

## **Secondary to Postsecondary Technical Education Transitions: An Exploratory Study of Dual Enrollment in Georgia**

**Dorothy Harnish**  
*University of Georgia*

**Richard L. Lynch**  
*University of Georgia*

### **Abstract**

*An exploratory study of credit-based transition programs was conducted to better understand the processes, outcomes, facilitators, and barriers to high school student access to and continuation in postsecondary education. This qualitative case study research examined characteristics and operations of dual enrollment programs and their link to key transition outcomes to address the question: Do credit-based-transition programs, specifically dual enrollment, facilitate college access and success for students who participate in them? Research questions focused on organization, participation, and outcomes of dual enrollment in the state of Georgia. Findings from site visits to technical colleges and high schools address emerging issues in organization, staffing, credit policies, funding, collaboration, student characteristics and motivation, programs of study, barriers to student access, benefits to student, follow-up, and program outcomes. This research is the first phase of a longitudinal, comprehensive multi-method study of dual enrolled students in Georgia and factors related to their transition into postsecondary education and work.*

### **Introduction**

Promoting access to college for increasing numbers of high school students and providing the academic foundation for success in college, the workplace, and the community are widely held contemporary goals for students, parents, educators, and policymakers across the nation. Recognizing that college-level education and credentials are important preparation for well-paying jobs and career advancement, attention has been focused recently on concerns about (a) the inadequacy of high school academic preparation for college and the workplace, and (b) the disconnect between high schools and postsecondary education transition systems.

As one solution to possibly rectify these twin concerns, at least 38 states – including Georgia -- have enacted policies that support the development of programs that encourage high school students to earn college credit while still in high school (Kleiner, Lewis, & Greene, 2005). Through a variety of initiatives such as advanced placement, dual enrollment, joint/concurrent enrollment, or Tech Prep, high school students can enroll in college courses and earn credits that meet both high school and college requirements. These credit-based transition initiatives are promoted as a means of increasing student access to postsecondary education, motivating more high school students to attend college, better aligning high school courses with postsecondary requirements, reducing time and costs of college, and improving student outcomes at the postsecondary institutions.

In Georgia, the number of high school students dually enrolled in technical college courses has increased dramatically over the past five years and now represents an important component in the enrollment mix in the state's technical college system. Many see this as an outcome of increased collaboration among secondary and postsecondary institutions, as well as the availability of state funding through HOPE (*Helping Outstanding Pupils Educationally*, the acronym for the state-funded tuition scholarship and grant program) to pay for technical college dual enrollment courses offered in high schools. However, no empirical research or evaluative studies have been conducted to date to determine outcomes and/or if the goals for the initiatives are being accomplished.

### **Conceptual Framework**

Workforce development and human capital theories of economic development provide the underlying concept for growing national concerns about promoting college access and success for more high school students. Both demand-driven labor market needs for highly skilled employees and supply-driven individual worker desires for good jobs support calls for more (some say all) students to continue their education beyond high school (Grubb, 1999; Kazis & Selzer, 2000; Lynch, 2000; Education Trust, 1999). However, studies of the college participation gap in the U.S. point to the need for state policy and funding to ensure postsecondary education participation for greater numbers of secondary students, particularly those in underserved and disadvantaged populations (Ruppert, 2003; Venezia, Finney, Kirst, & Usanl, 2005). Because of the difficulties faced by many students in gaining access to and being successful in postsecondary studies (Bailey & Karp, 2003), educational reformers seek improvement both in the transition from high school to college and in the academic rigor of high school curriculum and graduation requirements (National Commission on the High School Senior Year, 2001). Creating a continuum of education that links disparate segments and levels of education, as well as better

preparation of students for college-level work are both needed to address postsecondary access and success issues.

The six year Stanford University Bridge Project, *Betraying the College Dream – How Disconnected K-12 and Postsecondary Education Systems Undermine Student Aspirations* (Venezia, Kirst, & Antonio, 2003), investigated how policy structures support, assist, or confuse students, their parents, and K-12 educators about the requirements and options of postsecondary education. In this study, both structural gaps between secondary and postsecondary education systems in the American schooling process, and the social value of college attendance linked to higher earning potential, were identified as explanations for this expectancy gap between student aspirations and the reality of college attendance. Bailey and Karp (2003) reviewed various credit-based transition programs and the limited evidence of their effectiveness in promoting college access and success for students nationwide. Particular attention in these two studies was paid to programs that target less-prepared high school students through early involvement with college-level coursework as part of their secondary education. In their review of state dual enrollment policies in 50 states, Bailey and Karp (2003) found that states are just beginning to grapple with complex methods of balancing student access, limitations of funding, and preparation of high school students for college-level work. Admissions requirements and funding were the dual enrollment program elements most often regulated by state policies, and program structure and use of earned credits were least regulated by states.

Because of the critical role of community and technical colleges in serving as the entry point into higher education for many students who would not otherwise participate in postsecondary education, studies centering on forging stronger links between high school and community/technical colleges are also relevant to the conceptual framework for the study of dual enrollment (Bueschel, 2003; Hughes & Karp, 2006; Hughes, Karp, Fermin, & Bailey, 2006).

Several national studies have been done on the growth of dual enrollment programs and policies to facilitate transition to postsecondary education. According to the Education Commission of the States (ECS), 26 states have *comprehensive dual enrollment programs*, defined as one in which the student pays little or no tuition, both secondary and postsecondary credit is granted, and there are few prerequisites or restrictions. Another 21 states offer *limited dual enrollment programs* in which students pay postsecondary course costs, academic credit restrictions exist, and/or courses eligible are strictly limited. In addition to funding sources, credit restrictions, and course limitations, the programs offered also differ in terms of what types of students are targeted, where courses are taught, who teaches them, and how credit is granted (ECS, 2001). A recent national study of the extent of dual enrollment in high schools found that 71 percent of public high schools offered courses for dual credit with 1.2 million enrollments in these courses in 2002-03

(Waits, Setzer, & Lewis, 2005). Smaller size schools and those with large minority populations were least likely to offer dual credit courses for their students. The educational focus of dual credit courses was 92 percent academic and 51 percent career and technical (Waits, Setzer, & Lewis, 2005).

Among the benefits of dual enrollment frequently cited in the literature are that dual enrollment programs can: (a) smooth the transition from high school to college; (b) shorten the time required for a student to complete an undergraduate degree; (c) eliminate unnecessary duplication of curricula from high school to college; (d) improve student study habits and academic readiness for college; (e) expand academic options for college bound students; (f) result in financial savings for parents and/or states; (g) allow students to “test the waters” of college education; (h) increase student access to college; (i) provide for professional development of both high school and college faculty; (j) provide an effective recruiting tool for colleges; and (k) promote institutional relationships between high schools and colleges (Bailey & Karp, 2003; Conklin & Williams, 1989; Clark, 2001; Fincher-Ford, 1997; McMannon, 2000). There is considerable debate in each of these areas about whether or not dual enrollment programs have fulfilled their promise, but no clear answers have emerged.

While there is extensive and growing interest in dual enrollment programs and substantial investments have been made in them by many states, including Georgia, the literature provides little solid research on actual outcomes of these programs (Bailey, Hughes, & Karp, 2003; High School Leadership Summit, 2003). There is evidence that students like these programs and deem them to be both useful and motivating. The current literature on dual enrollment programs, however, is largely descriptive and/or editorial in nature. The evaluative reports that are available have mostly been completed by those involved in the programs themselves and tend to emphasize the positive. In addition, much of the available research does not control for anticipated outcomes in the absence of the dual enrollment program in question. Many existing research studies simply compare dual enrollment participants to non-participants. Because most of these programs are still targeted to high achieving students, it is not surprising when studies show that participants tend to fare better (Bailey, Hughes, & Karp, 2003).

### **Purpose of the Study**

To address these and other related issues in Georgia, a comprehensive statewide study of high school and technical college dual enrollment programs was designed. The purpose of this multi-year, multi-method study was to investigate the transition of students from secondary schools to the technical colleges in Georgia to better understand the outcomes, process, facilitators, and barriers to high school student access to and continuation in postsecondary education. The first phase of the

study, which is reported in this article, involved exploratory case study research to better understand the organization, operation, and outcomes of dual enrollment; determine factors that facilitated or impeded the access of high school students to postsecondary education; and gain insight into the factors that encouraged students to continue their postsecondary studies. This exploratory data collection also was intended to serve as a guide for the design of the data collection protocol and instruments for subsequent phases of a longitudinal study on high school-technical college dual enrollment in Georgia, which is currently in process. The later phases of this comprehensive study are examining student-level state database information and surveying participants statewide to learn what happens to students who earn college credit in high school when they graduate, and what difference participation in dual enrollment programs makes in such key transition outcomes as admission to technical or four-year colleges and/or the workforce, remediation in college, and academic progress or completion of college credentials.

Information from the comprehensive study can contribute to better understanding of dual enrollment programs in high schools and technical colleges, their strengths and challenges, and how they affect the students who participate in them. The broader purpose of the comprehensive study investigates issues that surround inadequate student preparation for college, high levels of remediation, and low rates of college completion or continuation and how (or if) these are being addressed through dual enrollment. It looks at public school student access to accurate sources of information about college options including technical colleges; career counseling and opportunities to prepare for college – particularly among disadvantaged and low-achieving groups of high school students; and perceptions of students and high school educators about opportunities and expectations in technical colleges. The report which follows describes only the results of the first phase of this study, an exploration of dual enrollment organization, participation, and outcomes through case study research in a sample of high school and technical college sites.

### **Research Questions**

The overall question of the comprehensive study is: Do credit-based transition programs, specifically dual enrollment, facilitate college access and success for students who participate in them? Research questions that guided the case study focused on three key areas of dual enrollment: organization, participation, and outcomes. The following specific questions were developed to guide the investigation into these key areas of dual enrollment.

1. How does dual enrollment facilitate access to postsecondary education for participating students?

2. How does dual enrollment facilitate success in postsecondary education for participating students?
3. What other impacts has dual enrollment had on participating students?
4. Who is being served by dual enrollment in Georgia?
5. Why is dual enrollment offered and why do students enroll?
6. What facilitates or discourages student participation in dual enrollment?
7. How is dual enrollment organized and administered?
8. Who teaches dual enrollment and how appropriate are their qualifications?
9. How is dual enrollment funded in Georgia and what effects does this have on participation in dual enrollment?
10. What issues have emerged from this study of dual enrollment in Georgia?

The information which follows includes only the results of the exploratory case study research which provided important insight for subsequent research and established the basis for the design and protocol used in later stages of the dual enrollment research.

### **Method**

This exploratory study of dual enrollment used a qualitative, descriptive case study method in the first phase of research. Case study methodology is appropriate for investigating and understanding a phenomenon from the perspective of those involved with it and arriving at findings inductively derived from the data rather than testing pre-determined hypotheses (Merriam, 2001). The cases in this study focused on three collaborative efforts between high schools and technical colleges that were offering dual enrollment courses to high school students in Georgia during 2003-04.

This qualitative data collection enabled researchers to explore questions about how dual enrollment programs are organized and administered, what is being offered and to whom, why students enroll (or not), who teaches the courses, program coordination and promotion, participation barriers and facilitators, and perceptions of success.

### **Sample Selection**

Three sites selected for case studies were a non-random, purposive sample that allowed investigators to study different settings, organization, and programmatic approaches to dual enrollment. Each case study site consisted of a technical college and its satellite campus(es) or center(s), along with two high schools that were participating in dual enrollment courses with that technical college. The actual sites were identified from a listing of all Georgia technical colleges offering dual enrollment in 2003-04. Investigators used input from the Georgia Department of

Technical and Adult Education (DTAE) staff and information about institutional size, location, socio-economic factors, and dual enrollments to select sites that maximized diversity of size, geographic location, urban-rural setting, and factors related to economic development. All three sites were among the top five most active technical colleges in terms of numbers of students enrolled in dual enrollment courses in 2002-2003. The sites also represented different models of delivery of dual enrollment and varying curriculum and program areas for dual enrollment courses with high schools. Site A served a primarily metropolitan area and included a separate educational center serving students from the high schools with dual enrollment and diverse career and technical programs. Site B served a primarily rural area with small school enrollments, high poverty, and low educational attainment. Dual enrollment classes were offered at both the high schools and a satellite campus of the technical college. Site C served a growing suburban or mixed suburban-rural area with a large minority population. All dual enrollment classes were offered at the high schools.

### **Instrument Development**

Questions and a protocol for interviews and focus group discussions were developed by the research team based on issues identified in the literature on credit-based transitions, conversations with state educational leaders, and the research questions guiding this study. Data collection instruments and procedures were field tested with administrators, counselors, teachers, and students during a one-day on-site visit by the research team to one technical college and one high school site, prior to conducting the three actual case study visits for this research. Feedback from this field study visit established face validity for research questions and helped to provide a context for understanding subsequent interview and focus group responses. This field test also allowed the team to revise and refine research procedures and questions in the data collection instruments and contributed to reliability of multi-investigator use of common instruments in subsequent onsite visits.

A separate set of interview questions were developed for each data source. Administrators at the high schools and technical colleges were asked 27 questions about program characteristics, administration, and marketing; student characteristics; teacher selection; collaboration in developing the program; funding; challenges; and indicators of success. Counselors at high schools were asked 25 questions about program characteristics, administration, and marketing; student characteristics; challenges; indicators of success; their role with students; and the relation of dual enrollment to planned programs of study. Teachers of dual enrollment were asked 16 questions about program, teacher, and student characteristics; program promotion; challenges; and indicators of success. Students at high schools were asked 17 questions about program promotion; motivation to take dual enrollment; relation to

career and/or college paths; expectations; challenges; and indicators of success. The common set of questions was used by all researchers for the interview and focus group data collection at all sites.

### **Data Collection Procedures**

Prior to the visit by the research teams, a letter from the Georgia Assistant Commissioner for Technical Education was sent to the president of each participating technical college and a letter from the Georgia Department of Education Technology/Career Education Director was sent to the chief administrator of each participating school and district describing the study and requesting cooperation. Across the three case study visits, eight high school administrators were interviewed, including principals, assistant principals, and career and technical education directors. Nine technical college administrators were interviewed, including presidents, student services and instructional services vice presidents, Tech Prep coordinators, a registrar, and directors of satellite campuses. Individual interviews also were conducted with three counselors and with 14 teachers hired by the technical colleges to teach dual enrollment courses for high school students. In addition, focus group discussions were conducted with 43 high school students who were former or current participants in dual enrollment classes offered by their high school and the technical college. Students were identified by high school administrators from the pool of students in dual enrollment classes at that school. These students were primarily seniors and were evenly divided by gender. At each site visit, researchers also collected printed information about the dual enrollment courses, marketing, admissions, policies, or other relevant documents. School or dual enrollment information on internet web pages also was reviewed by the researchers for each of the three sites.

### **Analysis of the Data**

Research teams who conducted the onsite visits each prepared a detailed case study report on the field data collected from the various sources during the two day visit, using a common report format. Printed transcripts of audiotaped interviews and focus group discussions from field visits were reviewed, coded, and analyzed for key findings and themes using the constant comparative methods of Glaser and Strauss (1967). The analysis included both open-coding to allow categories to emerge from the data, as well as *a priori* categories identified from the literature on dual enrollment which structured the research questions and data collection questions and process for this study. Findings in each case study were summarized for each location (technical college, satellite center, or high school) and for each source of information (individual and group interviews with administrators, counselors, teachers, and students) using the three major *a priori* categories of the study. Within

each of these organizing categories, emergent themes were identified from the data for each of the three cases. Each case study report included demographic information for the region, high schools, and technical colleges to set a context for the findings. Following a description of the data collection procedures, schedule, and data sources, detailed findings and a summary of key issues and implications were described for each case. The following categories, which reflect the research questions of the study, were used to report emergent themes from the data for each onsite visit:

1. *Organization and Administration*: This category included findings on program characteristics, operation, administration; teacher selection, characteristics; course credit policies; funding issues; and collaboration.
2. *Participation*: This category included findings on student characteristics and motivation; programs of study; and promotion of the program.
3. *Outcomes*: This category included findings on program evaluation and follow-up; indicators of success; and challenges or changes needed.

While reliability and validity issues found in survey or quantitative research did not apply to this study (Merriam, 2001), consistency and trustworthiness of the analysis were addressed by involving the entire research team in the development and revisions of field instrument and protocol for the case study visits to ensure common understanding and implementation across multiple sites. Frequent meetings of researchers were held to discuss data collection procedures and issues, preliminary findings, and appropriate methods for analysis and reporting of qualitative data from the visits. Analysis of and categorization of data from field notes and transcripts were reviewed and verified by all members of each research team and the study co-principal investigators. The nine field investigators comprising this study team were all experienced qualitative researchers with extensive professional backgrounds in workforce education, career and technical education, Tech Prep, and school-to-work fields of inquiry.

A cross-case analysis of the three case studies resulting from this field data collection was completed to summarize findings from across all of the site visits, to identify key themes and issues, and to identify areas for further study. Results of the study reported herein are drawn from this cross-case analysis of the case study reports completed for each of the three sites visited by researchers. The findings and related discussion are not intended to be generalized to all schools and technical colleges in this state or elsewhere, but to provide seminal information about dual enrollment in Georgia from the perception of various stakeholders and to identify issues for further study.

## **Findings and Emerging Issues**

Because the purpose of this first phase of the dual enrollment study was to describe the operation and participation factors of dual enrollment in select sites and to identify key issues and protocol for further data collection, the results are presented in the form of common issue areas emerging from this exploratory phase of the study. The following section presents the major categories of findings and themes emerging from cross-case analyses of the field data in these three case studies of dual enrollment sites.

### **Organization and Administration of Dual Enrollment**

**Administrative structure.** All of the dual enrollment programs offered at the three technical colleges were relatively new, having been in place for less than five years, and each college used a different organizational structure for the design and delivery of dual enrollment in collaboration with area high schools. Decisions about whether to offer dual enrollment courses through the academic division or the economic development division of the technical colleges affected the types of courses and programs offered at the high schools. Dual enrollment classes administered by economic development business training units at the technical college were developed by DTAE's Quick Start office for the purpose of securing immediate employment. Successful completion of these classes typically resulted in the award of a technical certificate of credit (TCC) such as Certified Manufacturing Specialist or Certified Customer Service Specialist. Credits earned through a TCC usually do not transfer into a technical college (or other college) diploma or degree program. Particularly in the rural areas, curriculum decisions were frequently based on the economic development and industry hiring needs in the community with the goal of preparing high school students for employment immediately upon graduation. Administrators and teachers considered these offerings to be valuable in preparing students for the workforce and teaching work ethics. Courses could be completed in two semesters of high school and students could earn a TCC upon successful completion of the program. However, these courses did not address the goal of increasing access to postsecondary education because of limitations on credit transfer. Conversely, dual enrollment courses offered by the academic units of the technical colleges (e.g., in health care or business) were more closely aligned with long-term career pathways and existing diploma and degree programs and courses at the college.

**Location of dual enrollment classes.** Pros and cons of conducting the dual enrollment class at the high school or at the technical college campus raised concerns, particularly with instructors. Some thought it important to have students come to the technical college campus. There they would be treated like other college

students, given a sense of what it was like to attend college, and exposed to what the college had to offer, with the assumption that they would be more likely to attend after high school graduation. Another reason cited for holding the classes at the technical college was that the high schools do not have the prerequisite equipment, lab facilities, and materials needed to teach certain classes, such as welding. This restricts the choice of course offerings at each high school. However, due to the distances separating many high schools from a technical college or satellite center, commuting was not always a viable option. Transportation and coordination with the high school class schedule were identified as barriers to using the college campus location.

**Staffing.** In all cases, the instructors teaching dual enrollment classes were employed by the technical college. About half of those interviewed were full-time faculty members at the technical college and the others were adjunct instructors. Their academic credentials did not fit the customary profile of high school instructors. Many did not have college degrees or teaching experience prior to becoming dual enrollment instructors. Instead they had backgrounds in business or industry and brought extensive on-the-job experience to the classroom. Most thought they had been selected to teach dual enrollment classes because of their technical expertise and preparation and the real-world experience they brought to the teaching job.

**Funding.** The state's HOPE Grant (*Helping Outstanding Pupils Educationally*) paid for technical college tuition and up to \$100 per quarter for books and supplies at no cost to the dual enrolled student in all three technical colleges. All administrators and instructors interviewed agreed that the program was funded adequately. High schools were pleased, because the program was essentially free for them and they kept their student full-time equivalent funding. Technical colleges were pleased because they received tuition revenue from the high school students' enrollment. Students were pleased to complete high school requirements and earn college credits at no cost to their parents and get funding from HOPE for books and supplies. An issue about future funding restrictions being considered by the state legislature at the time of this research was raised by several administrators, especially at the technical colleges. They were concerned that if HOPE funding was withdrawn for dual enrollment and/or a cap placed on the maximum number of credits that would be paid with HOPE funds, student enrollment would be negatively impacted.

**Program development.** Dual enrollment is intended to be a partnership between technical colleges and high schools, and input from business and industry in the community is also encouraged at the state level. One site in this study was designed with this three-way partnership in mind. At the other dual enrollment sites, collaboration happened primarily between the technical college and the high schools, with little involvement from business and industry. The dual enrollment instructors, who are the primary liaison between the two educational partners, described this

collaborative relationship between high schools and technical colleges as very strong. In general, dual enrollment collaboration had not extended to include area business and industry as active partners. Most technical colleges had advisory committees that gave input about the curriculum and courses needed to support local business needs, and businesses did participate in health technology courses by offering local medical facilities as student worksites. Discussions with two instructors suggested that personal connections between educators and business owners have played an important part in the development of specific health technology dual enrollment programs, particularly in smaller, rural communities

Choosing dual enrollment courses and programs seemed to happen rather haphazardly at all the study sites. Researchers could not unearth a consistent, coherent system or needs assessment process that was followed to determine course or program offerings.

**Credit policies.** Issues of transfer, that is, what will or will not transfer, to which colleges, and under what conditions, have yet to be resolved at all of the sites. Most administrators were not sure if university system colleges would take any of the courses or even if other technical colleges within DTAE would accept the dual enrolled courses within their diploma or degree programs. The consensus was that articulation issues need to be addressed at both the state and local levels to strengthen secondary-postsecondary education transitions.

## **Participation in Dual Enrollment**

**Characteristics of student participators.** The research teams collected data from dual enrollment students who were chosen by school personnel to attend the focus groups at the six high schools visited in the study. In general, most of the 43 students interviewed were college-bound seniors who described themselves as relatively high achievers (70% had an A or B average). Over half of the students (58%) said they worked part-time outside of school, averaging 23 hours a week. Their jobs tended to be in food service, customer service, or construction. Their parents were generally high school graduates (90%), and a third had attended college. A fourth of the mothers worked at home, with others in the clerical, educational, or health field. Fathers worked in industry, health, construction, plumbing, or management, and three were retired military. Students reported that their current programs of study covered a wide range of courses, automotive (16%) and business (12%) being the most popular; however, nearly half of the students did not respond to this question. The highest number (42%) of the students said they planned to earn a dual-seal high school diploma (both college preparatory and technology/career preparatory), a third planned to complete a technology/career preparation diploma, and a quarter planned to complete a college preparation diploma.

**Motivation.** Motivation to attend dual enrollment classes varied. The two incentives most frequently mentioned in the student focus groups were to obtain college credit for dual enrollment courses and to increase their wage-earning potential, both during and after college. Other reasons mentioned were to learn a skill, to take something different or interesting, or because someone (often a friend) suggested it. In the small rural schools students have limited options for electives, and some students there said they were put into dual enrollment classes without requesting them because nothing else was available. In these cases, although their initial response to this may have been negative, students reported that once they were in the program they were motivated to stay because they were treated as adults and given adult responsibilities. Some students said they were motivated to attend dual enrollment courses because they were able to leave their high schools to attend classes at the technical college during the school day and were in classrooms at the college with state-of-the-art equipment.

Parents were not a factor in most student decisions and neither were school counselors. Peers were influential in students choosing to enroll in dual classes, as many students said friends had encouraged them to take dual enrollment classes.

The high school administrators had their own opinions about why students take dual enrollment courses. A primary motivator was considered to be peer influence; another, that some students already knew that they would be going to the technical school after graduation and wanted to get an early start. One administrator said that some students were attracted to the novelty of driving a forklift or learning to weld. Other administrators thought students would use the skills that were gained in the courses to immediately enter the workplace upon completion of high school, and others would use their skills to save money or support themselves while attending college. Instructors noted that many students enrolled in dual enrollment classes because they had very specific goals for the future.

**Programs of study.** The development of a formal program of study for students was inconsistent from school to school and from advisor to advisor. Although high school administrators and counselors said they established a course of study for students in ninth grade, no students interviewed in this study were aware of having done this. Some dual enrollment classes led to a clear career path but some did not. The health occupations dual programs generally prepared students for multiple career paths. Students were fully certified (e.g., as a certified nursing assistant) and able to be employed by the end of the junior or senior year. The credits earned in health programs could also be applied to a variety of medical diploma or degree programs at the technical college or potentially transferred to a university system institution. According to instructors, the completion of a dual enrollment program could reduce the time to obtain an LPN diploma or an RN associate degree by about six months. In contrast, other certified specialist programs were stand-alone programs, not aligned with any specific career or technical college

credit program offering, and the credits did not transfer to any other college. This raises questions about their value in helping students transition from secondary to postsecondary education.

**Impact of admissions requirements.** The ASSET test, which is a requirement for admission into dual enrollment classes, was seen as a barrier to participation in dual enrollment for many students. Both administrators and teachers believed that the test served as a screen that restricted access for students who do not do well on tests, who do not take the test seriously and do poorly for this reason, and for students who may not be academically strong but would benefit from dual enrollment courses, for example, students at risk of not completing school or not planning to attend college after graduation. One counselor pointed out that many dual enrollment applicants are beginning tenth graders when they take the ASSET, which was designed as a postsecondary admission tool. Thus, the possibility exists that students may well be tested over materials they haven't studied, almost guaranteeing their inability to meet the prerequisite score.

However, schools seemed proud of the fact that their dual enrollment students were "the cream of the crop," often those who were already planning to go on to college after high school but not necessarily at the technical college. While several dual enrollment instructors expressed concerns about academic screening of students, they did not challenge the requirement. One instructor observed that program-ready students did better in class than those who were not program-ready, yet he was willing to do the extra work that lower-performing but motivated students require. A principal who believed that, as a screening process, the ASSET was important for dual enrollment to be successful nevertheless expressed regret that "the ASSET test really prevents at-risk kids from taking some courses that may help them in the long-run. They may not be able to academically go to college but this would give them some entry-level job skills to perform better, maybe get a job and keep that job."

## **Outcomes of Dual Enrollment**

**Follow-up of graduates.** Information on the number of dual enrollment students who complete high school, need remediation for college, or complete a technical college credential was not generally available at the high schools and technical colleges when requested by researchers. Likewise, no tracking mechanism was in place at high schools or technical colleges to evaluate the effect of dual enrollment on increased access to college or on the provision of an academic foundation for college success. Instructors at several sites shared anecdotal evidence of follow-up when they saw former students in the hallways and classrooms of the technical colleges or working at various local businesses, but they admitted that they were not able to evaluate the overall success of the program in this way. Some instructors also said they had received positive feedback from employers who had employed dual enrolled students.

**Benefits to students.** Students at the traditional high schools may not have been aware of dual enrollment's contribution to a pathway or course of study, but they consistently attributed the following benefits to their dual enrollment experience:

1. *Exposure to college.* Students indicated that they expected to get a small taste of what college life is like by participating in dual enrollment courses. As one said, "Instead of always taking a high school class, you get to take a college class and see different things."

2. *Increased options.* Dual enrollment classes have opened students' eyes to new possibilities. "It gives me a backup plan if something doesn't follow through," said one young woman who plans to go into the Air Force. Some of the welding students who were just going to take one class were now thinking of going on for a welding certificate.

3. *Narrowing down career choices.* Many had already made some decisions about careers, but the classes have helped them to narrow down their choices. "It gives you a heads up on what you want to major when you go to college instead of wasting two years," said one student.

**Program success.** Participants in this phase of the study found dual enrollment programs to be successful in a number of ways. Technical college administrators reported that enrollment at the technical colleges directly from students who have just completed high school is up 10% or more, indicated by the significant lowering of the average age of the technical college student as recent high school graduates enroll. They attributed this in part to the exposure the technical colleges get through the dual enrollment program. Students in one focus group said that attending classes on the college campus had changed their minds about the quality of the education that is available at a technical college. An indicator of the popularity of the classes was that students rarely asked to withdraw from a dual enrollment class, in contrast to other electives at the high schools. Administrators defined dual enrollment's success in terms of its contribution to a student's ongoing training and gainful employment rather than enrollment numbers at the technical college. Many believed that dual enrollment courses gave high school students a taste of what is required in college, from academic to behavioral expectations, thus smoothing the transition from high school to postsecondary education. They believed that the outcome was that students became more knowledgeable about careers, developed a better work ethic, and received positive feedback about skills. One high school technology-career director explained it in the following way:

Every one of them (students) I saw mature. and I saw them become more focused and that's why I think they're going on to postsecondary education now. They've seen that they can do it. They've seen that the other college kids put

their clothes on just like they do and they are convinced that they can do college now.

### **Implications for Practitioners and Policymakers**

This initial look at a small sample of high school-technical college dual enrollment programs in Georgia does support some claims from previous studies in that dual enrollment is increasing options for college-bound (and possibly other, particularly career and technical) students; resulting in financial savings for parents (i.e., as HOPE grant is paying the college tuition with no loss in funding to the high school); allowing students to “test the waters” of college courses; increasing access to college-level content; and providing an effective recruiting tool for colleges (Bailey & Karp, 2003; Conklin & Williams, 1989; Clark, 2001; Fincher-Ford, 1997; McMannon, 2002). A further benefit noted by these and other researchers is that dual enrollment in Georgia is forging stronger links between high school and community/technical colleges (Bueschel, 2003; Hughes & Karp, 2006; Hughes, Karp, Fermin, & Bailey, 2006).

Further, data provided by the stakeholders in these three case studies suggest that technical college courses have utility to high school students for career development, employment skills and jobs, and as enrichment courses, in addition to (or even instead of) the primary purpose of facilitating transition from secondary to postsecondary education. Student reasons for taking dual enrollment courses as well as the contribution of this experience to their decision making about further education and career paths were complex and varied. But it is clear that dual enrollment meets multiple needs and can enhance possibilities of either further postsecondary technical education or entry into the workforce for student participants.

However, if dual enrollment is to facilitate access to postsecondary education for more students in Georgia, based on data from this preliminary study, additional steps need to be taken. High schools and technical colleges are not reaching many students who could benefit from technical college. They particularly need to target the large number of high school students in the state who are not now planning to or in all likelihood will not attend college immediately upon high school completion. High school counselors could take a stronger role in promoting the technical career path, and the colleges need to create innovative ways to inform counselors about technical college options. Parents also need to be more involved and educated about technical career options. Administrators in this study noted that most parents believe that a traditional baccalaureate degree is still the best option for their children, even though contemporary data on college attendance and retention patterns do not support this outcome as realistic for many of Georgia’s current high school students.

Both national and state policies on funding and support for expanded dual enrollment programs need to take into account the broader impacts of career and technical programs of dual enrollment in both college and career/workforce preparation. For many students who might not be considering postsecondary education, dual enrollment can open up the possibility of college and increase their confidence and motivation to complete high school and continue their education. Teachers and administrators in both high schools and colleges in this study pointed to dual enrollment as a major factor in opening doors for otherwise unmotivated and underachieving students. Because this is one of the important goals of dual enrollment, the importance of identifying and minimizing barriers to students who might most benefit from it is critical for practitioners and policy makers. This preliminary study suggests that admissions test requirements may need to be re-examined and a more flexible policy of selective exceptions established to allow more “borderline” or at-risk students to be admitted with additional support and instruction (e.g., remediation and developmental studies), while still preserving the academic standards required for college-level credit awards.

In addition, the historical successes of community and technical colleges in reaching diverse students — often those considered unready for higher education — and addressing a broad range of occupational, technical, and academic learning needs throughout the lifespan argues strongly for community and technical colleges playing a central role in the expansion of dual enrollment as a secondary-postsecondary education transition strategy.

### **Further Research**

This first phase of the study on dual enrollment, along with a review of the extant literature, has raised a number of issues, especially about the outcomes for students who complete them and the schools and colleges who participate in them. The second phase of the study is examining data sets on 17,442 students in Georgia who completed dual enrolled courses while in high school from 2002-2004. Student-level descriptive information will include gender, race/ethnicity, family income status, type of high school diploma earned, program of study, remedial studies required, and which students matriculated into a technical college upon high school completion, in what programs, numbers of students needing remediation, and college credits and credentials earned.

Phase three of the study is analyzing data from surveys of three stakeholder groups, (a) administrators of all Georgia technical colleges, (b) administrators from a sample of high schools participating in dual enrollment, and (c) a sample of dual enrollment instructors from throughout the state. Researchers are particularly interested in selected aspects of program operation and administration identified in the exploratory case studies as facilitators or barriers to program offerings and

enrollments, and further challenges or issues identified by participants. Survey questions were developed to obtain more explanatory or deeper information about key themes from the case study research.

A final phase is also planned to follow those high school students who dual enrolled from 2002 to 2004 and matriculated after graduation into technical colleges, university system institutions, and/or the workplace. Examples of selected postsecondary factors to be examined include amount and nature of noncredit, developmental studies; grade point average; program of study; employment factors; and employment certificates or licenses and diplomas earned.

Analysis of information obtained from all of these sources, including the study completed in the first year and reported herein, will provide a more complete and in-depth understanding of credit-based transitions programs in Georgia, their strengths and challenges, and how they affect the students and schools or colleges who participate in them. It is anticipated that results of the study will help the state education systems and local technical colleges and high schools improve credit-based transition programs (especially dual enrolled programs), expand student access to them, and enhance students' access to postsecondary education and career-sustaining employment.

## References

- Bailey, T., Hughes, K., & Karp, M. (2003). *Dual enrollment programs: Easing transitions from high school to college*. Retrieved from <http://www.tc.columbia.edu/ccrc/PAPERS/Briefs/brief17.pdf>
- Bailey, T., & Karp, M. (2003). *Promoting college access and success: A review of credit based transition programs*. New York: Columbia University, Teachers College, Community College Research Center.
- Bueschel, A.C. (2003). *The missing link: The role of community colleges in the transitions between high school and college*. Technical Report for The Bridge Project: Strengthening K-16 Transition Policies. CA: Stanford University.
- Clark, R.W. (2001). *Dual credit: A report for programs and policies that offer high school students college credits*. Seattle, WA: Institute for Educational Inquiry.
- Conklin, K., & Williams, J. (1989, Summer). The high school connection: Dual credit programs. *Community College Journal for Research and Planning*, 7, 8-13. ED 332733.
- Education Trust (1999, Fall). Ticket to nowhere: The gap between leaving high school and entering college and high performance jobs. *Thinking K-16*. 3, 2.

- Education Commission of the States (2001). *Postsecondary options: Dual/concurrent enrollment state notes*. Retrieved from <http://www.ecs.org/clearinghouse/28/11/2811.pdf>
- Fincher-Ford, M. (1997). *High school students earning college credit: A guide to creating dual credit programs*. Thousand Oaks, CA: Corwin Press.
- Grubb, N. W. (1999). *Toward order from chaos: State efforts to reform workforce development systems*. MDS-1249. Berkeley, CA: National Center for Research in Vocational Education.
- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory*. Chicago: Aldine.
- Hughes, K.L., & Karp, M.M. (2006). *Strengthening transitions by encouraging career pathways: A look at state policies and practices*. New York: Columbia University, Teachers College, Community College Research Center.
- Hughes, K., Karp, M., Fermin, B., & Bailey, T. (February, 2006). *Pathways to college access and success*. (Community College Research Center Brief 27). New York: Columbia University, Teachers College, Community College Research Center
- Karp, M., Bailey, T., Hughes, K., & Fermin, B. (2004, March). *State dual enrollment policies: Addressing access and quality*. (Community College Research Center Brief 26). New York: Columbia University, Teachers College, Community College Research Center.
- Kazis, R., & Seltzer, M. (2000 ). *Toward a 'demand-led' workforce development system: Rationale, definition, and implications for government roles*. Paper prepared for Welfare to Work: New Solutions for the New Economy UK/US Symposium. September 2000.
- Kazis, R., Vargas, J., & Hoffman, N. (Eds.). (2004). *Double the numbers*. Cambridge, MA: Harvard Education Press.
- Kleiner, B., Lewis, L., & Greene, B. (2005). *Dual enrollment of high school students at postsecondary institutions: 2002-03*. Washington DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences.
- Lynch, R. L. (2000). *New directions for high school career and technical education in the 21st century*. U.S. Department of Education, Office of Vocational and Adult Education
- McMannon, T.J. (2000). *Dual credit: A review of the literature*. Seattle, WA: Institute for Educational Inquiry.

- Merriam, S.B. (2001). *Qualitative research and case study applications in education*. San Francisco: Jossey-Bass.
- National Commission on the High School Senior Year. (2001). *Raising our sights: No high school senior left behind*. Princeton, NJ: The Woodrow Wilson National Fellowship Foundation.
- Ruppert, S.S. (2003, October). Closing the college participation gap: A national summary. Denver, CO: Education Commission of the States.
- Venezia, A., Kirst, M., & Antonio, A. (2003). *Betraying the college dream: How disconnected K-12 and postsecondary education systems undermine student aspirations*. Palo Alto, CA: Stanford Institute for Higher Education Research, The Bridge Project.
- Venezia, A., Callan, P., Finney, J., Kirst, M., & Usdan, M. (2005). *The governance divide: A report on a four-state study on improving college readiness and success*. Report #05-3, National Center for Public Policy and Higher Education.
- Waits, T., Setzer, J.C., & Lewis, L. (2005). *Dual credit and exam-based courses in US public high schools: 2002-03* (NCES 2005-009). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

### **The Authors**

**Dorothy Harnish** is Associate Research Scientist and Director of the Occupational Research Group, College of Education, University of Georgia, Athens, GA 30602.

**Richard L. Lynch** is Professor Emeritus, Workforce Education, Leadership, and Social Foundations Department, and former Director, Occupational Research Group, College of Education, University of Georgia.

### **Authors' Note**

This article has been adapted from a paper prepared by the authors for the 2005 Career and Technical Education Research Conference, Kansas City, MO, December 2005.