the time it takes to get both. Other acceleration programs available in Florida public schools are Advanced Placement, International Baccalaureate, and Advanced International Certificate of Education program.

Advanced Placement (AP) programs consist of advanced high school courses in 30 subjects taught at the high school. The standardized, structured curriculum allows students to earn college credit in addition to high school credit on successful completion of designated AP exams. The grading scale ranges from 1 to 5, and colleges determine which scores (generally 3, 4, or 5) are acceptable for college credit.

International Baccalaureate (IB) programs consist of internationally standardized high school courses taught at the high school and intended to prepare students for college. Students who receive a score of 4 or higher on IB exams (scores range from 1 to 7) are eligible to receive college credit (Florida Office of Program Policy

Analysis and Government Accountability 2010). Students may earn up to 30 college semester credits. Students who successfully complete all requirements for the IB diploma and 75 hours of community service are awarded the Florida Academic Scholars Award, which covers the cost of tuition at an in-state private or public university for four years.

Advanced International Certificate of Education (AICE) programs consist of a British curriculum taught at the high school and intended to prepare students for college. Students who pass the AICE exams earn college credit, typically for exam grades ranging from A (top level of performance) to E (minimum passing grade) on the AICE exam. Students who pass AICE course exams are eligible to earn dual credit. Students who complete program requirements for the Cambridge AICE Diploma and complete a community service project also qualify for the Florida Academic Scholars Award (see IB program description).

Source: Florida Department of Education 2003.

work to improve acceleration programs. Since the 2009/10 school year, Florida's formula for grading high schools has included participation and success in acceleration programs (Florida Legislature 2008). A recent state report finds that administering the AP program, the most popular acceleration program in the state, is becoming increasingly costly (Florida Office of Program Policy Analysis and Government Accountability 2008). The policy changes that emphasize acceleration programs, together with the need to find affordable approaches, could fuel interest in making dual enrollment programs more accessible and successful in

Florida (Florida Department of Education 2009). Florida's decades of experience with the program could benefit other states interested in creating or expanding dual enrollment programs.

What is dual enrollment?

Dual enrollment programs enable high school students to enroll in approved college courses and earn credit toward a high school diploma and a college degree simultaneously. Dual enrollment exposes students to the academic rigor of college courses, increases students' engagement in school

by giving them access to more courses, reduces the time and cost of completing a postsecondary degree, and strengthens institutional links between high schools and postsecondary institutions (Bailey and Karp 2003).

Traditionally, dual enrollment has been used to offer acceleration options to high-performing college-bound students (Bailey and Karp 2003). Recently, however, dual enrollment has increasingly been used to motivate lower achieving students and prepare them for postsecondary education. Policymakers have responded to persistently high dropout rates, high levels of postsecondary remediation, and inequitable outcomes for historically underserved student groups by turning to dual enrollment to increase academic rigor and bridge the gap between high schools and postsecondary institutions (Adelman 2006; American Institutes for Research and SRI International 2006; Armstrong 2005). The appeal of dual enrollment programs is reflected in data showing that approximately half the country's postsecondary institutions have dual enrollment programs (Kleiner and Lewis 2005) and nearly three-quarters of high schools offer dual enrollment (Waits, Setzer, and Lewis 2005).

Dual enrollment courses may be taught at the high school or college. High schools and colleges can partner in offering courses at the high school, or high school students can attend courses on college campuses alongside college students (Florida Department of Education 2010a). For dual enrollment courses offered at a high school, colleges will either provide a college instructor or employ a high school teacher with the proper qualifications (Florida Department of Education 2010a; Kleiner and Lewis 2005). Some states, including Florida, require instructors to meet the credential guidelines of regional accreditation bodies, such as the Southern Association of Colleges and Schools (2008) (Florida Administrative Weekly and Florida Administrative Code 2010).

Dual enrollment programs in Florida have expanded over the past few years and are now

available in all 67 districts. Legislation has influenced the spread of acceleration programs by requiring partnerships between secondary institutions and colleges. Specifically, Florida Statute section 1007.235 requires Florida school districts and nearby members of the Florida College System to create acceleration programs (Florida Legislature 2009a). Additionally, district school boards are required to continually assess the quality and availability of their dual enrollment programs. Every year they are to determine student demand for dual enrollment programs, encourage dual enrollment courses to be taught on high school campuses, and inform secondary students about dual enrollment courses, eligibility requirements, and course equivalency to high school credits (Florida Legislature 2009a).

Students eligible for dual enrollment programs in Florida are exempt from college tuition and registration fees. To participate in college-credit dual enrollment courses, students must pass the appropriate sections of a College Placement Test and maintain a 3.0 grade point average (GPA) in their high school courses.¹ Students enrolling in career dual enrollment courses (see box 1) are required to have a 2.0 GPA to receive credit toward a career certificate. All dual enrollees must also meet requirements set by articulation agreements between their district and the partner college.

Although overall dual enrollment participation in Florida has grown (Florida Department of Education 2010b), participation rates vary widely by district and student subgroup (Florida Department of Education 2007a, 2009). Most of the growth has occurred among students focused on academic rather than vocational programs and certificates. From 2006/07 to 2009/10, dual enrollment increased 34 percent across the state; this reflects an increase in academic program participation and a

Dual enrollment programs in Florida have expanded over the past few years and are now available in all 67 districts. Legislation has influenced the spread of acceleration programs by requiring partnerships between secondary institutions and colleges

Across Florida, 7.3 percent of students in grades 11 and 12 (or 25,992 students) participated in at least one college-credit or career dual enrollment course during 2006/07

decrease in both vocational programs and vocational certificates (Florida Department of Education 2010b).

Although no experimental studies of dual enrollment programs have been conducted, some descriptive studies have found that dual enrollees differ from non-dual

enrollees in several characteristics: dual enrollees enroll in colleges and universities at higher rates, perform better during the first year in state universities, and have higher community college graduation rates than other students do (Florida Department of Education 2004a,b; 2006a). Dual enrollment programs are just one of several acceleration programs (see box 1). While some dual enrollment courses are taken on college campuses and taught by college professors, courses offered through the other programs—AP, IB, and AICE—can be taken only at high schools and are taught by high school teachers. In addition, unlike dual enrollment, AP, IB, and AICE courses are exam-based, requiring students to score above the cutoff on a standardized exam in order to receive college credit. Because of these similarities, this study groups AP, IB, and AICE courses into one category.

Research questions

This study used quantitative and qualitative data to answer the following questions:

- What was enrollment in dual enrollment programs (including college-credit and career dual enrollment) in 2006/07, and how did it compare with enrollment in AP, IB, and AICE acceleration programs?
- How did grade 11 and 12 students enrolled only in dual enrollment programs in 2006/07 compare with students enrolled only in AP, IB, and AICE programs?
- How was participation in dual enrollment distributed across the state in 2006/07?

- What factors contributed to the establishment of dual enrollment articulation agreements in nine selected school districts as of 2009/10, and what challenges did the districts encounter?
- What policies did districts' dual enrollment articulation agreements cover?
- How did the nine selected school districts and their college partners inform high school students of dual enrollment options?

Student-level data from the Florida Department of Education (2007b) were used to describe grade 11 and 12 students participating in dual enrollment and other acceleration programs in 2006/07, the most recent year for which data were available at the time the study was proposed. The qualitative component of the study focuses on dual enrollment policies (other acceleration programs are not examined in this part of the study), examining dual enrollment partnerships between high schools and colleges in nine Florida school districts that include school systems with low, medium, and high levels of dual enrollment. Interviews and document reviews in 2009/10 were used to gather information on the experiences of districts and colleges entering into articulation agreements, including their motivations, challenges, policies included in the agreements, and strategies for informing students and parents of dual enrollment opportunities. (See box 2 and appendix A for the study methodology.)

STUDY FINDINGS

Across Florida, 7.3 percent of students in grades 11 and 12 (or 25,992 students) participated in at least one college-credit or career dual enrollment course during 2006/07. Dual enrollees were more likely than the population of grade 11 and 12 students to be women (62 percent versus 51 percent) and White (72 percent versus 51 percent) and less likely to be economically disadvantaged (eligible for free or reduced-price lunch; 16 percent versus

BOX 2

Data sources and analysis

Data sources. This study used quantitative and qualitative methods to describe participation in dual enrollment programs in Florida. The quantitative analysis of student enrollment in acceleration programs in 2006/07 drew primarily on student enrollment, demographic, and transcript data files linked by unique student identifiers from the Florida Department of Education (2007b). The analysis was supplemented by district-level data drawn from the 2006/07 Common Core of Data (U.S. Department of Education n.d.).

The qualitative analysis, conducted in 2009/10, focused on nine Florida school districts with varying levels of dual enrollment participation. Document reviews and interviews with key district and college personnel were conducted to gather information on the articulation agreements between the districts and colleges.

Sample selection. The sample for the main quantitative analyses consisted of students across Florida during the 2006/07 academic year in grades 11 and 12, the grades with the highest enrollment in acceleration programs. The quantitative sample included all students enrolled in Florida's 67 main districts (special districts were excluded; see appendix A) for whom enrollment, transcript, and demographic data were available. The final analytic sample had 353,950 students, 7.3 percent (25,992 students) of them dual enrollees.

The qualitative analysis included a stratified random sample of nine

districts and their associated college partners. To select the nine districts and their college partners, all 67 districts in Florida were sorted by level of dual enrollment participation in 2007/08 and grouped by low, medium, or high level of participation. Three districts from each tier were randomly selected for the study. Nine additional districts were identified as backups. Three of the original nine districts were non-responsive (district personnel did not have the time and resources for an interview) and were replaced by backup districts.

Data analysis. Student transcript data were used to determine enrollment in an acceleration program. Information on student characteristics came from the demographic file of the Florida Department of Education (2007b). To determine the distribution of student participation in dual enrollment programs across Florida, district-level averages were calculated by dividing the total number of dual enrollment students in grades 11 and 12 in 2006/07 for a given district by the total number of students enrolled in grades 11 and 12 for the district in that year. Districts were divided into quartiles based on these dual enrollment rates.

The qualitative analysis of the establishment of district-college articulation agreements, policies covered by the agreements, and efforts of the nine sample districts to inform students of dual enrollment options drew on the articulation agreements and interviews with district and college contacts. The interviews were broken into units of information and

categorized and coded to identify the main themes (see appendix A).

Confidentiality. To maintain confidentiality, the Florida Department of Education provided random identification numbers for students linked to administrative school records data. Thus, students in the study sample are not directly or indirectly identified, and results with fewer than three cases are not reported (Seastrom 2003). Interview participants were also identified by random identification numbers, and their names were stored on a password-protected computer separately from the data. District and administrator names were not used in analyzing and reporting data.

Study limitations. Only students with enrollment, transcript, and demographic data were retained in the analytic sample. (See appendix A for additional detailed restrictions.) Due to this study's sample restrictions, the final analytic sample size does not match the published reports of 2006/07 enrollment in grades 11 and 12 in Florida (Florida Department of Education n.d. a). Furthermore, the results may not fully align with descriptive studies produced by the Florida Department of Education on dual enrollment that do not impose the same restrictions and do not calculate dual enrollment participation in the same way. Finally, because the analyses are based on data for the latest year available at the time of the study proposal, the results pertain to a period before Florida enacted legislation requiring the inclusion of acceleration programs in school grading formulas in 2009/10.

31 percent) and English language learner students (0.4 percent versus 4.6 percent).

Of the 98,395 students in grades 11 and 12 taking any type of acceleration course in 2006/07, more students enrolled in AP, IB, or AICE courses only (74 percent) than in dual enrollment only (16 percent). Eleven percent participated in both dual enrollment and one or more other acceleration program. Students in dual enrollment only were less likely than students enrolled in AP, IB, or AICE only to be Hispanic (9 percent versus 23 percent), eligible for free or reduced-price lunch (17 percent versus 19 percent), and enrolled in special education (11 percent versus 17 percent).

The 5 largest of Florida's 67 districts (Orange, Miami-Dade, Broward, Hillsborough, and Palm Beach) were in the fourth quartile of districts ranked by student participation in dual enrollment. Half of the 16 districts in the first quartile were in rural locales (see table A3 in appendix A).

All nine sample districts cited state policies and requirements as a primary motivation for articulation agreements. For the most part, districts followed the state's articulation agreement template (appendix B) in creating their own agreements.

The three most commonly cited challenges to establishing and implementing articulation agreements were administrative challenges, qualified

high school teachers, and geographic proximity (the distance between high schools and colleges). When a high school lacks qualified teachers for dual enrollment courses, the courses have to be offered at the partner college, and high schools are not always close to the colleges to which they are assigned. All nine articulation agreements examined stated that transportation is a student responsibility.

Administrators from the nine sample districts and colleges described seven approaches to making students aware of their dual enrollment options. Printed materials, high school guidance counselors, and group or individual meetings were cited most often. All nine college administrators indicated that they sent recruiters to the high schools to inform students about dual enrollment options, but none of the district or college administrators identified this approach as one of the best.

What was enrollment in dual enrollment programs in 2006/07, and how did it compare with enrollment in AP, IB, and AICE acceleration programs?

Across Florida's 67 school districts, 29,050 students in grades 9–12, or 3.7 percent of high school students, were enrolled in dual enrollment programs (including college credit and career dual enrollment) during 2006/07 (table 1). Because students in grades 11 and 12 account for most students in dual enrollment (90 percent), this study focuses on those two grades. Nearly 5 percent of

TABLE 1

Dual enrollment participation among grade 9–12 students in Florida, by grade level, 2006/07

Grade	Total		In dual enrollment			Not in dual enrollment		
	Number	Percent of student enrollment	Number	Percent of total student enrollment	Percent of total dual enrollment	Number	Percent of total student enrollment	Percent of total non-dual enrollment
9	225,725	28.7	446	0.2	1.5	225,279	99.8	29.7
10	206,893	26.3	2,612	1.3	9.0	204,281	98.7	27.0
11	183,324	23.3	8,779	4.8	30.2	174,545	95.2	23.0
12	170,626	21.7	17,213	10.1	59.3	153,413	89.9	20.3
Total	786,568	100.0	29,050	3.7	100.0	757,518	96.3	100.0

Source: Authors' analysis based on data from Florida Department of Education (2007b).

students in grade 11 and 10 percent in grade 12 participated in dual enrollment.

Of the 353,950 students in grades 11 and 12 in the analytic sample, 7.3 percent (25,992 students) participated in dual enrollment (table 2).

Florida offers two types of dual enrollment courses:

- College credit courses (either academically or vocationally focused), which offer both high school and college credit.
- Career credit courses, which offer high school credit and credit toward a career certificate.

In 2006/07, 94.4 percent of students in dual enrollment programs were taking only college-credit

dual enrollment courses, 1.9 percent were taking only a career dual enrollment course, and 3.7 percent were taking both.

The majority (74 percent) of the 98,395 students taking any type of acceleration course in 2006/07 participated in AP, IB, or AICE courses only, a result driven primarily by AP participation (table 3).² Some 16 percent participated in dual enrollment only, and nearly 11 percent participated in both AP, IB, or AICE and dual enrollment.

How did grade 11 and 12 students enrolled only in dual enrollment programs in 2006/07 compare with students enrolled only in AP, IB, and AICE programs?

Several student subgroups were overrepresented in dual enrollment programs, accounting for a larger share of dual enrollment participation than their share in the overall population of students in grades 11 and 12 in Florida. Female students accounted for 62 percent of the students in any form of dual enrollment programs, while male students accounted for 60 percent of students enrolled in career dual enrollment courses (table 4). White students accounted for 72 percent of dual enrollment students, even though they accounted for just over 51 percent of all students.

Both economically disadvantaged students (students eligible for free or reduced-price lunch) and English language learner students were underrepresented in dual enrollment courses. Only 16 percent of grade 11 and 12 students in dual enrollment courses were economically disadvantaged, compared with 31 percent of all grade 11 and 12 students in the state, and only 0.4 percent of dual enrollees are English language learner students, compared with 4.6 percent statewide (see table 4).

Students in dual enrollment only were less likely than students enrolled in AP, IB, or AICE only to be Hispanic (9 percent versus 23 percent), economically disadvantaged (17 percent versus 19 percent), and enrolled in special education (11 percent and 17 percent; table 5). While White students made up the largest racial/ethnic group in both types of

TABLE 2

Type of dual enrollment participation among grade 11 and 12 students in Florida, 2006/07

Type of program	Number	Percent
In dual enrollment	25,992	7.3
College credit only	24,541	94.4
Career only	483	1.9
Both college credit and career	968	3.7
Not in dual enrollment	327,958	92.7
Total	353,950	100.0

Source: Authors' analysis based on data from Florida Department of Education (2007b).

TABLE 3

Grade 11 and 12 students in Florida participating in acceleration courses, 2006/07

Type of program	Number	Percent
Dual enrollment only	15,419	15.7
AP, IB, or AICE only	72,403	73.6
Both dual enrollment and AP, IB, or AICE	10,573	10.7
Total	98,395	100.0

Note: AP is advanced placement, IB is International Baccalaureate, and AICE is Advanced International Certificate of Education (see box 1).

Source: Authors' analysis based on data from Florida Department of Education (2007b).

TABLE 4

Characteristics of grade 11 and 12 students in Florida, by dual enrollment participation, 2006/07

Student characteristic	In dual enrollment													
	Total		Overall				College-credit only		Career only		Both college credit and career		Not in dual enrollment	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent		
Gender														
Male	174,152	49.2	9,957	38.3	9,244	37.7	291	60.2	422	43.6	164,195	50.1		
Female	179,798	50.8	16,035	61.7	15,297	62.3	192	39.8	546	56.4	163,763	49.9		
Race/ethnicity														
White	179,978	50.8	18,817	72.4	17,895	72.9	300	62.1	622	64.3	161,161	49.1		
Black	79,761	22.5	2,815	10.8	2,514	10.2	93	19.3	208	21.5	76,946	23.5		
Hispanic	77,678	21.9	2,825	10.9	2,642	10.8	73	15.1	110	11.4	74,853	22.8		
Asian	9,646	2.7	1,005	3.9	982	4.0	7	1.4	16	1.7	8,641	2.6		
Other ^a	6,887	3.8	530	2.0	508	2.1	10	2.1	12	1.2	6,357	1.9		
Other characteristics														
Economically disadvantaged students ^b	108,473	30.7	4,029	15.5	3,624	14.8	154	31.9	251	25.9	104,444	31.9		
English language learner students	16,441	4.6	92	0.4	79	0.3	3	0.6	10	1.0	16,349	5.0		
Special education students	63,903	18.1	3,565	13.7	3,308	13.5	120	24.8	137	14.2	60,338	18.4		
Total	353,950	100.0	25,992	100.0	24,541	100.0	483	100.0	968	100.0	327,958	100.0		

a. Includes American Indian and Alaska Native subgroups to protect student confidentiality.

b. Eligible for free or reduced-price lunch.

Source: Authors' analysis based on data from Florida Department of Education (2007b).

TABLE 5

Characteristics of grade 11 and 12 students in Florida, by acceleration program participation, 2006/07

Student characteristic	Acceleration program participation									
	Total		Dual enrollment only		AP, IB, or AICE only		Both dual enrollment and AP, IB, or AICE		None	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Gender										
Male	174,152	49.2	5,973	38.7	30,141	41.6	3,984	37.7	134,054	52.5
Female	179,798	50.8	9,446	61.3	42,262	58.4	6,589	62.3	121,501	47.5
Race/ethnicity										
White	179,978	50.8	11,578	75.1	41,570	57.4	7,239	68.5	119,591	46.8
Black	79,761	22.5	1,771	11.5	8,981	12.4	1,044	9.9	67,965	26.6
Hispanic	77,678	21.9	1,418	9.2	16,259	22.5	1,407	13.3	58,594	22.9
Asian	9,646	2.7	347	2.3	3,987	5.5	658	6.2	4,654	1.8
American Indian	998	0.3	60	0.4	205	0.3	34	0.3	699	0.3
Other	5,889	1.7	245	1.6	1,401	1.9	191	1.8	4,052	1.6
Other characteristics										
Economically disadvantaged students ^a	108,473	30.6	2,540	16.5	14,076	19.4	1,489	14.1	90,368	35.4
English language learner students	16,441	4.6	68	0.4	1,740	2.4	24	0.2	14,609	5.7
Special education students	63,903	18.1	1,645	10.7	12,162	16.8	1,920	18.2	48,176	18.9
Total	353,950	100.0	15,419	100.0	72,403	100.0	10,573	100.0	255,555	100.0

a. Eligible for free or reduced-price lunch.

Source: Authors' analysis based on data from Florida Department of Education (2007b).

programs, their participation in AP, IB, or AICE only (57 percent) was closer to their share in the overall population of students (51 percent) than is their participation in dual enrollment only (75 percent).

How was participation in dual enrollment distributed across the state in 2006/07?

Districts were sorted by dual enrollment rates for students in grades 11 and 12 in 2006/07 and then divided into quartiles (see table A3 in appendix A). Dual enrollment rates ranged from a low of 2.9 percent in Orange County School District to a high of 38 percent in Bay County School District (map 1). The five districts with the largest PreK–12 enrollments in the state—Orange, Miami-Dade, Broward, Hillsborough, and Palm Beach—were in the fourth

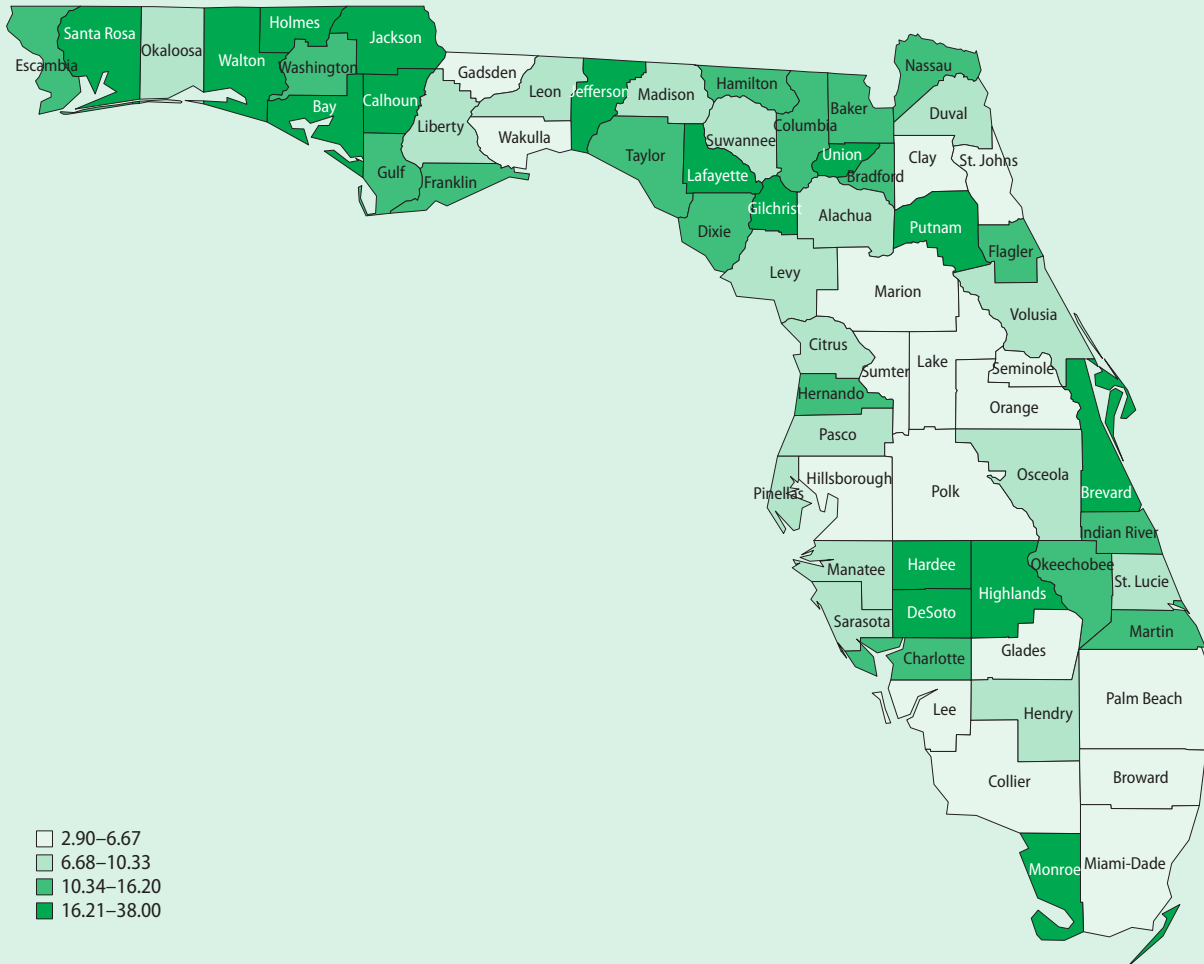
quartile of student participation (Florida Department of Education 2010c). Half of the 16 districts in the first quartile (with the highest dual enrollment rates) were in rural locales. Several districts with high rates of dual enrollment were geographically clustered: Bay, Calhoun, Holmes, Walton, and Jackson in northwestern Florida and DeSoto, Highlands, and Hardee in south-central Florida.

What factors contributed to the establishment of dual enrollment articulation agreements in nine selected school districts as of 2009/10, and what challenges did the districts encounter?

The nine districts selected for the qualitative analysis evenly represent the low, medium, and high levels of 2007/08 dual enrollment

MAP 1

Dual enrollment rates for grade 11 and 12 students in Florida, by district quartiles of low to high participation levels, 2006/07 (percent)



Source: Authors' analysis based on data from Florida Department of Education (2007b).

participation as well as a range of locales, from large cities to remote rural areas (table 6; see appendix A sample selection section for explanation of sampling and table A4 for locale definitions.)

Generally, school districts have one articulation agreement with the designated college from the Florida College System (a consortium of community colleges and branch campuses) in their service area (table 7). However, districts 1a and 2b have multiple agreements. Members of the Florida College System are required to work with all districts in their service area (see discussion below). As a result, some colleges have more than five articulation agreements in place with different districts. College partner 1c had six articulation agreements; college partner 2b had more than five articulation agreements (it did not specify the exact number).

Eight of the nine districts offered dual enrollment courses on high school campuses, and all nine offered courses at partner colleges (see table 7). Less

often, dual enrollment courses were offered online and at satellite centers. One district in each tier (districts 1b, 2a, and 3a) offered dual enrollment courses at all four locations.

Factors contributing to articulation agreements.

Administrators mentioned several factors influencing the establishment and growth of dual enrollment programs in the nine Florida districts. Four district and five college administrators identified Florida Statute section 1007.235 as a primary reason for entering into articulation agreements (table 8). This is not surprising as Florida statute requires all school districts and colleges in the Florida College System to have an acceleration program and an articulation agreement in place (Florida Legislature 2009a).

District and college partners also explained that a state mandate on designated service areas guided them in establishing partnerships. Four district and four college administrators cited the designated service area requirement in their decisions

TABLE 6

Characteristics of nine sample Florida districts as of 2006/07, by extent of district dual enrollment participation in 2007/08 (percent unless otherwise indicated)

Characteristic	Low-participation districts			Medium-participation districts			High-participation districts		
	1a	1b	1c	2a	2b	2c	3a	3b	3c
Locale ^a	Suburb, mid-size	Town, remote	Rural, fringe	Town, distant	City, large	Town, distant	Rural, distant	Rural, fringe	City, small
High school enrollment (number)	10,000–20,000	< 1,000	1,000–5,000	1,000–5,000	> 20,000	1,000–5,000	1,000–5,000	< 1,000	5,000–10,000
White students	50.3	43.4	77.0	85.2	43.6	61.0	87.1	83.5	77.3
Other racial/ethnic groups	49.7	56.6	23.0	14.8	56.4	39.0	12.9	16.5	22.7
Economically disadvantaged students ^b	28.3–34.7	> 46.1	34.8–46.0	28.3–34.7	0–28.2	> 46.1	34.8–46.0	34.8–46.0	28.3–34.7
English language learner students	> 3.5	1.5–3.49	0–1.49	0–0.5	1.5–3.49	1.5–3.49	0–0.5	0–0.5	0.5–1.49
Special education students	16.9–19.6	19.7–22.3	0–16.8	0–16.8	0–16.8	>22.4	0–16.8	19.7–22.3	0–16.8

a. See table A4 in appendix A for definitions.

b. Eligible for free or reduced-price lunch.

Note: For high school enrollment, economically disadvantaged status, English language learner status, and special education status, the reported range reflects the range of each sample district's quartile when all 67 districts are considered.

Source: Authors' analysis based on data from U.S. Department of Education (n.d.) to determine locale and high school enrollment and data from Florida Department of Education (2007b) to determine remaining district characteristics.

TABLE 7

Characteristics of acceleration programs in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08

Characteristic	Low-participation districts			Medium-participation districts			High-participation districts		
	1a	1b	1c	2a	2b	2c	3a	3b	3c
Number of articulation agreements									
School district	5	1	1	1	2	1	1	1	1
College	5	2	6	5	> 5 ^a	4	2	5	3
Site of dual enrollment courses									
High school	✓	✓		✓	✓	✓	✓	✓	✓
College	✓	✓	✓	✓	✓	✓	✓	✓	✓
Online		✓	✓	✓			✓		
Satellite campus/ center		✓		✓	✓		✓		✓

a. A more precise number was not available from the interviews or the district website.

Source: Authors' analysis of school district and college partner interviews.

TABLE 8

Factors that contributed to the establishment of articulation agreements in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08

Contributing factor	Total		Low-participation districts				Medium-participation districts				High-participation districts									
			1a		1b		1c		2a		2b		2c		3a		3b		3c	
	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College
Florida Statute section 1007.235	4	5	✓	✓	✓				✓	✓	✓			✓	✓					✓
Designated service area	4	4				✓		✓	✓				✓		✓			✓	✓	
Geographic proximity	4	0	✓										✓				✓		✓	
Florida Statute section 1008.34	2	0	✓		✓															

Source: Authors' analysis of school district and college partner interviews.

to form articulation agreements (see table 8). Florida requires each college in the Florida College System to offer dual enrollment opportunities to districts in its designated service area through articulation agreements. However, this study found that this requirement was flexible and did not restrict colleges and districts from forming partnerships outside their designated service areas. According to interviews across all nine districts, students can get permission to attend a college outside the district's service area that articulates dual enrollment opportunities with their school.

Geographic proximity between high schools and colleges emerged as another factor facilitating the establishment of articulation agreements. Four district administrators mentioned the closeness of a high school to the college as a motivating factor.

Two district administrators identified changes in Florida's School Improvement Accountability System under Florida Statute section 1008.34 as contributing to the establishment of their articulation agreements. This section of the statute specifies criteria for grading high schools on their

performance on such indicators as dual enrollment participation and Florida Comprehensive Assessment Test scores. The policy stipulates that half of a school's grade be based on factors that include assessing graduation rates and performance data on eligible students in acceleration programs (Florida Legislature 2009b).

Challenges to articulation agreements. Four district and three college respondents reported administrative challenges in establishing and implementing articulation agreements (table 9). Administrative challenges included difficulty aligning course schedules and transmitting grades because of differences in high school and college course calendars.

High school teachers must meet the college's subject matter accreditation requirements to teach dual enrollment courses at the high school. High schools in eight of the nine districts (all but 1c) offered dual enrollment courses at the high school (see table 7) and thus had at least one teacher providing dual enrollment courses on-site. Four district administrators and one college administrator

identified a lack of qualified high school teachers as a challenge in implementing dual enrollment programs (see table 9). If high schools lack qualified teachers, students have to travel to colleges for classes.

Three district administrators reported geographic proximity between high schools and colleges as a challenge, particularly because students are responsible for getting to college classes on their own. Although transportation is not covered by the articulation agreements, administrators in medium- and high-dual enrollment participation districts did not cite geographic proximity as a challenge.

Three college administrators noted challenges in communicating with parents and school personnel. High school guidance counselors were identified as the main conduits of information to students and parents about dual enrollment. One college administrator attributed the gap to lack of communication between the college and school, citing school personnel's lack of understanding of the dual enrollment program. Two college

TABLE 9

Challenges to articulation agreements in nine sample Florida districts as of 2009/10, by extent of district dual enrollment participation in 2007/08

Challenge	Total		Low-participation districts						Medium-participation districts						High-participation districts					
			1a		1b		1c		2a		2b		2c		3a		3b		3c	
	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College
Administrative challenges	4	3	✓	✓					✓						✓		✓		✓	✓
Qualified high school teachers	4	1			✓		✓				✓	✓	✓							
Geographic proximity	3	0	✓		✓		✓													
Communication with parents	0	2						✓											✓	
Grade point average requirement	2	0									✓									✓
Communication with school personnel	0	1			✓															

Source: Authors' analysis of school district and college partner interviews.

administrators identified informing parents about how to participate and maintain eligibility as a challenge.

Two district administrators indicated that the 3.0 GPA requirement was an obstacle for some students.

What policies did districts' dual enrollment articulation agreements cover?

All colleges and districts included the components suggested by the state's sample articulation agreement in their articulation agreements (appendix B). The following sections summarize dual enrollment policies in the nine articulation agreements as they relate to the guidelines in sections 2–12 of the state's sample agreement.

Ratification. All articulation agreements referenced Florida Statute section 1007.235 (Florida Legislature 2009a) as the basis for the contract between the district and college to cover dual enrollment, early college admission programs, and other acceleration programs. All nine articulation agreements included renewal provisions, as suggested by section 2 of the sample agreement; eight agreements were valid for one year with a renewal option. The ninth agreement was valid for three years, and revisions had been made every year since its inception.

Courses and programs. The nine articulation agreements addressed dual enrollment, but only five agreements also included AP and IB programs. Although none of the articulation agreements specifically mentioned AICE, the agreements of districts 1a and 1b allowed for the inclusion of “other institutional credit by exam” programs. Furthermore, as suggested by sections 3 and 4 of the sample agreement, all articulation agreements listed appropriate dual enrollment courses and noted that courses eligible for dual enrollment were defined in the State Board of Education rules and had to meet the requirements of Florida Statute sections 1007.27 and 1007.271 (Florida Legislature 2009c, d).

Recruitment. The articulation agreements also covered how to inform students and parents of dual enrollment options, as identified in sections 5 and 6 of the sample agreement. Six agreements included policies on how to inform parents and students about dual enrollment options, and three stated that the college and high school will collaborate to provide this information. Five agreements specified that high school guidance counselors were principally responsible for advising parents and students about dual enrollment options. Four agreements stated that colleges and high schools will collaborate in informing students and parents about dual enrollment programs using Florida's Academic Counseling and Tracking for Students website (FACTS.org, which helps students plan and track education opportunities and progress) and other mechanisms (Florida Department of Education, University of South Florida, and Florida Center for Advising and Academic Support n.d.). While the agreements indicated that designated high school advisors and counselors were responsible for submitting the application forms on time to colleges, the agreements do not detail the dual enrollment procedures or deadlines, as suggested in section 7 of the state template.

Eligibility. Following guidelines set forth in section 8 of the sample agreement, all nine articulation agreements delineated policies on student eligibility for dual enrollment programs. In accordance with Florida Statute section 1007.271, all nine agreements stated that students were eligible if they were enrolled in a public or private secondary school or in a home education program and if they achieved a minimum passing score on a placement test, including the ACT-E, SAT-R, Test of Adult Basic Education, and College Placement Test (Florida Legislature 2009d).

Although Florida Statute section 1007.27 does not set age or grade-level restrictions for students in dual enrollment programs, it does require

All colleges and districts included the components suggested by the state's sample articulation agreement in their articulation agreements

All nine articulation agreements assigned high school personnel responsibility for ensuring that students met eligibility criteria and for advising students; college administrators were responsible for selecting, scheduling, and coordinating the faculty, course offerings, and entry placement testing

“readiness for college-level coursework if the student is to be enrolled in college courses” (Florida Legislature 2009c). Section 1007.271 requires that students enrolling in college credit dual enrollment courses have a 3.0 GPA and that students enrolling in career certificate courses have a 2.0 GPA. The statute allows exceptions if agreed by the parties to the articulation agreement. It also allows colleges to include additional admission criteria in the articulation agreement (Florida Legislature 2009d).

The nine articulation agreements went beyond the eligibility criteria of section 1007.271 by specifying grade-level requirements and allowing exceptions. Five agreements (2a, 2c, 3a, 3b, and 3c) stated that students in grades 10–12 could be eligible for dual enrollment if they had a 3.0 GPA. The other four agreements set eligibility requirements based on a combination of age, grade level, and academic performance. Agreements for districts 1c and 2b recommended students in grades 11 and 12 for dual enrollment but allowed students in other grades to participate if they met all other eligibility requirements and had a 3.0 GPA. Agreements for districts 1a and 1b stated that dual enrollment students should be at least 14 years old and that students in lower grades (grades 9 and 10 for district 1b and grades 10 and 11 for district 1a) should have a GPA of at least 3.5.

Institutional responsibility for student screening, program monitoring, and quality assurance. As suggested in sections 9 and 10 of the state sample agreement, the articulation agreements covered screening, monitoring, and quality assurance. All nine agreements assigned high school personnel responsibility for ensuring that students met eligibility criteria, for advising students, and for completing the appropriate paperwork. College administrators, in cooperation with high school principals, were responsible for selecting,

scheduling, and coordinating the faculty, course offerings, and entry placement testing. College personnel were also responsible for monitoring student academic performance in dual enrollment courses.

Although all articulation agreements stated that high school and college administrators would jointly monitor instructional quality, only the college responsibilities were detailed. College staff were responsible for ensuring that instructors, curriculum, and assessment procedures met the standards of the Southern Association of Colleges and Schools. In three districts (1a, 1b, and 3b), the articulation agreements stated that every dual enrollment course was to be visited at least once a semester by the college administrator and that student evaluations would be given to the college administrator each semester. In three other districts (1c, 2b, and 3c), articulation agreements stated that the college personnel would hold orientation for dual enrollment instructors and meet with them or email them once a semester to clarify institutional policies, procedures, and expectations. Additionally, college personnel were to conduct periodic evaluations, which might include visiting classrooms; assessing instructional materials, syllabi, and test scores; and reviewing student evaluations. The agreement for district 2a stated that the college would conduct administrative and student evaluations of dual enrollment instructors.

Institutional responsibility for program costs. In accordance with the Florida General Appropriations Act (Florida Legislature 2010), for purposes of college program funding the articulation agreements required colleges to count dual enrollment students as full-time equivalent students, whether they took dual enrollment courses at the high school or at the college.

Following section 11 of the state sample agreement on the cost of dual enrollment programs, the nine agreements made the school board responsible for providing appropriate education and support facilities for students taking dual enrollment

courses at the high school site. The colleges were responsible for compensating the school systems for dual enrollment teachers at both high school and college sites, based on student enrollment and the salary schedule for adjunct faculty.

All nine articulation agreements described the costs for which dual enrollment students were responsible and the costs that were covered for them. For instance, all nine agreements clearly stated that, in accordance with Florida Statute section 1007.271 (Florida Legislature 2009d), dual enrollment students in public schools were exempt from all college registration, matriculation, textbook, and laboratory fees. Students in home education or private schools, however, were required to pay for instructional materials. And all students were responsible for paying special course or program fees, such as for art supplies, aviation flight fees, automotive tools, culinary equipment, and health care uniforms.

Transportation. Following section 12 in the state sample agreement, all articulation agreements

made dual enrollment students responsible for providing their own transportation.

How did the nine selected school districts and their college partners inform high school students of dual enrollment options?

School district and college administrators identified seven approaches used to inform students and parents of dual enrollment (table 10).

Seven districts and seven college administrators said that they used printed materials to inform students of dual enrollment options, including mailings, handbooks, and brochures. Four district administrators considered these materials to be one of their best approaches for informing students.

Seven district administrators identified using high school guidance counselors to inform students of dual enrollment options, with three claiming that this approach was one of their best. Six college administrators also identified guidance counselors as resources, with four saying that this was one

TABLE 10

Approaches used by school districts and college partners to inform students and parents of dual enrollment, as of 2009/10

Approach	Total		Low-participation districts						Medium-participation districts						High-participation districts					
			1a		1b		1c		2a		2b		2c		3a		3b		3c	
	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College	District	College
Printed materials	7	7	✓		✓	✓	+	✓		✓	✓	✓	+	✓		✓	+	✓	+	
High school guidance counselors	7	6	✓	+		+		+	+		+	✓	✓	✓	✓	+	+		✓	
College recruiter sent to high schools	3	9		✓		✓		✓	✓	✓	✓	✓	✓	✓		✓		✓		✓
Group or individual meetings	5	7	✓	+		✓	+	✓		✓		+	+	✓				✓	✓	+
Media	3	7					✓	✓		✓		+		✓	✓	✓		✓	+	✓
Word of mouth	3	3				✓	+	+						+		✓	+			
College Placement Test	3	1	✓	✓	+									✓						

✓ described as an awareness approach; + described as one of the best approaches.

Source: Authors' analysis of school district and college partner interviews.

Seven district administrators and six college administrators identified guidance counselors as resources to inform students of dual enrollment options

of the best approaches. Guidance counselors can meet one on one with students and parents, explain dual enrollment eligibility requirements, and answer students' and parents' questions.

All nine college administrators interviewed identified sending a college recruiter to the high school as an approach used to inform students of dual enrollment options. All three administrators from districts with medium dual enrollment participation confirmed that their college partners used this approach. College recruiters may speak with the high school guidance counselors or directly with students and parents about dual enrollment.

Five district and seven college administrators said that they used group meetings, such as assemblies, community meetings, and parent nights, to inform students about dual enrollment. Two college administrators and three district administrators stated that group meetings were one of the best methods for informing students.

Seven college administrators mentioned websites, television advertisements and news story

highlights, newspaper articles, and other media as a means of providing dual enrollment information. Three district administrators also described using media. One college administrator and one district administrator considered use of media as one of their best approaches.

Word of mouth from current or former dual enrollment students to other students occurred spontaneously, with no strategy guiding the process, according to district and college administrators. Word of mouth was described by three district and three college administrators, with all three district administrators and two college administrators describing word of mouth as one of the best ways to spread information.

Discussing the College Placement Test eligibility requirement for dual enrollment (including encouraging students to take the test) was another method for informing students. Three district administrators and one college administrator described encouraging students in grades 10 and 11 who meet the dual enrollment GPA requirement to sign up for the test in order to be eligible for dual enrollment. One district administrator stated that having students take the test was one of the best approaches to making students aware of their dual enrollment options.

NOTES

1. This report uses the term “College Placement Test.” However, other Florida Department of Education materials use the term “Common Placement Test.” The interviewees in this study also used both terms.
2. Reflecting national patterns, more students participate in Advanced Placement (AP) courses than in any other form of acceleration program in Florida (Waits, Setzer, and Lewis 2005). Among the 72,403 students in the AP, International Baccalaureate, or Advanced International Certificate of Education only category, 69,369 (96 percent) were in AP courses only.

APPENDIX A METHODOLOGY

This appendix describes data sources and analyses for the quantitative and qualitative components of this study.

Quantitative component

Data sources. Student-level transcript, enrollment, and demographic files for all high school students during the 2006/07 academic year in Florida were provided by the Florida Department of Education (2007b). Unique student identifiers were used to link information across data files.

Analytic sample. The original sample contained 886,044 students in grades 9–12. The following restrictions were set to create the analytic sample (table A1):

- *Students with all three kinds of data: enrollment, transcript, and demographic.* The Florida Department of Education provided three separate data files linked by individual student identifiers. To be included in the analytic sample, a student had to appear in all three files. Of the 886,044 students in grades 9–12 in the enrollment file, 10.7 percent (94,903 students) were dropped from the sample because of missing data in one or more files. (See further discussion below.)
- *Students in Florida’s 67 main districts.* The study focused on Florida’s 67 main districts (which correspond with counties) and excluded special districts, noncounty districts that include virtual high schools, university labs, and similar entities. These districts were excluded because they do not reflect typical Florida high schools. Among students in grades 9–12, 0.2 percent (1,710 students) were excluded because they attended schools in special districts.
- *Students in survey 5.* The Florida Department of Education collects administrative

TABLE A1

Summary of sample exclusions

Sample	Number	Percent of original sample
Original sample	886,044	100
<i>Exclusions</i>		
Lacks enrollment, transcript, or demographic data	94,903	10.7
Attends school in special district	1,710	0.2
Lacks survey 5 record	2,814	0.3
Displays data quality problems	49	0.0
Attends grade 9 or 10	432,618	48.8
Final analytic sample	353,950	39.9

Source: Authors’ analysis based on data from Florida Department of Education (2007b).

data during five survey points across the year. The department’s enrollment file includes data collected at all five surveys, resulting in multiple records per student. On the advice of the Florida Department of Education, the study used the records associated with the last survey period (survey 5). As a result, 0.3 percent of students (2,814) were excluded because they were not in school at the time of the final survey.

- *Students without data quality issues.* Students with conflicting student records, such as duplicate withdrawal dates in different districts, were excluded; this restriction eliminated less than 0.1 percent of students (49 students).
- *Students in grades 11 and 12.* Since grade 11 and 12 students accounted for 90 percent of dual enrollment in Florida in 2006/07, the study focused on those grades, and students in grades 9 and 10 were excluded. This restriction excluded 48.8 percent of students (432,618 students).

The final analytic sample contained 353,950 students in grades 11 and 12 during the 2006/07 academic year, 7.3 percent (or 25,992 students) of them dual enrollees.

Protection of confidentiality. The student data provided by the Florida Department of Education did not directly or indirectly identify individual students. The student records were assigned random identification numbers linked to school administrative data. However, in accordance with the standards of the National Center for Education Statistics, this report does not report results with fewer than three cases (Seastrom 2003). In addition, the study follows strict Florida Department of Education data security procedures. Research team members signed confidentiality agreements with the Florida Department of Education. The study's data protection methods were approved by the Institutional Review Board of the University of North Carolina–Greensboro.

Data analyses. Students enrolled in at least one dual enrollment course during the 2006/07 academic year were classed as dual enrollees. Dual enrollees and type of dual enrollment participation were identified using two data elements from the transcript data. The first data element (*dual_enrollment_cd*) reported to the Florida Department of Education through the PreK–12 data system identified three types of dual enrollment courses: academic courses that count toward associate or baccalaureate degrees; vocational college credit courses that count toward Associate in Applied Science or Associate in Science degrees, Applied Technology Diploma, or a college-credit certificate program; and vocational certificate courses that count toward a vocational certificate. The second data element (*dual_enrollment_category_cd*) reported to the Florida Department of Education by the Florida College System identified two types of dual enrollment courses: those that count toward an associate's degree and those that count toward a vocational certificate.

From these two data elements, the research team created a variable indicating participation in dual enrollment courses. Students were identified as dual enrollment participants if they appeared in the records for any of the three types of dual enrollment courses reported by the first data element or in either of the two types of courses reported by the second.

An additional variable was created from these elements to indicate whether a student participated in college credit dual enrollment courses only, career dual enrollment courses only, or both (table A2).

Dual enrollment participation rates were calculated by dividing the total number of students enrolled in dual enrollment courses in grades 11 and 12 in 2006/07 by the total number of students in grades 11 and 12 that year. This methodology varies from the methodologies used in previous Florida Department of Education reports on dual enrollment. A recent report used cumulative counts of course enrollment to determine the dual enrollment headcount, thereby counting dual enrollment participants multiple times (Florida Department of Education 2010b). Several previous studies calculated the dual enrollment rate by dividing the total number of dual enrollees in grades 9–12 by the number of students in grades 11 and 12 (Florida Department of Education 2007a, 2009).

This study also used elements from the Florida Department of Education (2007b) student data file to describe students enrolled in dual enrollment courses, including gender, race/ethnicity,

TABLE A2

Codes for categorizing dual enrollment courses

Student data variable	Recoded value
<i>dual_enrollment_cd</i>	
Academic dual enrollment course	College credit dual enrollment
Vocational dual enrollment course	College credit dual enrollment
Vocational certificate dual enrollment course	Career dual enrollment
<i>dual_enrollment_category_cd</i>	
Dual enrollment course counted toward an A.A. or A.S. degree	College credit dual enrollment
Dual enrollment course counted toward a vocational certificate	Career dual enrollment

Source: Authors' analysis based on data from Florida Department of Education (2007b).

economically disadvantaged status (eligible for free or reduced-price lunch), English language learner status, and special education status.

The second study question asks about participation in other acceleration programs—Advanced Placement (AP), International Baccalaureate (IB), and Advanced International Certificate of Education (AICE) courses. As part of its database documentation, the Florida Department of Education maintains a list of all AP, IB, and AICE course offerings. The research team identified students who took AP, IB, or AICE courses in 2006/07 by cross-referencing the course titles and numbers in the transcript data with the corresponding information provided in the documentation (Florida Department of Education 2006b).

The third study question asks about the concentration of dual enrollment across the state. The team calculated dual enrollment rates by district, using the formula described previously, and then divided the districts into quartiles based on dual enrollment rates (table A3). The information was then transferred to a color-coded map of Florida districts (see map 1 in main report). Districts were also characterized by urban and rural locale, using the locale codes defined in the Common Core of Data (U.S. Department of Education n.d.; table A4).

Limitations. The major limitations of the quantitative analysis relate to restrictions in creating the analytic sample. The analysis used enrollment, transcript, and demographic data for grade 11 and 12 students. The most stringent restriction (excluding 10.7 percent, or 94,903 students) was the requirement for transcript data. The transcript data were required because of concerns that the raw enrollment data were inflated. Transcript data were used to weed out students who were in the enrollment files but who were not actually part of the 2006/07 class. The Florida Department of Education gave several reasons for the discrepancy: summer transfers, data collection requirements for migrant students who were not actually enrolled, and students who were home schooled or

attended private schools for whom transcript information had not been provided. Transcript data were also needed to establish students' participation in AP, IB, and AICE courses.

These data restrictions brought the analytic sample closer in line with the Florida Department of Education's enrollment count for 2006/07 (Florida Department of Education n.d. a). However, many descriptive studies on dual enrollment by the Florida Department of Education do not impose these requirements or follow the same methodology for calculating dual enrollment, so dual enrollment headcounts in those studies are generally higher (for example, Florida Department of Education 2009).

Another limitation is that the quantitative analysis used data for 2006/07, the most recent data available at the time the study was proposed.

Qualitative component

Sample selection. The 2007/08 dual enrollment participation data provided by the Florida Department of Education were used to select a stratified random sample of nine districts for qualitative analysis. The 2006/07 data on which the quantitative component of this study is based were not ready to use for sampling purposes.

First, districts were sorted by tertiles into low, medium, and high dual enrollment rate groups. Three districts were randomly selected from each group to capture a range of enrollments. Three more districts from each group were randomly selected as backup districts. Three of the original nine districts were unresponsive (district personnel did not have the time and resources for an interview)—two from the lowest tertile and one from the middle tertile—and were replaced by backup districts.

Interviews and institutional documents. Interviews were conducted with school district administrators and administrators from partner colleges in the nine sites selected for the qualitative study

TABLE A3

Dual enrollment rates by quartile, PreK–12 enrollment, and Florida school district, 2006/07

Quartile	District	PreK–12 enrollment	Locale	Quartile	District	PreK–12 enrollment	Locale
1	Orange	175,245	Suburb, large	3	Hamilton	2,036	Rural, fringe
	Miami-Dade	353,790	Suburb, large		Taylor	3,420	Rural, fringe
	Collier	43,144	Suburb, mid-size		Dixie	2,241	Rural, fringe
	Broward	262,813	Suburb, large		Escambia	42,708	Suburb, large
	Seminole	66,351	Suburb, large		Nassau	10,938	Town, fringe
	Hillsborough	193,517	Suburb, large		Okeechobee	7,289	Town, distant
	Marion	42,572	Rural, fringe		Franklin	1,317	Rural, remote
	Palm Beach	171,431	Suburb, large		Gulf	2,193	Town, distant
	Glades	1,256	Town, remote		Columbia	10,179	Town, distant
	Lake	39,623	Suburb, small		Hernando	22,450	Suburb, mid-size
	Wakulla	5,050	Rural, distant		Charlotte	17,888	Suburb, mid-size
	Lee	78,981	Suburb, large		Flagler	12,149	Rural, fringe
	Sumter	7,435	Rural, fringe		Indian River	17,611	Suburb, mid-size
	Clay	35,711	Suburb, large		Baker	4,974	Town, distant
	Gadsden	6,648	Rural, fringe		Martin	18,239	Suburb, large
	St. Johns	26,926	Rural, fringe		Bradford	3,683	Town, distant
	Polk	92,801	Suburb, mid-size		Washington	3,557	Rural, distant
2	Suwannee	5,981	Rural, fringe	4	Lafayette	1,074	Rural, remote
	Manatee	42,235	Suburb, large		Jackson	7,382	Rural, distant
	Pinellas	109,915	City, mid-size		Walton	6,704	Rural, distant
	Pasco	64,689	Suburb, large		Putnam	12,101	Town, distant
	Levy	6,257	Rural, distant		Union	2,265	Rural, fringe
	Citrus	16,087	Rural, fringe		Jefferson	1,220	Rural, distant
	Liberty	1,475	Rural, distant		Holmes	3,384	Rural, distant
	Osceola	52,012	Rural, fringe		Brevard	74,785	Suburb, large
	Volusia	65,867	City, small		Hardee	5,037	Town, distant
	Hendry	7,463	Town, remote		Gilchrist	2,888	Rural, distant
	Okaloosa	30,256	Suburb, mid-size		Monroe	8,377	Town, remote
	Sarasota	42,190	Suburb, large		Santa Rosa	25,392	Suburb, large
	Leon	32,383	City, mid-size		Highlands	12,456	Town, distant
	Madison	2,935	Town, distant		Desoto	5,001	Town, fringe
	Duval	125,176	City, large		Calhoun	2,227	Rural, fringe
	St. Lucie	38,793	City, mid-size		Bay	27,005	City, small
	Alachua	28,998	City, mid-size				

Note: Within each quartile, districts are listed from lowest to highest dual enrollment rate.

Source: Authors' analysis based on data from U.S. Department of Education (n.d.) and Florida Department of Education (2007b).

component. Separate protocols were used for district and college administrators (appendixes C and D). School district administrators were either

identified by the district official who approved the study or listed on the district website as the administrator responsible for dual enrollment. All

TABLE A4

Definition of locale codes

Locale	Definition
City	
Large	Territory inside an urbanized area and inside a principal city with population of 250,000 or more.
Midsize	Territory inside an urbanized area and inside a principal city with population less than 250,000 and greater than or equal to 100,000.
Small	Territory inside an urbanized area and inside a principal city with population less than 100,000.
Suburb	
Large	Territory outside a principal city and inside an urbanized area with population of 250,000 or more.
Midsize	Territory outside a principal city and inside an urbanized area with population less than 250,000 and greater than or equal to 100,000.
Small	Territory outside a principal city and inside an urbanized area with population less than 100,000.
Town	
Fringe	Territory inside an urban cluster that is less than or equal to 10 miles from an urbanized area.
Distant	Territory inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area.
Remote	Territory inside an urban cluster that is more than 35 miles from an urbanized area.
Rural	
Fringe	Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster.
Distant	Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.
Remote	Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster.

Source: U.S. Department of Education n.d.

college administrators were identified by the district participants who worked closely with them.

Interviews were conducted by telephone by the same researcher and recorded with permission. Recordings were transcribed. Interviews averaged 40 minutes.

Respondents were asked to provide copies of their articulation agreements. All nine agreements were received.

Protection of confidentiality. The study identified administrators who were interviewed by random identification number rather than by name; names were stored electronically on a password-protected computer, separately from the data. Any identifying information, including the transcript notes and interviews, were kept in a locked file accessible only to the research team. In addition, administrators who were interviewed signed consent forms indicating their willingness to participate. They were told that although names and titles would not be reported, their identities might be uncovered by some readers of the report.

Data analyses. ATLAS.ti v.5.0, a qualitative data analysis software program, was used to conduct a constant comparative qualitative data analysis of the interview transcripts. The analysis breaks text into units of information and categorizes related units (Glaser and Strauss 1967; Lincoln and Guba 1985). The team read the responses several times before categorizing the text and generating codes (table A5). Two researchers independently applied the codes to each interview; interrater agreement was 80 percent. Coded units of text were exported from ATLAS.ti v.5.0 to Excel for further analysis, including identifying the main themes.

The team used content analysis to identify the policies outlined in the nine districts' articulation agreements.

Using data from the interviews and the articulation agreements, the study team member who

TABLE A5
Codes for qualitative analysis

Code	Description
Background	Background of respondent, history of agreement
Number of agreements	School district and/or college partners in agreement
Motivating factors	Why they have an agreement
Key players	Anyone listed as involved in the agreement or dual enrollment process (district administrators, college administrators, high school personnel, faculty, and the like)
Facilitating agreements	What is done to maintain agreement, changes made to agreement, advice to improve agreements
Challenges	Disadvantages, issues, room for improvement regarding agreement/dual enrollment
Outcomes of policy	Benefits, success for students, options for students
State policies	Approved courses offered, standards, guidelines, statutes, school grades
Support for students	Advising, tutoring, resources to assist students, guidance for students/parents
Funding	Who pays for tuition, books, transportation, exams
Awareness approaches	Strategies to inform students and parents of dual enrollment
Best approach	Perceived most successful approach to inform students and parents of dual enrollment
Procedures	Student registration, how to enroll, eligibility requirements
Dual enrollment courses	Where offered, who teaches, what the courses are

Source: Authors' analysis based on data from school district and college partner interviews.

conducted the interviews wrote case studies for all nine districts and a synthesis. Following discussion among team members, several table shells were created to present and further synthesize the results.

Limitations. Although interviews were scheduled to last an hour, two participants asked at the beginning of their interviews to limit them to 30 minutes. These participants were asked all the questions on the protocol, but additional probing of responses was curtailed. One school district interview was conducted with a high school guidance counselor, because that high school had a direct relationship with the college, with minimal district involvement.

APPENDIX B

FLORIDA DEPARTMENT OF EDUCATION

SAMPLE ARTICULATION AGREEMENT

(Florida Department of Education n.d. b)

The Interinstitutional Articulation Agreement, as required by section 1007.235, Florida Statutes, should begin with an introductory section that clearly identifies the parties involved, the term (a beginning and ending date) of the agreement, the make-up of the Articulation Committee involved in negotiating and drafting the agreement, and a description of the process by which the agreement is renewed or terminated. Following the introductory information, consider these required components:

1. *Please provide contact information for district and college staff preparing the agreement.*

Please provide the name, title, telephone number, and e-mail for staff members involved in the preparation of the agreement including one from the district and the other for the college.

2. *Please provide a brief introduction to the agreement and a description of the process by which the agreement is renewed and terminated (including the role and composition of your Articulation Committee).*

Please provide a brief description of your dual enrollment program. Specifically, state the role and composition of your Articulation Committee; and how you renew and terminate your interinstitutional articulation agreement.

3. *Please list the courses and programs that are available to students eligible to participate in dual enrollment.*

In addressing the courses and programs available to students, the *Dual Enrollment Course – High School Subject Area Equivalency List* is a great starting point, but should not be viewed as the limits of dual enrollment course offerings. Each district's agreement should take into consideration local needs including magnets, academies,

workforce demands, and access to other acceleration programs. Courses offered beyond the equivalency list (along with their locally designated high school subject/credit equivalencies) should be clearly delineated at this point in the agreement. In addition, this section should include a listing of the dual enrollment courses that are offered by the local college and, therefore, available to students as part of the Major Areas of Interest.

4. *Please provide your plan for providing guidance services.*

The college is responsible for providing guidance services to participating students on the selection of courses in the dual enrollment program. The process by which these services will be provided should be outlined in this section. Each student, preferably through the use of FACTS.org, should develop a plan that includes a list of courses that will result in an Applied Technology Diploma, an Associate in Science degree, or an Associate in Arts degree, OR, if the student identifies a baccalaureate degree as the objective, the plan must include courses that will meet the general education requirements and any prerequisite requirements for entrance into the selected baccalaureate degree program. Advising is the key to students making appropriate selections, and the advising practices that support student course selection should be clearly articulated in this section.

5. *Please describe the process by which students are notified of the option to participate.*

Please state whether college and/or partnering school district will notify students about the option to enroll in dual enrollment courses. How and when will this be done? Be specific.

6. *Please describe the process by which parents are notified of the option to participate.*

Please state whether college and/or partnering school district will notify parents about the option for their children to enroll in dual enrollment courses. How and when will this be done? Be specific.

7. *Please describe the process by which students and parents exercise their right to participate.*

Please state the procedures that are in place for participation, along with firmly established deadlines. Your agreement should contain specific information regarding the following: application/forms for admission to the program; the recommendations/signatures required for participation; the person to whom students and parents should submit their paperwork; the process by which students register and withdraw from courses; maximum course loads; grade forgiveness; weighting of dual enrollment course grades; and the process by which grades are distributed.

8. *Please describe eligibility criteria for student participation in dual enrollment courses and programs.*

a. College-credit Dual Enrollment (Includes College-credit ATD, College Credit Certificate, AAS, AA and AA)

Per section 1007.271(3), Florida Statutes, students must have an unweighted GPA of 3.0 and demonstrate readiness for college coursework through scores on the Common Placement Tests (as established in State Board of Education Rule 6A-10.0315).

b. Career and Technical Certificate Dual Enrollment (Postsecondary Adult Vocation, PSAV)

Per section 1007.271(3), Florida Statutes, participation in career and technical certificate dual enrollment requires a 2.0 unweighted GPA. Any exception to the GPA requirement and/or any additional program admission requirements (such as high school grade level) must be clearly delineated at this point in the agreement.

c. Early Admission

Per section 1007.271(7), Florida Statutes, early admission is described as full-time dual enrollment. Consequently, the eligibility criteria for college-credit dual enrollment also apply to students who

enroll as 'early admit' in a postsecondary institution on a full-time basis.

9. *Please describe the institutional responsibilities for student screening prior to enrollment and monitoring enrolled students.*

a. Describe how students are screened for dual enrollment eligibility prior to enrolling in a dual enrollment course

Please state the requirements for initial eligibility prior to student enrolling in dual enrollment courses. Be specific about college credit, and career and technical dual enrollment courses. Please state if there are additional eligibility requirements for early admits.

In addition to initial eligibility requirements, eligibility for continued participation in the program must be addressed including a clear identification of which GPA is being considered (the college or high school), and how often the GPAs are reviewed.

b. Describe how students' progress is monitored in dual enrollment courses for continued enrollment in the program.

The delineation of responsibility for ongoing monitoring of participants must be included in the agreement at this point.

In addition to outlining the academic criteria for continued enrollment in the program, this section is a good place to identify behavioral expectations in dual enrollment courses. For example: which entity's code of conduct and consequences will be enforced? Maturity/discipline issues arise regularly, and addressing them in the agreement leaves less room for dispute when these incidents occur.

Legislative Note: Senate Bill 1908, passed during the 2008 Legislative Session, includes a provision requiring the IAA (pursuant to s. 1007.235, F.S.) to stipulate that the college granting the postsecondary credit for a dual enrollment course is responsible for assigning grades for those courses.

School districts are prohibited from changing any grade (once assigned by the college) when posting it to the high school transcript.

10. *Please describe the criteria by which the quality of dual enrollment courses and programs are to be judged and maintained.*

Dual enrollment courses are college courses both in content and outcomes. Dual enrollment instructors must meet the teaching credentials established by the Southern Association of Colleges and Schools (SACS). This agreement must outline the procedures for maintaining the teaching and content integrity of courses. Such procedures should include a plan for recruiting, selecting and evaluating faculty and monitoring of course content. This is the section of the agreement that should make reference to the *Dual Enrollment Statement of Standards*. It is recommended that a copy of the *Statement of Standards* be incorporated into the agreement as an attachment.

11. *Please describe institutional responsibilities for the cost of dual enrollment courses and programs.*

The financial challenges associated with dual enrollment can be overcome with a strong agreement that employs cost-sharing and cost-saving measures. Combining resources is a realistic way to cover the costs associated with the program. Specific instructional cost arrangements should delineated in this section of the agreement. For example, who pays for the instructor(s)?

While school districts are responsible for the purchase of their students' textbooks, there are a variety of ways to handle the textbook process. How textbooks are selected, the length of time for use, the manner in which students obtain their books, book return policies, etc. should all be specifically delineated in the agreement.

Students with disabilities must be accommodated as required by law in dual enrollment classes. Several issues related to this topic should be

negotiated and spelled out in this agreement. Which entity covers the cost of accommodations? Whose criteria are adhered to when determining the need for accommodations (school district or college)?

12. *Please describe the responsibilities for providing student transportation.*

This section should clearly outline who is responsible for the cost of transportation for courses taught at locations other than the high school campus. If it is the student's responsibility to provide his or her own transportation, this should be stated in the agreement.

13. *Please describe the mechanisms and strategies for reducing the incidence of postsecondary remediation in math, reading, and writing for the first-time enrolled recent high school graduates.*

This section should specify the process by which the local articulation committee will: analyze the unique problems that have been identified in this district and develop corrective actions; measure and communicate outcomes; collaborate on the development of strategies for better preparation of students upon graduation from high school; analyze the costs associated with the implementation of postsecondary remedial education and secondary-level corrective actions; and identify the strategies for reducing such costs.

Senate Bill 1908, passed during the 2008 Legislative Session, requires that assessments be used by high schools in evaluating the college readiness of selected students prior to 12th grade (beginning in 2008–09). High schools are also required to provide 12th grade students who score below the minimum cut scores with remedial instruction prior to graduation. New high school math, reading, and writing courses were added to the Course Code Directory during the 2008–09 school year to address this requirement. Specifics relating to the process for testing students and the course offerings available at the

high school must be outlined in the agreement. In addition, as data becomes available, it should be utilized to assess the effectiveness of the testing program and the associated high school instruction intended to reduce remediation at the college level.

14. Please describe the mechanisms and strategies for promoting career and technical programs of study.

Many districts have a separate “tech prep” articulation agreement in place that thoroughly addresses a plan to make students aware of the program, promotes enrollment, and articulates students through a sequential program of study leading to a postsecondary career or technical education degree or certificate and, when appropriate, an industry credential. If such an agreement exists, it should be referenced in this section and provided as a hyperlink or Web page to this agreement.

Many districts and colleges have separate “Career Pathway” articulation agreements in place that address the transition from secondary career and technical education (CTE) programs to postsecondary CTE programs. These agreements detail specific programs of study available to high school students seeking to continue in the field by enrolling in a linked postsecondary certificate or degree program and indicate the number of articulated credits available for each program of study.

15. Please provide a plan that outlines the mechanisms and strategies for improving the preparation of elementary, middle, and high school teachers.

This section of the agreement must outline a plan for the school district and college to address the ongoing preparation of teachers in the district. The plan should cover both pre-service and in-service activities developed with the intent of improving teacher preparation at all levels and addressing local critical teacher shortages.

16. Please address additional policies and provisions not captured in previous questions.

If you wish to attach information in addition to what is requested in this IAA submission system, please insert hyperlinks to the relevant documents here. In the event that you do not have additional information to add to your agreement, you *must* enter N/A. This submission system is designed such that you *must* respond to each item before you can submit your IAA successfully.

17. Review agreement.

18. Please upload a copy of your signature page.

The final section of this agreement is the execution, which includes the appropriate signatures of Florida college and school district representatives. This submission system is designed such that you must upload the signature page before you can submit your IAA successfully.

APPENDIX C

DISTRICT INTERVIEW PROTOCOL

Start with introductions and brief description of overall project.

Participant ID Code: _____

The purpose of this interview with you is to gather information about dual enrollment programs and policies within your school district. Specifically, we'd like to speak with you about your district's overall approach, infrastructure, and policies regarding dual enrollment as well as future plans, key considerations, and technical assistance needs. We will also be asking questions about your agreement with (insert specific post-secondary institution here).

The discussion today is completely voluntary and confidential. The name of your district, your name and your title will not be used in the report. If there is any particular background information about your district that you wish to share but do not want included in the report please let us know during the interview. As we have communicated, we would like to tape record our discussion with you. The discussion will be recorded solely for the purposes of ensuring data collection accuracy. We will destroy the tape once a transcript has been finalized. If you prefer that we not use a tape-recorder, we will not use one. The interview will take approximately 60 minutes. If, at any point, you feel that you are unable to answer a question or would like to refer us to someone else for specific information, feel free to let us know.

First, we would like some background information about your involvement in the dual enrollment program.

1. Please tell us about your role with regard to the dual enrollment program.
2. How long have you been involved with the dual enrollment program?

How and why did you set up the interinstitutional dual enrollment agreement?

3. How many postsecondary institutions have dual enrollment agreements with your district?

Probe:

- How many are four-year institutions?
Two-year community colleges?

4. What were the main reasons/motivating factors for your district to enter into a dual enrollment agreement with the postsecondary institution(s)?

Probes:

- Were there particular needs that prompted the agreement?
- What were the reasons for partnering with the particular institution?

5. Please describe how your district reached the decision to establish the interinstitutional dual enrollment agreement.

Probes:

- Who were the key players in starting and sustaining the agreement? What roles have they played?
- How were stakeholders involved in the process?
- Describe the contributions of each stakeholder.

What are the policies covered by the agreement?

6. Describe your district's policies and procedures concerning dual enrollment.

Probes:

- Are there requirements or prerequisites (beyond sequence) that students must meet to take dual enrollment courses?
- What supports (if any) are in place for students struggling in dual enrollment courses?
- Are there resources for such things as high school students' transportation, books, etc.?

7. Please describe the role of different district-/school-level staff involved in the dual enrollment program.

Probes:

- For example, which types of staff are involved in informing students about the dual enrollment program?
- How specifically are guidance counselors, dual enrollment coordinators, and other practitioners (e.g., school psychologist) involved?

8. What sources of funds has your district/school used to support dual enrollment (if applicable)?

Probes:

- What are the key sources of financial, organizational, and political support?
- What types and amount of resources have been provided by the district, state, federal, and private sources to support the dual enrollment program?

How do you make students aware of dual enrollment options?

9. What specific approaches has your district used to present dual enrollment courses as an option to students and their parents (e.g., district/school advertisements, principal/teacher nominations)? *Ask for copies of printed materials.*

Probes:

- (If applicable) Why did your district choose this specific approach?
- Do you feel certain approaches have been more successful than others? Why?

10. What impact does dual enrollment have on course-taking in other acceleration programs (e.g., Advanced Placement, honors, and career academies)?

Key considerations

11. What has been most important to facilitating the establishment of interinstitutional agreements for dual enrollment?
12. What have been the main challenges your institution has dealt with in terms of the agreements?
13. What have been the key factors in overcoming these challenges?
14. What advice would you share with other post-secondary institutions that are considering providing dual enrollment courses/options?

Wrap-up

15. Can we contact you in the future if we have additional questions or for clarification?

Thank you very much for your helpful information. At a minimum, we'd like to check in with you prior to publishing the report to ensure the information is accurate. This will entail sending a brief write-up of your district that will be close to a final version. We'll ask you to read over the specific parts of the document and help us ensure that the information is accurate.

APPENDIX D

COLLEGE INTERVIEW PROTOCOL

Start with introductions and brief description of overall project.

Participant ID Code: _____

The purpose of this interview with you is to gather information about dual enrollment programs and policies within your institution. Specifically, we'd like to speak with you regarding your institution's overall approach, infrastructure, and policies regarding dual enrollment as well as future plans, key considerations, and technical assistance needs. We will also be asking questions about your agreement with (insert specific school district here).

The discussion today is completely voluntary and confidential. The name of your institution, your name and your title will not be used in the report. If there is any particular background information about your institution that you wish to share but do not want included in the report please let us know during the interview. As we have communicated, we would like to tape record our discussion with you. The discussion would be recorded solely for the purposes of ensuring data collection accuracy. We will destroy the tape once a transcript has been finalized. If you prefer that we not use a tape recorder, we will not use one. The interview will take approximately 60 minutes. If, at any point, you feel that you are unable to answer a question or would like to refer us to someone else for specific information, feel free to let us know.

First, we would like some background information about your involvement in the dual enrollment program.

1. Please tell us about your role with regard to the dual enrollment program.
2. How long you have been involved with the dual enrollment program?

How and why did you set up the interinstitutional dual enrollment agreement?

3. How many school districts/schools have dual enrollment agreements with your institution?
4. What were the main reasons/motivating factors for your institution to enter into a dual enrollment agreement with the school district[s]?

Probe:

- Were there particular needs that prompted the agreement?

5. Please describe how your institution reached the decision to establish the interinstitutional dual enrollment agreement.

Probes:

- Who were the key players in starting and sustaining the agreement? What roles have they played?
- How were stakeholders involved in the process?
- Describe the contributions of each stakeholder.

What are the policies covered by the agreement?

6. Describe your institution's policies and procedures concerning dual enrollment.

Probes:

- Where are dual enrollment courses taught (e.g., at high school, at post-secondary institutions)?
- Who teaches dual enrollment courses (e.g., tenured faculty, adjunct faculty, high school teachers)?
- Who attends dual enrollment courses (e.g., are they high school students only, or are high school and college students taking courses together)?
- Who is responsible for advising and supporting dual enrollment students?
- Describe the institutional support that is provided to students who choose dual

- enrollment courses or who struggle to achieve in dual enrollment courses?
7. Please describe the roles of staff relative to dual enrollment.
- Probes:*
- Other than you, who is involved with the dual enrollment programs in your institution?
8. How is the dual enrollment program funded (if applicable)?
- Probes:*
- What are the key sources of financial support?
 - What types and amount of resources were and are provided by the district, state, federal, and private sources?
 - Are there resources for such things as high school students' transportation, books, etc?

How do you make students aware of dual enrollment options?

9. What specific approaches are used to make students aware of the dual enrollment program (such as advertisements, etc.)? *Ask for copies of printed materials.*
- Probes:*
- (If applicable) Why did your institution choose these specific approaches?
 - Do you feel certain approaches have been more successful than others? Why?

Key considerations

10. What has been most important to facilitating the establishment of interinstitutional agreements for dual enrollment?
11. What have been the main challenges your institution has dealt with in terms of the agreements?
12. What have been the key factors in overcoming these challenges?
13. What advice would you share with other postsecondary institutions that are considering providing dual enrollment courses/options?

Wrap-up

14. Can we contact you in the future if we have additional questions or for clarification?

Thank you very much for your helpful information. At a minimum, we'd like to check in with you prior to publishing the report to ensure the information is accurate. This will entail sending a brief write-up of your district/school that will be close to a final version. We'll ask you to read over the specific parts of the document and help us ensure that the information is accurate.

REFERENCES

- Adelman, C. (2006). *The toolbox revisited: paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education.
- American Institutes for Research and SRI International. (2006). *Evaluation of the Bill & Melinda Gates Foundation's high school grants initiative: 2001–2005 final report*. Washington, DC: American Institutes for Research.
- Amos, J. (2008). *Dropouts, diplomas, and dollars: U.S. high schools and the nation's economy*. Washington, DC: Alliance for Excellent Education.
- Armstrong, J. (2005). *State strategies for redesigning high schools and promoting high school to college transitions* (Issue Brief). Denver, CO: Education Commission of the States. Retrieved December 29, 2010, from www.eric.ed.gov/PDFS/ED486432.pdf.
- Bailey, T., and Karp, M. (2003). *Promoting college access and success: a review of credit-based transition programs*. Washington, DC: U.S. Department of Education, Office of Vocational and Adult Education.
- Florida Administrative Weekly and Florida Administrative Code. (2010). Rule: 6A-14.064, college credit dual enrollment. Retrieved September 3, 2010, from <https://www.flrules.org/gateway/RuleNo.asp?title=COMMUNITY%20COLLEGES&ID=6A-14.064>
- Florida Department of Education. (n.d. a). *Membership in Florida public schools, 2006–07*. Retrieved January 4, 2011, from www.fldoe.org/eias/eiaspubs/archives.asp.
- Florida Department of Education. (n.d. b). *Sample format: interinstitutional articulation agreement*. Retrieved January 11, 2011, from www.fldoe.org/articulation/pdf/interinstitutional-articulation-agreements.pdf.
- Florida Department of Education. (2003). *Study on accelerated mechanisms in Florida*. Retrieved July 16, 2010, from www.fldoe.org/cc/docs/accelstudydec03.pdf.
- Florida Department of Education. (2004a). *Fast fact #79: dual enrollment students are more likely to enroll in postsecondary education*. Retrieved July 6, 2010, from www.fldoe.org/CC/OSAS/FastFacts/FF79.pdf.
- Florida Department of Education. (2004b). *Data trend #26: impact of dual enrollment on high performing students*. Retrieved July 6, 2010, from www.natn.org/assets/files/FLADUAL.pdf.
- Florida Department of Education. (2006a). *Fast fact #83: community college dual enrollment students do well in subsequent university courses*. Retrieved July 6, 2010, from www.fldoe.org/cc/OSAS/FastFacts/FF83.pdf.
- Florida Department of Education. (2006b). DOE information data base requirements, volume I: automated student information system, appendix V: list of Advanced Placement (AP), International Baccalaureate (IB), and Advanced International Certificate of Education (AICE) courses. Retrieved July 14, 2010, from www.fldoe.org/eias/dataweb/database_0607/appendv.pdf.
- Florida Department of Education. (2007a). *Dual enrollment penetration study*. (Fast facts student success series 2007–06). Retrieved July 6, 2010, from www.fldoe.org/cc/OSAS/FastFacts/FFSSS2007_06.pdf.
- Florida Department of Education. (2007b). Student data file. Received from PK–20 Education Data Warehouse, Florida Department of Education, April 6, 2010.
- Florida Department of Education. (2009). *Dual enrollment participation, 2007–08*. Retrieved July 6, 2010, from www.fldoe.org/cc/OSAS/Evaluations/pdf/Zoom2009-03.pdf.
- Florida Department of Education. (2010a). *A review of the Florida college dual enrollment program*. Retrieved July 14, 2010, from www.fldoe.org/cc/osas/evaluations/pdf/Zoom2010-01.pdf.
- Florida Department of Education. (2010b). *Dual enrollment in Florida's public schools, 2009–10*. Retrieved July 6, 2010, from www.fldoe.org/eias/eiaspubs/word/dualenroll_0910.doc.
- Florida Department of Education. (2010c). *Membership in Florida's public schools, fall 2009*. Retrieved July 13,

- 2010, from www.fldoe.org/eias/eiaspubs/pk12mbrshp.doc.
- Florida Department of Education, University of South Florida, and Florida Center for Advising and Academic Support. (n.d.). *Facts.org: go higher Florida, education pays!* Retrieved September 1, 2010, from www.facts.org.
- Florida Legislature. (2008). Senate Bill 1908. Retrieved October 1, 2010, from www.flsenate.gov/session/index.cfm?BI_Mode=ViewBillInfo&Mode=Bills&ElementID=JumpToBox&SubMenu=1&Year=2008&billnum=1908.
- Florida Legislature. (2009a). Title XLVIII, K–20 Education Code, chapter 1007. § 1007.235. Retrieved October 1, 2010, from www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=1007.235&URL=1000-1099/1007/Sections/1007.235.html.
- Florida Legislature. (2009b). Title XLVIII, K–20 Education Code, chapter 1008. § 1008.34. Retrieved January 21, 2010 from www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=1008.34&URL=1000-1099/1008/Sections/1008.34.html.
- Florida Legislature. (2009c). Title XLVIII, K–20 Education Code, chapter 1007. § 1007.27. Retrieved January 21, 2010 from www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=1007.27&URL=1000-1099/1007/Sections/1007.27.html.
- Florida Legislature. (2009d). Title XLVIII, K–20 Education Code, chapter 1007. § 1007.271. Retrieved October 1, 2010, from www.leg.state.fl.us/statutes/index.cfm?mode=View%20Statutes&SubMenu=1&App_mode=Display_Statute&Search_String=1007.271&URL=1000-1099/1007/Sections/1007.271.html.
- Florida Legislature. (2010). Title XLVIII, K–20 Education Code, chapter 1011. § 1011.62. Retrieved October 1, 2010, from www.lawserver.com/law/state/florida/statutes/florida_statutes_1011-62.
- Florida Office of Program Policy Analysis and Government Accountability. (2008). *Student participation in acceleration programs has increased: legislature has taken steps to reduce program costs* (Report 08-70). Retrieved July 14, 2010, from www.oppaga.state.fl.us/reports/pdf/0870rpt.pdf
- Florida Office of Program Policy Analysis and Government Accountability. (2010). *Department of Education acceleration programs*. Retrieved December 17, 2010, from www.oppaga.state.fl.us/profiles/2028/.
- Glaser, B., and Strauss, A. (1967). *The discovery of grounded theory*. Chicago: Aldine.
- Kleiner, B., and Lewis, L. (2005). *Dual enrollment of high school students at postsecondary institutions: 2002–03* (NCES 2005-008). National Center for Education Statistics Working Paper. Washington, DC: U.S. Department of Education.
- Lincoln, Y.S., and Guba, E.G. (1985). *Naturalistic inquiry*. Beverly Hills, CA: Sage.
- Seastrom, M. (2003). *NCES statistical standards* (NCES 2003-601). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC: U.S. Government Printing Office.
- Southern Association of Colleges and Schools. (2008). *The principles of accreditation: foundations for quality education*. Retrieved September 3, 2010, from www.sacscoc.org/pdf/2008PrinciplesofAccreditation.pdf.
- U.S. Department of Education, National Center for Education Statistics. (n.d.). Common Core of Data. Urban-centric locale codes. Retrieved September 10, 2010, from http://nces.ed.gov/ccd/rural_locales.asp.
- Waits, T., Setzer, J.C., and Lewis, L. (2005). *Dual credit and exam-based courses in U.S. public high schools: 2002–03* (NCES 2005-009). National Center for Education Statistics Working Paper. Washington, DC: U.S. Department of Education.