Programs of Study as a State Policy Mandate: A Longitudinal Study of the South Carolina Personal Pathways to Success Initiative

Technical Appendix B

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Technical Appendix B

Study Design

This Technical Appendix discusses how we conducted the study and defined and constructed the variables we used in the analyses. One of the major challenges we confronted was using the available data to identify those CTE programs that met the Perkins IV definition for Programs of Study (POS). The six different definitions we developed and applied are described. This report also contains several appendices including OVAE's Design Framework for POS, a list of papers and presentations that emerged from the study, copies of data collection instruments, protocols for site visits and focus groups, coding schemes used for some variables, and eight figures discussed in the main report. Those readers who need only a brief summary of the methodology can find it in the main report.

Study Design

Because all public high schools in South Carolina had to implement EEDA, it was not possible to randomly assign schools to experimental and control groups. Instead, this study used a quasi-experimental design (Shadish, Cook, & Campbell, 2002) with a mixed-methods, triangulated approach (Tashakkori & Teddlie, 2002) to follow two student cohorts (one with little exposure to the policy and one with more exposure) from a sample of eight public high schools. Codes, and later alias school names, were created for any references to sample schools, to ensure anonymity for our schools and confidentiality for interviewees and survey respondents.

School and Student Samples

To best address our research questions, a four-stage purposive, mixed-methods sampling strategy was used (Teddlie & Yu, 2007) to draw a sample from several regions of the state, with controls introduced for the following three factors critical to our research questions: (1) economic conditions and industries; (2) levels of school and community resources; and (3) initial levels of EEDA policy implementation. As outlined in Table 1, schools were chosen to vary not only on these factors but also on the size of the student population, school performance outcomes, ethnic diversity, and locale (urban, suburban, or rural). For further details on the sampling process used, see Sharp et al. (2012).

Two student cohorts, the Classes of 2009 and 2011, from the eight selected high schools were followed because of their varying levels of exposure to the state policy. The EEDA legislation was passed in May 2005, when the Class of 2009 was completing the eighth grade and the Class of 2011 completing the sixth grade. The challenges of implementing changes of the scope required resulted in the Class or 2009 receiving limited exposure to the policy whereas the Class of 2011 had two additional years of more complete implementation. For analysis purposes, the Class of 2009 was considered the baseline or control group, and the Class of 2011 was the treatment group.

Given the complexity of the implementation of the school reform and its intended impact at both the school and student levels, it was imperative to collect data from a variety of sources using a

mixed-methods approach, integrating qualitative and quantitative data sources (Luo & Dappen, 2005; Miles & Huberman, 1994; Tashakkori & Teddlie, 2002). This allowed the research team to better uncover the nuances of policy implementation and helped to create a broader understanding of EEDA's impact on schools, teachers, and students, and on the creation of POS

Table 1
Selected Demographics of Sample Schools

School	School Size[a,b]	Urbanicity[c]	Percent Minority Enrollment[a]	School Poverty Index[a,d]	On-Time Graduation Rate[a,e]	Percent Passing 2 HSAP Subtests[a,f]	2008 Report Card NCLB Rating[g]
Azalea	Small	Town	10	45	85	80	Good
Laurel	Large	Rural	55	45	75	85	Excellent
Redwood	Medium	Suburb	25	55	80	85	Good
Poplar	Large	Suburb	60	40	80	80	Excellent
	Lower Poverty Schools		35	45	80	80	
Apple	Small	Rural	85	85	85	75	Average
Elm	Large	Town	60	70	75	70	Good
Iris	Medium	Rural	95	90	70	60	At-Risk
Orchid	Large	Rural	90	70	65	55	Below Average
	Higher Poverty Schools		80	80	75	65	

Note. All figures are rounded to the nearest five. [a] Data from the South Carolina Department of Education, Office of Data Management & Analysis (personal communication, April 4, 2008) were averaged over the years 2005, 2006, and 2007 (unless the school was new and didn't have three years of data, in which case the most recent one or two years of data were used).[b] School size is student count, averaged over three years (2005, 2006, 2007). $\leq$ 600 = Small; 601-999 = Medium; $\geq$ 1000 = Large. [c] NCES school locale codes from Institute of Educational Sciences: National Center for Educational Statistics (NCES), *Common Core of Data (CCD) – Public Elementary/Secondary School Universe Survey, 2006-2007, v.1c.* Only the broadest locale codes are used here. Available at http://nces.ed.gov/ccd. [d] School poverty index is a school specific variable indicating the percent of students who qualify for Medicaid or who are eligible for free or reduced price lunches. It is found on the yearly school report cards. [e] The graduation rate in South Carolina (reported in state school report cards) is a four-year cohort graduation rate using locally collected data. It divides four-year graduates earning regular diplomas by first-time ninth graders four years earlier, adjusted for transfers. The cohort is based on only those students high schools are able to track. The definition is evolving over time to allow for better reporting. Definition found at http://www.afqe.org/schoolsystem (Alliance for Quality Education, 2008). [f] The South Carolina High School Assessment Program (HSAP) is a state set of tests administered to South Carolina high school students to meet the requirements of state and federal laws. HSAP assesses South Carolina academic standards in English language arts (ELA) and mathematics that students have had the opportunity to learn by the end of the tenth grade. The ELA and mathematics tests each have four achievement-level scores: Levels 1, 2, 3, and 4. A student must score Level 2 or higher on each test in order to meet the graduation requirement. The data presented is the HSAP passage rate for second year students (passing both the ELA and math subtests in their first try). Students first take the test as second-year high school students and have multiple opportunities to pass both tests. Definition found at http://www.afqe.org/schoolsystem, Alliance for Quality Education, 2008. [g] These are No Child Left Behind (NCLB) absolute ratings, reported for each school on school report cards. Each school and district in South Carolina receives an Absolute rating based on student test scores from one of five categories – Excellent, Good, Average,

Below Average or Unsatisfactory. The ratings are based on mathematical formulas set by the South Carolina Education Oversight Committee (EOC), which was created by the General Assembly to guide the implementation of the Education Accountability Act (EAA). Definition found at the state Department of Education website (South Carolina Department of Education, 2002).

Quantitative and qualitative data were collected at the school and individual student levels and were analyzed through a variety of methods. Quantitative data included student outcome data, such as grades and attendance, from two student cohorts and responses from in-school surveys of students. Qualitative data included course catalogs and career-related materials and interviews and focus groups conducted with school principals, counselors, teachers, and students, as well as community college administrators.

For further information on all aspects of study design, measures, data collection methods, and variables, please refer to the study's Year 2 technical report, *Programs of Study as a State Policy Mandate: A Longitudinal Study of the South Carolina Personal Pathways to Success Initiative. Year 2 Technical Report (2008-2009)* (Smink et al., 2010). A list of major papers and presentations on study findings is provided in Appendix B. A timeline of study data collection as it coincides with EEDA implementation stages is included in Appendix C.

Initial on-site visits and interviews with school personnel. In the second year of the study, site visits were made to potential sample high schools to aid in sample selection. The primary goal of these initial visits, conducted in midyear 2008-2009, was to understand the level of ongoing EEDA activities at the school during the 2008-2009 school year and to determine if each school would be suitable for inclusion in the study sample. During these visits, information was collected on 2008-2009 EEDA policy activities to add to the information collected through archival data about the current level of state policy implementation at schools. Interviews and focus groups were conducted with a variety of school personnel to verify and supplement data already collected. Interview protocols were developed to address each of the six policy facets identified as being most relevant to high schools and this study, and to assess qualities of the school that would make it appropriate for inclusion in the final sample. The resulting interview protocols are included in Appendix E.

We interviewed all school principals and guidance directors, and conducted focus groups with at least two assistant principals at each of the targeted schools. We asked all these individuals to describe how their schools were implementing EEDA and its components, their level of progress, including the stage of development of the high school's majors and career pathways, and the operational details of the IGP development process. Guidance directors were also asked to describe their specific roles in implementing the policy, the ways in which they work with students, teachers, and parents on career development, and the amount of time they are able to devote to these activities.

Two focus groups with diverse groups of ninth and tenth grade teachers were conducted at seven of the schools, and one focus group at the eighth school, with three to six teachers in each group. Groups included teachers in different subject and area levels, including math, English, social studies, science, and career and technical education, and honors/AP-, college prep-, basic- and special education-level courses. Teachers were selected from course schedule lists in consultation with our contact person at each school, based on teacher planning periods and

availability. Teachers were asked to discuss how their school was implementing the various components of the EEDA, including career-focused activities and curricula, the progress made in implementation, and how any changes had affected them and their teaching.

In addition to interviewing guidance directors, we conducted focus groups with other guidance personnel at schools, including school guidance counselors and career specialists. Similar to guidance directors, these personnel were asked to describe their specific roles in implementing the policy, the ways in which they have been working with students, teachers, and parents on career development, and the amount of time they are able to devote to these activities.

Interviews followed a structured format from a protocol developed for each personnel group. Notes were taken by several members of the interview team, typed up, and combined for analysis purposes into a single set of notes for each group of personnel at each school. Interview questions were grouped into the six policy facets outlined earlier and related responses pulled from the notes for each group of personnel and put into a single matrix for each school, to facilitate within-site analysis across personnel groups. Key words searches and an open coding process were used to note the appearance of concepts or topics relevant to the study in each facet as they appeared in responses for each school. Cross-site matrices on each facet and key topics were developed to facilitate analysis across school sites to identify major variables and themes across schools (Miles & Huberman, 1994).

Counting Perkins IV Programs of Study

Because our research interests included measuring the impact of EEDA on the development of Perkins IV-defined POS (Perkins IV POS), a count of programs of study at the sample schools meeting the Perkins criteria was essential. Our primary indicator of the presence of Perkins IV POS was originally intended to be based on the four core elements outlined in the Perkins IV legislation and supplemented by descriptions of supporting implementation materials provided by OVAE. However, once we began to explore the law and guidance materials for Perkins IV POS, it became clear that the four core elements were not defined in enough detail to be easily translated into direct measures of each element. In addition, in a later Design Framework, OVAE added ten supporting components to their conception of Perkins IV POS (see Appendix A). We realized that operationalizing the Perkins IV core elements and identifying majors and/or programs that met these was going to be more problematic than expected.

We also found that, due to the differing contexts and goals of the studies, each of the two other NRCCTE POS studies had defined Perkins IV POS in different ways to best suit their research contexts and goals. Given that by design, our study was to take yet another approach to analyzing programs of study and their development, neither of the other two studies' approaches exactly met our needs, although we found that some of the criteria used for the Rigorous Tests of POS Study were useful (M. Castellano, personal communication, 10/4/2010). One challenge was that the state policy we were studying encompasses more than just CTE courses and programs, unlike the scope of programs studied in the other two studies. Thus we needed to develop measures that could be applied across the entire high school curriculum or at least a wider range of career pathways. Due to these issues, our study team developed our own measures for these elements that would apply to the situations in our sample schools. The problems we encountered in

developing measurements using the data collected from our varied sources are described in further detail in the section, Defining and Counting Perkins IV-Defined Programs of Study of this report.

Initial data collection and analysis of potential POS. We began the count of Perkins IV POS at each sample school by developing and sending to each school a simple measurement tool for reporting the status of each of the four Perkins IV core elements for each of their career majors/programs. This tool also guided our Fall 2009 follow-up site visits that gathered further detail from school personnel on their initial responses. In addition, we collected course catalogs and registration materials to review for further information. After examining these data sources, we based our next steps on our initial findings.

Development of the Clusters & Majors Checklist. In the Fall of 2009, we developed a Clusters & Majors Checklist to assess the number of POS at each sample school that met a list of minimal criteria developed for each of the Perkins IV POS core elements:

1. Incorporate and align secondary and postsecondary education elements,
2. Include academic and CTE content in a coordinated, non-duplicative progression of courses,
3. Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
4. Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree (U.S. Department of Education, 2010).

The criteria used in the Clusters & Majors Checklist were developed in collaboration with the other two POS studies and other NRCCTE and OVAE staff to address the four Perkins IV core elements. However, the tool was customized for each school based on programs offered at the school. Structured questions were developed around these criteria to help guide school and career center personnel through completion of the checklist for each of their career majors. Several questions asked school personnel to give the names of organizations and contact people for any articulation agreements. The Clusters & Majors Checklist is shown in Appendix E.

First administration of the Clusters and Majors Checklist. Each school received an individualized Clusters & Majors Checklist in October 2009, based on the career majors and clusters appearing in their school registration materials from the prior school year, 2008-2009. Schools were asked to have the personnel at their school or district most familiar with career majors or programs complete the checklist using the structured questions as a guide, and to email or fax the checklist back to the study team.

Fall 2009 POS site visits. One-and-a-half-day site visits were conducted at all eight sample schools in November and December of 2009 to follow up on information schools provided on the Clusters & Majors Checklist and to collect more in-depth information on potential POS from each school site, career center partner (where relevant), and a primary technical or community college partner. Topic areas and questions used during these site visits are included in Appendix E. Questions addressed the level of alignment of the school's career majors with industry standards and/or with postsecondary programs, whether there were articulation agreements in place and with what institutions, and the types of credentials and/or degrees to which each of the

majors could lead. The team then identified the career majors or programs with the strongest potential to be Perkins IV POS and met with faculty in those majors/programs to collect more information about postsecondary alignment, how closely the high school faculty worked with postsecondary staff at local institutions, articulation agreements in place, availability of dual credit courses, how prepared students were for their courses, the extent of academic and technical content in their courses, and whether their program or courses had changed since the beginning of implementation of EEDA. Based on interview response data, updates and corrections were made to each school's Clusters & Majors Checklist. Cross-site matrices on elements and supporting components were developed to facilitate analysis across school sites to identify major variables and themes across schools (Miles & Huberman, 1994).

Second administration of the Clusters & Majors Checklist. To assess any changes over time in the majors/programs offered at each school by the end of the study period, each school received a revised individualized Clusters & Majors Checklist in Spring 2012, based on the career majors/programs and clusters appearing in their school registration materials from the prior school year, 2010-2011. One change was made to the initial checklist, based on responses to its first administration. The revision was in the first section about the alignment between the high school major/program and two- and four-year postsecondary education programs. In the fourth major data column in that section, instead of asking for a contact person's name for follow-up, we asked schools whether the major/program included any dual credit/enrollment or AP/TAP courses. Schools were again asked to have their most knowledgeable personnel complete the checklist and email or fax the checklist back to the study team.

After the initial attempt to measure elements and count Perkins IV POS described above, it became apparent that few, if any, schools would have programs of study meeting the four core Perkins IV elements as we operationalized them, even using the minimal criteria developed for that initial count. We decided to more fully operationalize the four core elements and apply these measures to career majors/programs at sample schools but also to develop other means of exploring and defining Perkins IV-like programs of study in the context of our study. We looked for alternate means to discern patterns in pathway development that may have been occurring through the implementation of the state policy during the three-year period when we were primarily involved with the schools and our primary "treatment" cohort, the Class of 2011, was being exposed to the policy. A more detailed discussion of our approaches to operationalize the Perkins IV core elements and the reasons we tried these approaches is included in Defining and Counting Perkins IV-Defined Programs of Study (p. 24).

Additional Data Collection

Surveys and follow-up interviews with school guidance personnel. During the site visits in the Fall of 2009, we also explored in more depth the influence of EEDA on guidance counseling, the roles of counselors in students' career planning and IGP development, the development of POS at their schools, and whether and how their duties may have changed since the beginning of implementation of EEDA at their school. To explore these areas with guidance personnel at sample schools, we used two approaches: (1) surveys of school guidance counselors and career specialists, and (2) follow-up interviews with counselors at sample schools. In the Spring of

2012, follow-up surveys with guidance personnel were conducted to explore whether guidance personnel responses changed since the Fall of 2009.

School guidance personnel surveys in 2009. Two surveys were developed, one for school guidance counselors and one for career specialists. Their purpose was to identify changes in the duties of guidance personnel since the implementation of EEDA. Each survey included a list of possible school counseling duties, adapted from the School Counselor Activity Rating Scale (Scarborough, 2005). The duties included those related to curriculum development and counseling and classroom guidance for students in the areas of career, academic, and social development; consulting with other school staff or parents; coordination activities related to special events and professional development; and "inappropriate" duties (based on EEDA guidelines), such as administering standardized tests and developing the master class schedule. The two surveys are included in Appendix G.

The surveys were distributed to guidance personnel during the POS site visits to sample schools in November and December 2009. Responses were either collected during the visit or returned by mail to the research team. Twenty-five of the 29 counselors from our eight sample high schools responded to the survey, for an 86% response rate. Five of the eight sample schools reported employing one or more career specialists. Seven of the eight career specialists employed at four of these schools responded to the survey. The career specialist from the fifth school did not respond.

Responses to the surveys were then analyzed. The list of duties included on the surveys for school counselors and for career specialists were almost identical, but response categories differed. School counselors were asked to select the response that best represented how their participation in the listed duties had or had not changed since the beginning of implementation of the EEDA at their school. The scale ranged from "5" (duties have increased greatly) to "1" (duties have decreased greatly). If a duty did not apply to their position, counselors had the option of selecting "0," "not applicable, this has never been a part of my duties." Because career specialist positions were created for EEDA, it didn't make sense to ask career specialists for changes since EEDA implementation. Instead, the survey asked them to report "Yes" or "No" as to whether a duty listed was assigned as part of their duties. Means were calculated on school counselor responses and compared across duties across and between schools. Frequencies were computed for the career specialist responses and comparisons made across duties and schools.

School counselor follow-up phone interviews. An interview protocol was developed for follow-up guidance interviews in Spring 2010 using data from interviews and surveys previously collected from guidance personnel during both the initial visits (Spring 2009 and Fall 2009) to the eight school sites. The protocol we developed is included in Appendix G. These data were analyzed for themes using a matrix display method. The data were coded and categorized into a matrix and then cross-case analyzed for major themes (Miles & Huberman, 1994). The cross-case analysis and results from survey data revealed four major content areas for interview questions: (a) changes in their job duties and roles since EEDA implementation; (b) changes in their school's counseling program services for students since EEDA implementation; (c) degree of alignment between services provided for EEDA and the American School Counselor

Association (ASCA) National Model; and (d) the type of training needed by school counselors for advising students about career pathways, majors, and postsecondary options.

A semi-structured interview format was developed in these areas and phone interviews conducted with counselors at seven of the eight sample schools during the Spring of 2010. We were unable to arrange an interview with any counselors at the eighth sample school during the interview timeframe. One to three counselors at each of the seven schools agreed to be interviewed, for a total of 12 completed interviews. All were certified school guidance counselors who had worked at their schools for 2 to 17 years, and all but one carried student caseloads.

Each interview was tape-recorded, transcribed, coded, and analyzed using NVivo QSR 8 qualitative research software. A constant comparative approach was employed to code the resulting data into emergent themes (Morgan, 1993). Data were reviewed after initial coding to ensure that all relevant themes were identified. A secondary coder was used to assess inter-rater reliability. Raters identified similar themes with minor differences. These differences were discussed and resolved through a reevaluation of the data and a process of consensus building.

In-depth phone interviews were again conducted with school counselors in Spring 2012. The Spring 2012 protocol is also included in Appendix G. Questions and methodology were similar to those used for the Spring 2010 phone interviews. Interviews were conducted with counselors at six of the eight sample schools in 2012. One to three counselors at each school agreed to be interviewed, for a total of 11 counselors interviewed across the six schools and one career development facilitator (CDF). A semi-structured interview format was again used to ask counselors about their perceptions of the effects of EEDA on (a) guidance services provided to students, (b) on counselor duties and roles, (c) on the school guidance program, and (d) interaction with students and parents.

School guidance personnel surveys in 2012. Two surveys, one for school guidance counselors and one for career specialists, originally administered in 2009 were used again in the Spring of 2012. The Spring 2012 surveys were administered online through Survey Monkey, rather than on-site or through paper copies as had been done in 2009. A few questions were reordered from the original version; however, the language in the questions was not altered. Refer to Appendix F for copies of the original paper versions of the school counselor and career specialist surveys.

The school contacts received an email and web link for the surveys and were asked to invite the school counselors and career specialists to complete the online surveys over a two-week period. If a school counselor served a dual role as a career specialist, that counselor was asked to only complete the school counselor survey. The school contacts received follow-up emails after one week and were reminded to have the related school staff complete the surveys. Follow up continued until 29 counselors responded, a 100% response rate. Five schools reported employing school counselors who served a dual role as a career specialist for a total of 11 counselors. Three schools employed career specialists who did not serve a dual role as a school counselor for a total of five career specialists. All of the career specialists who did not serve a dual role completed the survey.

The responses to the 2009 and 2012 surveys were analyzed. The mean changes between the school counselors' responses in 2009 and 2012 were compared across duties that were designated as required or inappropriate according to EEDA guidelines. The scale that the school counselors used remained the same for the surveys in 2009 and 2012 with a "5" representing duties have increased greatly and a "1" representing duties have decreased greatly. The "0" responses (not applicable, this has never been part of my duties) were removed from the mean calculations and reported separately. Frequencies were computed for the career specialist responses in 2012 and compared to frequency responses from 2009 across the required and inappropriate duties.

Student Engagement/POS Experiences Survey. To obtain a student perspective on career development and planning activities and policy and POS implementation, a questionnaire was developed in collaboration with the other two NRCCTE longitudinal POS studies. Questions for the *Student Engagement/POS Experiences Survey* were developed from an extensive literature review on CTE, career development and planning, and school engagement and also from previous nationally administered surveys. The survey was first piloted with a sample of students from two local high schools, and the results were used to edit questions for clarity, to remove redundant questions, and to shorten the survey. The final instrument consisted of approximately 70 questions on a range of topics, including questions regarding career clusters, career planning and development, the development of IGPs, majors, coursework, school engagement, and demographic characteristics. The survey and relative frequencies of responses for each question are included in Appendix H.

The *Student Engagement/POS Experiences Survey* was administered to two cohorts throughout the study. One of the cohorts, the Class of 2009, had virtually no exposure to EEDA and thus was used as a comparison group. It was administered to this class in late Spring of their senior year. The second cohort, the Class of 2011 had exposure to the EEDA policy since the eighth grade. The survey was administered twice to this class, first after the end of their sophomore year and in the Spring of their senior year. Procedures for administration of surveys to each of the cohorts were similar and are described below.

The *Student Engagement/POS Experiences Survey* was administered in late Spring 2009 to the Class of 2009 seniors. Survey packets were provided to identified teachers and staff and included: a cover letter that described the goals of the study and thanked teachers and staff members for participating; parent and student information letters; a survey script; and the actual surveys. Teachers and staff members were asked to pass out the information letters to students in identified courses, along with the letter students were to take home for their parents, at least a few days prior to survey administration. School personnel were allowed some flexibility in timing the administration of the survey in order to receive as many responses from members of the targeted student cohort as possible. However, this did result in some variation in the way the surveys were administered. Some were administered during core classes (e.g., an English course taken by most seniors); some were administered during guidance/advisory meetings with small groups of seniors over a couple of weeks; one school administered its surveys prior to an assembly of all seniors who were assembled to go over graduation procedures. Because we had not finalized selection of sample schools until late Spring 2009, and still needed to survey the Class of 2009 before they graduated, time was a factor in the decision to allow schools to

administer the surveys in the most efficient way to allow as many seniors as possible to complete the survey. The completed surveys were either mailed back to the project team or picked up by a team member from the school.

Across the eight sample schools, a total of 1,039 surveys were returned from the May 2009 administration of the survey to the Class of 2009. Thirteen surveys were removed from subsequent analyses due to patterns observed in the responses, reducing the total number of analyzed surveys to 1,026 for the Class of 2009 seniors. These responses represent 56% of the Class of 2009 senior population from these eight sample schools. The response rates for the individual schools for the Class of 2009 as seniors ranged between 24% and 107% (see note d below Table 2).

A total of 1,458 sophomores in the Class of 2011 attending our eight sample schools early in the Fall of 2009, just after tenth grade, completed and returned the survey. Three questionnaires were removed from subsequent analyses due to patterns observed in responses, reducing the total number of analyzed surveys to 1,455. Schools were asked to administer the survey to as many of the members of this cohort as possible, and these responses represent 67% of the cohort's population across the eight sample schools. Percentages of the cohort taking the survey at individual schools ranged from 45% to 95%.

The students of the Class of 2011 were also given the survey near the end of their senior year in the Spring of 2011. The same procedures used to survey the Class of 2009 as seniors were used for the Class of 2011, although we recommended that the survey not be given during an assembly because we had a number of unusable surveys from the school that administered its survey that way in 2009. The survey was given to 1,077 seniors in the Class of 2011 and 139 surveys were removed from subsequent analyses due to patterns observed in responses, reducing the total number of surveys analyzed for the Class of 2011 to 938. These responses represent 44% of the senior Class of 2011 across the eight sample schools and the response rate of individual schools ranged from 25% to 117% (see note d below Table 2).

For all three administrations, the timing of administration *Student Engagement/POS Experiences Survey* could have influenced the groups of students available to take surveys. While core course periods (usually required English classes) were chosen in most cases for the survey times, certain students may have been missed or undersampled. For the senior class administrations, although waiting to survey seniors was considered the best solution to give students enough time to have taken more CTE classes or completed POS, often seniors are not on campus as much during their final year of school. CTE students and students taking dual credit, in particular, may have not been on campus for the senior class survey administrations.

To analyze survey responses, we generated descriptive statistics (i.e., frequencies and relative frequencies) for each survey question from every cohort. Chi-square analyses were conducted to determine if the distribution of responses was similar between the Class of 2009 and the Class of 2011 on all survey questions. Additionally, Chi-square analyses were conducted to consider the distribution of responses for the Class of 2011 as seniors for three levels of EEDA implementation (High, Medium, and Low), three levels of POS2 implementation (High, Medium, and Low), three levels of poverty (High, Moderate, and Low), three levels of being at-

risk for dropout (0 risk factors, 1 risk factor, and 2 or more risk factors), and two levels of participation in CTE courses (fewer than three courses and three or more courses). A significance level of 0.05 was used for all tests of significance. Chi-square analyses for comparing survey responses between sophomores and seniors of the Class of 2011 were not conducted due to unknown correlations among unmatched responses among individual survey respondents. A description of how the EEDA implementation score, POS2 implementation score, poverty index, at-risk indicator score, and CTE participation variables were created is provided in the *Constructed Contextual and Analysis Variables* section.

Table 2
Response Rates from the Student Engagement/POS Experiences Survey of the Classes of 2009 and 2011 as Seniors

School	Senior Class of 2009 Response Rate[a,b,c]	Senior Class of 2011 Response Rate[a,b,c]
Redwood	0.38	0.65
Azalea	0.76	0.63
Apple	1.07[d]	1.17 [d]
Elm	0.72	0.72
Iris	0.62	0.79
Laurel	0.24	0.25
Orchid	0.99	0.72
Poplar	0.42	0.25
TOTAL	0.57	0.51

[a] The response rate was determined by a ratio of the number of surveys returned where respondents reported they were in the grade level appropriate for their class compared to the student headcount of enrollment in that class for the time period closest to survey administration (e.g., 135-day headcount for the Spring survey administrations and 45-day headcount for the Fall administration). [b] Sources of headcount data: 135-day headcount of twelfth graders, March 2009, SC Department of Education; 45-day headcount of eleventh graders, November 2009, SC Department of Education; 135 day headcount of twelfth graders, March 2011, SC Department of Education. [c] Student surveys that appeared patterned were not included. [d] The response rates for Apple High senior classes was greater than one for both years because in 2009, 11 of those graduating were registered that year as eleventh graders and were included in survey administration. Although these students were instructed to report their grade as eleventh and not twelfth, a number of them reported twelfth as their grade level. And in 2011, 10% of respondents were eleventh, tenth, and ninth graders. Only those students whose surveys indicated twelfth grade were included in the analysis.

Demographic characteristics of the three cohorts. Almost half, 46.8%, of the respondents were male. (Table 3). The gender of student respondents did not significantly differ from students in the same cohort from all eight sample schools ($p = 0.078$). The respondents ranged in age from 13 to 19, with the majority of respondents (65.8%) reporting being age 18. More than half (59.4%) of respondents indicated they were Black or African American, 29.6% indicated they were White, 5.9% indicated multiple races, 2.3% indicated they were Hispanic or Latino, 1.2% indicated they were Asian, 1.5% indicated they were American Indian or Alaskan Native, and less than 1% (0.2%) indicated they were Native Hawaiian or Other Pacific Islander (see notes related to distributions of respondents below Table 3).

Table 3
Selected Demographics Characteristics of Students Responding to Student Engagement/POS Experiences Survey

Percentage of Respondents from 8 Schools (All 8 SC Schools Cohort Percent)	Senior Class of 2009	Sophomore Class of 2011	Senior Class of 2011
Gender			
Male	46.82 (49.57)	44.61 (49.61)	43.76 (48.67)
Female	53.18 (50.43)	55.39 (50.39)	56.24 (51.33)
Race/Ethnicity[a]			
American Indian or Alaskan Native	1.47 (0.27)	1.04 (0.23)	0.75 (0.15)
Asian	1.18 (1.73)	1.66 (2.08)	1.07 (1.53)
Black or African American	59.39 (58.21)	50.42 (57.56)	55.53 (57.14)
Hispanic or Latino	2.26 (2.05)	3.12 (2.64)	1.83 (2.86)
Native Hawaiian or Other Pacific Islander	0.20 (0.11)	0.76 (0.05)	0.32 (0.05)
White	29.60 (37.53)	34.81 (37.36)	32.65 (37.29)
Multirace	5.90 (NA)	8.18 (NA)	7.84 (NA)
Other	NA (0.11)	NA (0.09)	NA (0.00)
Age[b]			
13	0.29 (0.00)	0.07 (0.00)	0.32 (0.00)
14	--- (0.00)	0.07 (0.00)	--- (0.00)
15	--- (0.05)	3.74 (1.57)	--- (0.00)
16	0.29 (0.27)	76.87 (64.36)	0.11 (0.34)
17	23.80 (38.55)	17.17 (26.63)	30.45 (37.59)
18	65.76 (52.32)	1.73 (6.01)	62.39 (52.91)
19 or older	9.85 (8.80)	0.35 (1.43)	6.73 (9.16)
Average age[c]	17.84 (17.72)	16.18 (16.42)	17.74 (17.73)

[a] Distributions of respondents in race/ethnicity categories were not statistically compared with the distribution of students in all eight SC schools from the same cohort due to differing categories.
[b] Distributions of respondents in age categories were not statistically compared with the distribution of students in all eight schools from the same cohort due to small observed frequencies for some ages. [c] The estimated average age of respondents is not an exact calculation and may be smaller than the actual average age of respondents because the estimated average was computed using an age of 19 for the "19 and above" category.

Males represented 44.6%, of the Class of 2011 as sophomores (just after tenth grade). The gender of student respondents significantly differed from students in the same cohort from all eight sample schools ($p < 0.001$). The respondents ranged in age from 13 to 19, with the majority of respondents (76.9%) reporting being age 16. Approximately half (50.4%) of respondents indicated they were Black or African American, 34.8% indicated they were White, 8.2% indicated multiple races, 3.1% indicated they were Hispanic or Latino, 1.7% indicated they were Asian, 1.0% indicated they were American Indian or Alaskan Native, and less than 1% (0.8%) indicated they were Native Hawaiian or Other Pacific Islander.

The representation of males in the Class of 2001 when they were surveyed as seniors was 43.8%. The gender of student respondents significantly differed from students in the same cohort from

all eight sample schools ($p = 0.003$). The respondents ranged in age from 13 to 19, with the majority of respondents (62.4%) reporting being age 18. More than half (55.5%) of respondents indicated they were Black or African American, 32.7% indicated they were White, 7.8% indicated multiple races, 1.8% indicated they were Hispanic or Latino, 1.1% indicated they were Asian, 0.8% indicated they were American Indian or Alaskan Native, and less than 1% (0.3%) indicated they were Native Hawaiian or Other Pacific Islander.

Class of 2011 student focus groups. The study team and a contracted interviewer conducted two to three student focus groups at each sample high school in Spring 2011, with a total of 83 participating students. All students interviewed were seniors from the Class of 2011, the first cohort that had exposure to EEDA from eighth grade through high school. Research teams used a stratified random sampling scheme to select students from specific courses such that approximately two-thirds were CTE concentrators and one third were from mixed groups of CTE concentrators and non-CTE concentrators. Topics for discussion included the development of IGPs, career planning, majors, and POS; the students' IGPs and how they have related to school experiences and future plans; the differences between CTE and non-CTE students' experiences; the students' future plans; and their high school majors and POS and how those influenced their plans. Interviews were recorded and transcribed. Refer to Appendix I for a copy of the student focus group interview protocol.

Student focus group transcripts from nineteen tape-recorded sessions (including several interviewer summary sessions) across seven of the sample schools were reviewed. While the transcriber was able to complete nineteen transcriptions, for one of the seven schools, she was only able to complete transcription for one out of the three student interviews and one interviewer summary session. Written notes were used to review the three sessions not transcribed. At the eighth sample school, a tape recorder operator malfunction required the study team to depend on detailed interview notes for the review of student focus groups and the interviewer summary session at that school.

While the study team reviewed all of the transcripts, four topics were investigated more thoroughly: (1) students' descriptions of and development of the IGP, (2) information on career clusters/majors, (3) students' work-based learning experiences, and (4) students' reports of integration of career information into academic courses and application of core skills in various careers. Using the transcripts and detailed notes from the interviews, key quotations from the students were extracted by school and reviewed in the context of whether the students were selected from advanced-level CTE concentrator courses (thus likely to be CTE concentrators) or from non-CTE core academic classes (more likely not to be CTE concentrators). For this student focus group data, and for all the tables prepared for presentation or publication, identifying information about both the sample schools and individual students was removed or coded to maintain anonymity.

Career Specialists/Guidance Personnel Accountability Report. Data were also acquired from the South Carolina Department of Education (SDE) from their semi-annual online survey, Career Specialists/Guidance Personnel Accountability Report (GP Accountability Reports). The SDE mandates that schools respond to these surveys after each semester to report on the types of career development and planning activities provided to students, parents, and educators by

guidance personnel. For example, the survey for the Fall and Spring semesters of the 2008-2009 school year included questions on the number of career development activities offered for educators and the number who participate in these activities, and the number of students completing career skills assessments during that time period. It also included questions on the number of students and parents attending IGP meetings. For subsequent years, questions were reworded or removed; new questions were added; and definitions for data collection were refined. This presented a challenge in trying to use this report to look at change over time. Therefore, the Career Specialists/Guidance Personnel Accountability Report data was primarily used as an early snapshot of implementation of EEDA and was incorporated into our measurements of level of policy implementation (LOI).

Data reviewed for the present analysis are from the Fall and Spring semester reports for the 2008-2009 school year and from the Spring semester report for the 2009-2010 school year. Survey responses for each school were entered into tables on each question for each semester and then cross-tabulated for comparisons across the eight schools. For the 2008-2009 reports, data were then summed across semesters obtaining a total served in each activity during the entire school year. It was not clear, however, if data reported were solely for a single semester or if the Spring semester report from some schools represented a cumulative, duplicated count across both semesters. This became an issue when researchers tried to estimate the percentage of students served at each grade level in specific activities by adding the count of students given for each semester for that grade level and then dividing the total by the reported enrollment for that grade level for that year. Thus, for a number of schools, the percentages on several questions totaled over 100%.

Statewide Longitudinal Data System (SLDS). The SDE is in the process of enhancing its Statewide Longitudinal Data System (SLDS) through the creation of the South Carolina Longitudinal Information Center for Education (SLICE). Eventually, SLDS/SLICE will connect various state data systems and will be able to generate P-20 student data; however, the system was not complete as of the final year of research for this project. The SDE was able, however, to provide a great deal of longitudinal data on the cohorts of students in our sample schools. To protect the identities of minors, in all cases, student identifications were de-identified in these data so researchers could in no way identify individual students. Alias school names were also created for any references to sample school names, to ensure anonymity for our schools and confidentiality for interviewees and survey respondents.

Because the SLDS/SLICE data warehouse project was not complete in time for our final analyses, we faced some data challenges. The state longitudinal data sent to us did not follow students to schools outside the sample school districts and thus the actual dropout data (as opposed to transfers out or other issues where students left the schools) were difficult to verify. To address this, the outcomes for the SLDS data analyses focused on attendance and behavior, and at the school level, the cohort graduation rate. Toward the end of the fifth year, some postsecondary placement data for a cohort prior to 2009 did become available, but postsecondary placement data for the 2009 and 2011 cohorts was not obtainable for analysis by the end of the study; therefore, all postsecondary analyses are based on students' plans for postsecondary education, employment, or other options. The SLDS/SLICE data also did not identify CTE completers or concentrators. This is another phase in the SLDS/SLICE project not yet complete.

However, through analysis of course data provided in the SLDS data, POS1 (see description of POS1 in next section) students were identified as students who completed four or more course credits in a logical sequence of CTE courses within a single career cluster.

The SLDS longitudinal data included demographic, attendance and discipline data, eighth grade standardized test scores, course histories including types of courses and end-of-course grades, and IGP data (including declaration of majors, intentions to complete majors, and postsecondary plans). Because students were required to update their IGP at least annually, the team had to decide which IGPs to use for major declaration, cluster selection, intentions to complete majors and postsecondary plans. The IGP plan used for first major declaration and intention to complete was the IGP from a student's tenth grade year, because we were selecting students who had been in the high school at least since tenth grade. Comparisons were then made to the IGP in the twelfth grade year to assess switching of clusters. The latest IGP including postsecondary plan data for each student was used. Many students had multiple IGPs with different postsecondary plans within this single year – 350 of the 2011 cohort had two IGPs and 32 had 3 IGPs for their twelfth grade year. To address multiple reports, the following rule was used: if a student's IGP ever said four-year college was their postsecondary plan, then four-year college was used. If a student's IGP ever said two-year college but not four-year college, then two-year college was used. If a student's IGP only listed military or workforce/apprenticeship, then no college was used. Attendance rate was determined by number of days attended divided by number of days enrolled. Discipline rate was determined by number of total disciplinary actions per 100 days enrolled.

Limitations in the data prevented us from tracking students who left (mostly dropouts and transfers) the districts of the eight sample schools. Also, a student would not typically complete four units in a sequence until the eleventh or twelfth grade. For these two reasons, we focused our analyses of the SLDS longitudinal data to students who were enrolled in the eight schools in tenth, eleventh, and twelfth grades. Limiting the cohorts to only students who were at the schools three consecutive years (in tenth, eleventh, and twelfth grades) did reduce the size of the sample compared to if only one or two years of enrollment between tenth and twelfth grades were required. This method resulted in a sample size of 1,491 students in the 2009 cohort and 1,616 students in the 2011 cohort. Dropouts and transfers (unless they occurred late in the twelfth grade) were excluded as well in the SLDS analyses and thus, caution should be taken in the interpretations of the results. For example, it is possible that one effect of strong policy implementation may be a decrease in dropout rates among non-POS students. While these non-POS or non-CTE students may not have taken a full four-course sequence in a single cluster, the career planning and increased opportunities to take CTE and career-focused courses could have increased school engagement. So it is possible that although strong EEDA implementation may have increased the number of POS students, it may have decreased the number of dropouts even more, leading to a decrease in the *percentage* of students who completed POS1 sequences (and POS2 programs as well). Thus, descriptive results should be interpreted with caution.

Constructed Contextual and Analysis Variables

To facilitate analysis of student and school-level outcomes, several contextual and analysis variables were identified or constructed.

At-risk indicators for student-level analyses. Two at-risk indicator indices were developed for our study: one for use with analyses of the state longitudinal warehouse data and one for use with the *Student Engagement/POS Experiences Survey* data. In both cases, factors for dropout at the high school level were identified through a systematic review of current research provided by the NDPC. (See Hammond et al. 2007 for a comprehensive review of the risk factors for school dropout.) Risk factors that were identified by at least two of the studies in Hammond et al. (2007) were considered for inclusion in the indices.

At-risk indicator for use with SLDS data analyses. We selected three risk factors that could be measured through data provided in the state longitudinal SLDS dataset to construct the at-risk indicator for use with analysis of that data set. The three factors were

- a socioeconomic indicator flag (SEI) (constructed by the state and set if the student qualifies for free or reduced lunch, Medicaid, TANFF or food stamps),
- an overage indicator (set to indicate 2 years or more over age for grade level), and
- scoring below basic in the eighth grade on a state standardized test (the Palmetto Achievement Challenge Test (PACT) administered each year to grades 3-8).

The first two were as of "ever in high school" analysis. These three risk factors by no means represent an all-inclusive list of possible risk factors for high school dropout, but were based on items available in the SLDS dataset we had.

For the 2011 cohort, approximately 26.67% scored below basic in the seventh or eighth grade on the math or ELA state standardized test. Each student from the 2009 and 2011 cohorts was categorized into one of three groups. For the Class of 2011, 44% were low-risk (none of the three risk factors); 37% were moderate risk (one risk factor); and 18% of students were high risk (two or more risk factors).

At-risk indicator for use with Student Engagement/POS Experiences Survey analyses. Five risk factors that could be measured through student responses on the *Student Engagement/POS Experiences Survey* were chosen to construct this at-risk indicator:

- low grades,
- low student educational expectations,
- poor school attendance,
- low parent education levels, and
- behavior problems at school.

These five risk factors by no means represent an all-inclusive list of possible risk factors for high school dropout, but were based on items available in the student survey.

A question (or set of questions) on the *Student Engagement/POS Experiences Survey* was identified to relate to each of the five risk factors. For each of the risk factor questions (or sets of questions), a binary indicator of at-risk (1) or not at-risk (0) was given for an individual student's response. Students who provided multiple responses or did not answer these questions were not assigned a risk outcome for the question.

The first risk factor was low grades. Question 16 of the student survey asks, "What have most of your grades in high school been up to now?" Of the eight answer choices, if a student responded "Mostly D's" or "Mostly D's and F's," they were assigned a "1" for this risk variable; otherwise they were assigned a "0." Studies have shown that low student educational expectations are associated with dropout; therefore, this was identified as another of the risk factors.

For this second risk factor, question 17 of the student survey inquires, "As things stand now, what is the highest level of education you expect to complete?" If the student responded "Not finish high school," they were assigned a "1" for the risk variable. If a student responded "graduate from high school or earn my GED" or a higher level of education, they were assigned a "0."

Poor school attendance was also highlighted as a risk factor for high school dropout. Question 22 of the student survey prompts the student to consider how many times he or she was absent from school during the first half of the previous school year. If a student replied "5 or more times," they were assigned a "1" for this risk variable. A score of "0" was assigned to the responses "Never," "1-2 times," and "3-4 times."

To assign a score for the fourth risk factor, "low level of parent education," the highest level of education completed by the student's mother or female guardian and father or male guardian was considered. The rule used was to use the "valid" response and/or the highest educational level reported. If neither parent/guardian finished high school, the student was assigned a "1." Additionally, if the student responded, "Don't know" or "Does not apply" for both mother/female guardian and father/male guardian, they also received a "1." If a student only answered for one parent/guardian, then they were scored based on the reported educational level for that parent. Likewise, if a student gave multiple responses (or were missing a response) for one parent and a valid response for the other parent, then the item was scored based on the one parent's valid educational level.

Finally, three *Student Engagement/POS Experiences Survey* questions provided information regarding students' behavior at school and were considered collectively to assign a score for the fifth behavior risk variable. In Question 22, the survey asks how many times the student has been put on in-school suspension, suspended from school, and expelled from school in the first half of the previous school year. If a student reported *at least one* of the following, then the student received a "1," regardless of their response or lack of response to the other two questions:

- I was put on in-school suspension "3-4 times" or "5 or more times"
- I was suspended out of school "3-4 times" or "5 or more times"
- I was expelled from school "1-2 times" or more.

If the student gave multiple responses for *all three* of these questions or failed to respond to *all three* of these questions, no risk outcome was recorded for this factor. If the student gave multiple responses to one or more questions and left one or more questions blank, then again no risk outcome was recorded for this factor. All other responses received a "0."

A student's total at-risk indicator score was a summation of the five binary risk factors, ranging from 0 to 5 risk factors. If a student gave multiple responses without marking any valid response or did not respond to any of the questions or group of questions used to form the at-risk indicator score, then the student's other responses were not included in the at-risk indicator score.

For the purposes of analyses, the at-risk indicator was further categorized into 0 risk factors indicating low risk for dropout, 1 risk factor indicating moderate risk for dropout, and 2 or more risk factors indicating high risk for dropout. A summary of the percentage of students in each of these three at-risk indicator categories is provided in Table 4.

Table 4
Percentage of Seniors in the Class of 2009, Sophomores in the Class of 2011, and Seniors in the Class of 2011 in Each Risk Factor Category, for Use With Student Survey Analyses

At-Risk Indicator Category	Class of 2009 Seniors	Class of 2011 Sophomores	Class of 2011 Seniors
0 Risk Factors	54.8	57.6	58.5
1 Risk Factor	33.6	32.0	30.7
2 or More Risk Factors	11.7	10.3	10.8

School contextual variable for school-level analyses. The following variables were considered for inclusion in the school contextual index:

- Female - %female – National Center for Education Statistics (NCES) Common Core Data (CCD) from 2008-2009 and 2009-2010
- Minority - %minority – NCES CCD data from 2008-2009 and 2009-2010 (minority will include American Indian/Alaska Native, Asian or Asian/Pacific, Hispanic, Black)

The remainder of the data considered came from the SDE School Report Card files as reported for each of the following school years: 2008-2009, 2009-2010, and 2010-2011:

- Disab - % of students with disabilities other than speech
- Poverty - school poverty index (% students eligible for free or reduced lunch or Medicaid)
- School enrollment
- Rating - school absolute rating: rating level (at-risk (U), below average (B), average (A), good (G), excellent (E))
- LHSAP (HSAP passage rate within two years after taking the examination for the 1st time)
- Grad - on-time graduation rate
- EOC - % passing end of course tests

A factor or component score was created from a linear composite of a portion of the nine variables listed above. A principal component analysis was conducted to determine the variables and the optimal regression weights used to create the final school contextual variable. Due to the small sample size in the study, this one school contextual variable was then used in subsequent statistical analysis rather than using all of the variables.

A principal components analysis was conducted where one factor was retained. Loadings on the factors that were greater than 0.4 were considered "meaningful" for that factor. Two of the original variables, enrollment and percentage of female students, did not have loadings more than 0.4. All factor loadings for the remaining seven variables (percentage minority students, percentage of students with disabilities other than speech, a school poverty index, an average absolute school rating, the average HSAP passage rate, the average on-time graduation rate, and the percentage of students passing end of course tests) were meaningful; the final component score is based off of a linear composite of these seven variables weighted by standardized scoring coefficients from the principal components analysis. The factor loadings are shown below in Table 5.

Table 5
Factor Pattern for the Constructed School Contextual Variable

	Factor Loading
Minority	-71
Poverty	-90
Disab	-82
Rating	97
Grad	55
LHSAP	94
EOC	94

The school contextual score (component score) for each school is given in Table 6.

Table 6
Constructed School Contextual Variable Scores

School	School Contextual Score	Minority	Poverty	Disab	Rating	Grad	LHSAP	EOC
Apple	-0.23	84.0	84.7	12.5	3.2	83.2	90.7	50.3
Azalea	0.65	12.0	47.5	12.6	3.3	76.3	91.8	71.0
Elm	0.17	57.0	73.8	13.9	3.4	85.8	94.5	45.4
Iris	-1.91	95.0	95.0	18.7	2.3	68.2	83.6	29.9
Laurel	0.83	61.0	44.3	9.4	3.4	80.8	93.7	70.7
Orchid	-0.98	92.0	79.4	12.1	2.7	68.6	86.1	40.5
Poplar	0.96	63.0	44.8	8.7	3.7	73.3	95.0	75.0
Redwood	0.52	24.0	62.5	12.3	3.4	78.7	92.0	67.1

The school (Iris High) with the highest percentage of minority students (approximately 100%), the highest school poverty index (approximately 95% students eligible for free or reduced lunch or Medicaid), the highest percentage of students with disabilities (18.7%), the lowest absolute rating (2.3, between the "at-risk" and "below average" category ratings), the lowest HSAP passage rate within two years after taking the examination for the 1st time (83.6%) and lowest EOC (29.9% passing end of course tests) had the lowest school contextual score (-1.91).

EEDA Level of Implementation (LOI) for School-Level Analyses

As already mentioned, the sample schools were selected using a purposive sampling technique to include diversity in local economic conditions and industries, diversity in the levels of school and community poverty, and diversity in the levels of policy implementation. School size, urban/rural classification, and demographic characteristics of students were also taken into consideration in site selection. After selecting specific areas of the state to provide diversity in the local industrial base and local employment options, the schools in those areas were clustered into two groups: High and Low-to-Moderate poverty schools.

Once potential sample schools were selected to ensure diversity in local employment and poverty, levels of policy implementation needed to be determined to allow for diversity in that measure. A scheme for determining levels of policy implementation was developed that included 41 data points, all related to the six most salient facets of EEDA related to high schools (see the six facets descriptions below). These six facets were based on guidelines provided to school personnel early in the study. The study team identified the most salient initiatives for high schools (our focus in this study) and grouped them into six key facets to construct our conceptualization of LOI. PSLOI and SLOI were used during site selection and provided researchers a quick and practical way to estimate policy implementation at a number of potential sites without expending the time that was involved in analyzing the extensive data from site visits; however, once site visit and other data were analyzed, the team was able to construct a more accurate measure of policy implementation. The same six facets were used for LOI as were used for PSLOI and SLOI, but LOI data were more detailed and more rigorously analyzed and measured for LOI comparisons.

A preliminary selection level of implementation (PSLOI) score was tallied for each of 43 high schools in the state that fit the location and poverty criteria. Figure 1 illustrates the PSLOI scores of the schools considered during this early phase of the research.

PSLOI scores were based on data available from online sources, printed materials from schools, and survey data from several statewide state-administered school surveys. The scoring process was tested for inter-rater reliability and adjustments were made so the process was objective and consistent across schools. The development of the PSLOI scores allowed researchers to select ten schools suitable for inclusion in the study and then to visit those schools to validate the PSLOI scores. After site visits to these ten schools, we used additional data to update PSLOI scores to be more accurate. The new scores (called site selection level of policy implementation scores (SLOI)) were used in final sample selection of eight schools. Two of the eight sample schools selected were determined to have a relatively Low level of policy implementation, three schools were determined to have Moderate levels of policy implementation, and three schools were determined to have relatively High levels of policy implementation (for more information on sample selection and collection of data and findings on policy implementation, see Sharp et al., 2012, and Smink et al., 2010).

PSLOI and SLOI were used during site selection and provided researchers a quick and practical way to estimate policy implementation at a number of potential sites without expending the time that was involved in analyzing the extensive data from site visits; however, once site visit and

other data were analyzed, the team was able to construct a more accurate measure of policy implementation. That is, although PSLOI and SLOI included accurate and pertinent data, considerably more data on policy implementation were collected during the two first site visits (Spring 2009 and Fall 2009). Observations, interviews, and probes into the specific contexts at each of the sample schools provided data to construct this more accurate contextual measurement of EEDA policy implementation at each school. This measurement is referred to as the EEDA Level of Policy Implementation (LOI). LOI was used as a school-level variable in data analysis as reported in the Observations section of this report. LOI is described below.

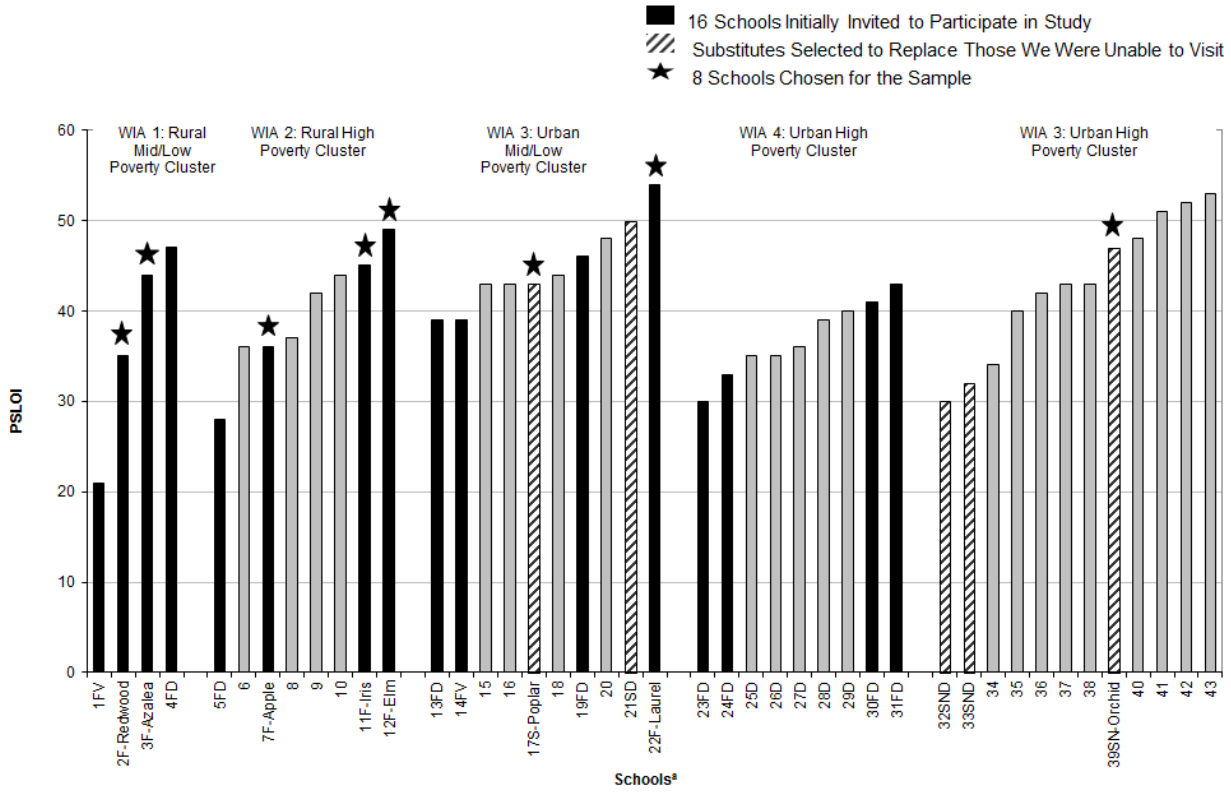

FIGURE 1. Preliminary selection level of implementation (PSLOI) scores for the 43 high schools considered for inclusion in the sample. *Note.* The 16 original schools invited to participate are shown with solid black bars; WIA4 schools declined to participate as did several other schools (labeled with "D" in school names). Substitute schools invited to participate are shown with striped bars (and labeled with "S" in school names). Eight schools selected for study have stars above their bars. In all, 43 (31 across original 4 clusters plus 12 in new "replacement" WIA3 high poverty cluster) were given PSLOI scores and considered for inclusion in the study. [a] Schools are numbered in order of PSLOI by WIA cluster. Letters following the numbers in school names correspond to the following codes: F = one of the first 16 schools chosen; V = visited but not selected; D = declined to participate, did not conform to criteria, or never responded to invitation; S = substitute school; N = school from new WIA3 high poverty cluster invited to participate. (Modified from Sharp et al., 2012)

LOI coding scheme and reliability checks. Both quantitative and qualitative data available on school implementation of the six facets were collected to rank schools on the contextual variable LOI. Some elements of PSLOI and SLOI were kept and additional updated sources and data were added. Only the most relevant measures were included and duplication of data/elements was avoided. These were improvements from the previous PSLOI and SLOI measurements. Another enhancement is that the LOI measure averages and standardizes data so that no one element receives more weight than others, so that all scales are comparable.

An outline of the types of data collected for each facet and sources for these data is included in Appendix J. Data related to the six facets described above were collected from the 2007-2008 and 2008-2009 school years, including: SERVE high school survey responses on EEDA implementation; SDE guidance personnel semi-annual report on EEDA-related activities; on-site interviews and focus groups with guidance personnel, teachers, principals, and assistant principals on their perceptions regarding EEDA implementation; *Student Engagement/POS Experiences Survey* responses; Levels of Awareness of EEDA across school staff, district personnel, parents, students, and business partners; and guidance personnel survey responses. Details about how these different data were collected are available in the Study Design section of this report. The six facets for which data were collected are listed below.

Two researchers compiled the relevant data into Excel spreadsheets by each measure and school to address each element. When the data were compiled, the researchers discussed how to score each element and reliability checks were conducted.

LOI reliability checks. A sample of facets and elements of facets were checked for reliability. Quantitative data was triple checked for accuracy. Elements deemed to be qualitative and open to interpretation were checked for reliability.

Even though only certain elements were selected for reliability checks, it was still not an efficient use of time for researcher to perform reliability checks for these elements across all eight schools, so, two schools were selected for each facet. To select schools for reliability checks, the researchers put a list of the school identification numbers into SPSS and schools were randomly selected using the random numbers selection statistic in the select cases menu. Two out of the eight sample schools (one-fourth of the schools for each facet and element) were identified to examine elements for reliability checks for each facet checked. Researchers ensured that schools were not replaced in the list after selection to guarantee that each school had at least one facet checked for reliability of coding. Researchers also ensured that schools within the same WIA were not selected together for any one facet.

The study team conducted reliability checks on at least one-third of the qualitative elements identified in each facet checked. The identified "qualitative/open for interpretation" elements in each facet were then renumbered within that facet for the selection process. A coin was flipped for each facet. If the coin flip turned up "heads," the even-numbered elements were selected. If the coin flip turned up "tails" the odd-numbered elements were selected. For each facet, selection started with the first odd (1) or even (2) numbered "qualitative/open for interpretation" element and selection continued with odd or even numbered elements until the appropriate number of elements was selected.

The graduate student performing the reliability check received an Excel chart for each facet to be checked, with just the selected elements and all the source text to be used. The graduate student scored the elements based on the provided scoring criteria and text. For the first round of reliability checks, the graduate student and researcher reached a 75% overall agreement for the four selected facets. For facets 1 and 5, 100% agreement was reached after the first round of reliability checks. During the second round of reliability checks, the graduate student and researcher had a 92% overall agreement for the final two facets (e.g., facets 3 and 4). After rewording one of the coding elements in facet 3, the graduate student and researcher reached 100% agreement for that facet in the second round of reliability audits. The scoring criteria were modified for one of the elements in facet 4; the researcher and graduate student reached agreement following this modification. For the final element in facet 4, the graduate student and researcher discussed the score and also came to an agreement on that score.

Scoring of EEDA LOI. Elements within the six facets were scored using the researchers' pre-determined scoring criteria for each element. If an element was used for contextual information only, then that element did not receive a score. A total of 115 elements were scored across the six measures. Some facets had more scored elements than others, as shown in Table 7. See Appendix J for a list of the facets and elements scored.

The scoring ranges were different across elements. For example, the highest score for one element could be a "1" with another element having "5" as the highest score. To standardize the ranges and response categories, the researchers calculated a percentage for each element using the earned score divided by the highest possible score. After each element was scored and standardized as a fraction, the proportions for all elements were averaged across each facet for each school. The final EEDA LOI scores for each school were calculated using the average percentages for facets 1 through 6 to obtain one EEDA LOI score per school.

Whereas Appendix J gives the details of each element of each facet, Table 7 gives the number of elements within each facet, the average facet score and the facet score ranges.

Table 7
EEDA Level of Implementation (LOI) Scores: Number of Elements, Totals, and Ranges

EEDA LOI Facets	Number of Elements per Facet	Average Facet Score	Facet Score Range		
Facet 1: Assist high-risk students	6	78.9	61.7	to	92.2
Facet 2: Career-focused curricula integration	43	79.1	72.4	to	85.6
Facet 3: Increased counselor role	30	71.1	65.9	to	80.7
Facet 4: High school reform	7	77.0	54.5	to	97.1
Facet 5: Partnerships and resource dissemination	20	63.2	45.8	to	80.1
Facet 6: K-20 articulation	9	79.8	61.0	to	95.3
Total or Average Per School	115	74.9	64.2	to	85.2

Figure 2 presents the LOI scores by facet by sample school, with the total LOI score below each grouping of facet bar data for each school.

Community poverty index for school-level analyses. Prior to site selection, community economic data was gathered for all schools considered. A four-factor site selection poverty indicator was constructed based on a school-level poverty index and zip code data from the 2000 Census of Population, weighted by percentage distribution students enrolled at the schools considered. The SDE provided a list of zip codes and number of students in each zip code for each school in the state. The four-factor index was made up of:

- Per capita income (2000 Census by zip code, weighted by % distribution of students based on their home zip codes)
- % families in poverty with children under 18 (2000 Census by zip code, weighted by % distribution of students based on their home zip codes)
- % civilian unemployment (2000 Census by zip code, weighted by % distribution of students based on their home zip codes)
- School Poverty Index (% students eligible for Medicaid or qualified for free and/or reduced price lunch by school; average of 2004-05, 2005-06, and 2006-2007)
-

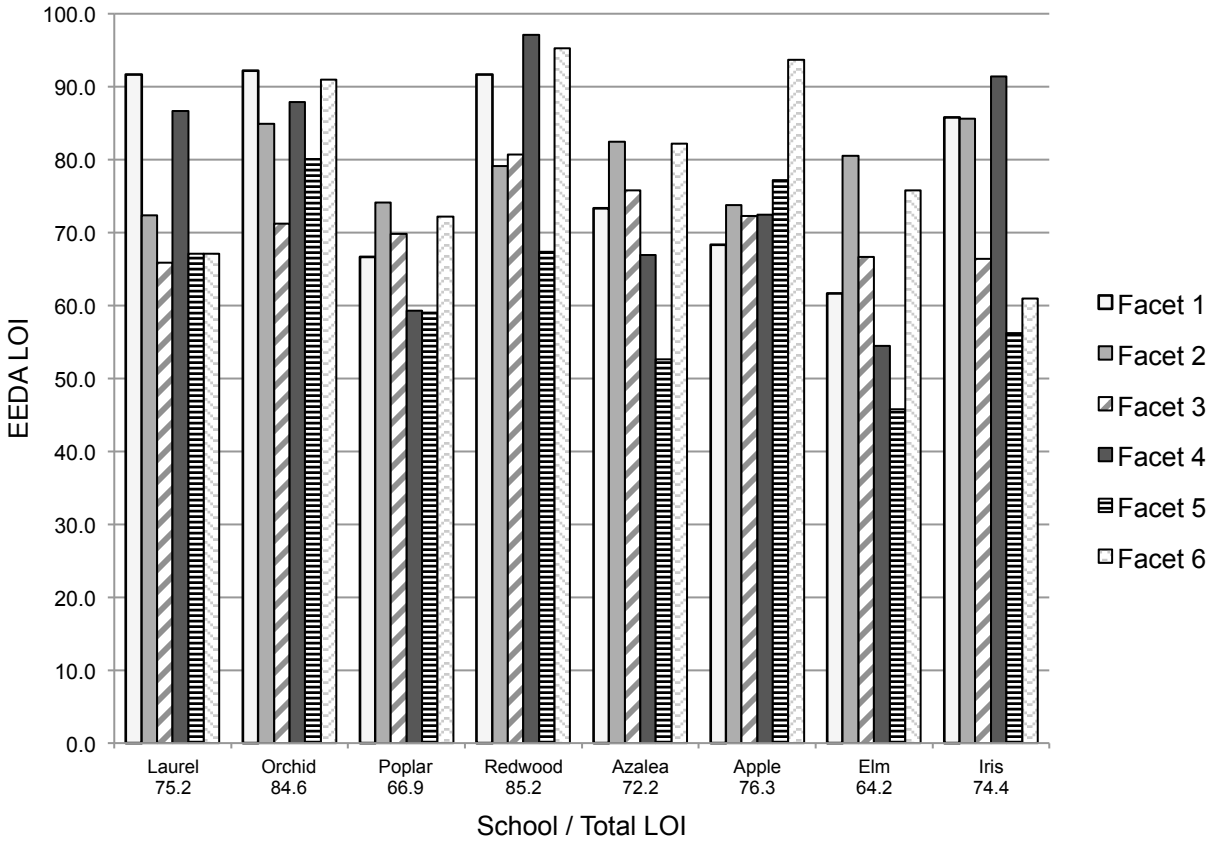

FIGURE 2. EEDA level of implementation (LOI) scores by facet by school. Facet 1: Assist high-risk students; Facet 2: Career-focused curricula integration; Facet 3: Increased counselor role;

Facet 4: High school reform; Facet 5: Partnerships and resource dissemination; Facet 6: K-20 articulation.

For each factor, the data from all schools were sorted and a score from 0 to 3 was given according to the quartile rankings. For each school, for each factor, a score of 0 would be assigned if the data fell below the first quartile (or in the lowest 25% of the observations), representing the least poverty, or a score of 3 would be assigned if the data fell above the third quartile (or between 75% and 100% of the observations), representing the most poverty. Scores of 1 or 2 per factor represented mid-level poverty. The factor scores were then summed so that the resulting community poverty index ranged from 0-12 for each school. The resulting scores were then used in the site selection process. For more information on this index and how the schools scored in this area for site selection, see Smink et al., 2010.

South Carolina and the nation have experienced dramatic changes in economic conditions since the 2000 census. Thus, the community poverty index was updated in year 5 of the study to incorporate updated estimates of community economic data from the 2005-2009 American Community Survey (U.S. Bureau of Census, n.d.) to be more relevant to the time period being studied in the schools. Community data were weighted for each school by the percentage of students enrolled at each school representing each community. For the portions of students representing communities not included in the American Community Survey, county data were used. (Seventy-five percent or more of the students' communities were represented in the American Community Survey.) A more updated school poverty index from the school report cards was also included. The four factors used in the revised poverty index were:

- Per capita income (2005-2009 American Community Survey data, weighted by % distribution of students based on their home zip codes)
- % families in poverty with children under 18 (2005-2009 American Community Survey data, weighted by % distribution of students based on their home zip codes)
- % civilian unemployment (2005-2009 American Community Survey data, weighted by % distribution of students based on their home zip codes)
- School Poverty Index (% students eligible for Medicaid or qualified for free and/or reduced price lunch by school 2008-2009)

As before, each factor was quartile ranked to produce a score between 0 and 3 for each factor for each school. These scores were added together to construct a revised four-factor Community Poverty Index (POV) ranging from 0-12 for each school. To make the revised index comparable to the previous index, the same group of schools (all schools considered as potential sites) was used as the comparison group for the range of poverty. The revised POV index for each of our eight sample schools is more indicative of 2009 community conditions than the previous measure used for site selection. These revised scores appear in Table 8.

Table 8
Revised Community Poverty Index (POV) Scores per School

School	Revised Community Poverty Index (POV)
Apple	11
Azalea	5
Elm	10
Iris	12
Laurel	2
Orchid	7
Poplar	2
Redwood	8

Note. Higher index indicates greater poverty.

The revised Community Poverty Index (POV) was used as a school-level variable in data analysis as reported in the main report.

Defining and Counting Perkins IV Programs of Study

We faced a number of challenges in trying to define and "count" the number of Perkins-IV and Perkins IV-like programs of study in our sample schools. In this section, we discuss the issues relating to identifying majors to review and the problems encountered during attempts to review the elements of these majors. Two of these primary challenges combined to produce a host of issues. One of these challenges was the fact that at the time of site visit interviews, many schools and districts were in the early stages of development of clusters and career majors. The other major challenge was the fact that the state policy we were studying encompasses more than just CTE courses and programs and requires the development of programs of study across the curriculum in all subject areas.

The goal of the EEDA was to have high schools completely reorganize their curricula around at least three career clusters, each offering several career majors. This was to take place across the curriculum, merging both CTE and academic courses into seamless pathways. Districts were to identify career clusters and majors that they wanted to offer students and then develop curriculum templates for each to outline core academic courses as well as courses required for each major. These templates were then to appear in course catalogs and registration materials to inform students (and their parents) about career major options and to be used for planning in IGP meetings. These templates were to reflect the standardized IGP format online so that they could be used each year for review and updating and also for aggregating enrollment and other data at the state level.

The timing of our study was fortuitous as we could observe schools during the beginning of development of this reorganization. At the same time, coming in at the beginning of the implementation of a reform such as this presented a number of challenges to the study team. The reorganization was to have been put into place in high schools by the 2007-2008 school year, one year prior to our first site visits. Although some schools and districts had begun program

development prior to the 2007-2008 school year, many schools were in their first year of implementing the clusters and career majors during that school year. Data collected for analysis of baseline career majors was collected the following year, 2008-2009. This meant that many schools and districts were still in the early stages of developing and implementing their clusters, majors, and pathways at the time of our first site visits.

Not only was the system still evolving, but because choice was left to schools and districts to identify and develop the particular majors and programs that would be offered to students at each school, there was wide variation across schools in clusters and majors offered. Schools and districts decided which career majors, programs and Programs of Study (POS) to implement based on a number of factors: (1) what was already in place, (2) local labor market needs, (3) input from business partners, (4) skill/expertise needs of particular local company, (5) availability of expertise and classes at local technical and community colleges, (6) availability/affordability of "ready-made" programs like Project Lead The Way and ROTC, and (7) surveys of student interests.

Perkins IV POS could have already existed through CTE, or could develop from new majors created under EEDA, or could develop from existing CTE programs already in place but not fully developed. Therefore, we had to evaluate all programs, both traditional CTE programs and new EEDA majors with CTE components.

Allowing schools and districts to identify and develop their own clusters and majors meant that they could be locally relevant, a crucial element to POS. However, this also meant that there was no consistent naming system used across schools nor were particular majors always placed in the same career cluster. This presented a challenge not only to the study team but also to staff at the SDE when they tried to aggregate the data to report statewide enrollment in career clusters and career majors. To establish some uniformity for statewide reporting purposes, the SDE asked districts to assign CIP codes to each major during the 2008-2009 school year and to enter these into the eIGP system in the 2009-2010 school year. A curriculum manager at each district office determined the CIP codes for majors and determined which cluster they went in for all majors offered at the schools in their district. Districts were asked to look through the national CIP codes list and "pick the one that best describes the 'intent' of their major – what career path they are preparing a student. Except for CATE [CTE] which have specific courses and CIP codes, the districts are free to build and code as they see fit" (D. Moran, personal correspondence, June 4 and June 7, 2010).

Having districts assign CIP codes based on the "intent" of the major meant that there were not consistent CIP codes given to the same majors; Horticulture might have been given one CIP code by one district and another one in another district. Often districts would assign the same CIP code to two different majors, such as a Commercial Graphics major and a Video major. And across districts, the same major name and CIP code might not include the same courses or have the same emphasis. As a state contact explained to us:

> As an example, one district may prepare a group of students to go into nursing by only offering a group of advanced science classes, another district may be able to offer a Medical Terminology course in their mixture, while a third district may offer a pre-med

> type of course. All have the same intent so all would (should) choose nursing as the major and CIP (D. Moran, personal correspondence, June 4 and June 7, 2010).

It was also often difficult to identify the courses that were required for particular majors or programs – one list of courses may have appeared on the curriculum template in the school's catalog, but those course names were not necessarily used in the course listing in the catalog nor were courses necessarily listed as being offered during a particular school year. In addition, when CTE programs and courses were listed in separate parts of the catalog and not included on a curriculum template, than it was difficult to find the courses and follow the course sequences for certain CTE programs.

Another element also complicated major identification. Schools and districts assigned CIP codes and major names similar to those on the national list to be used for inclusion on the electronic IGP system but did not necessarily use those same names in the career major curriculum templates in the course catalog or registration materials.

In addition, because the career majors were to be across all curricula, not just CTE, it meant that CTE programs were to be integrated into the overall career major system. In reality what it meant was often a parallel system with career majors as one system and CTE programs as another. Program names and CIP codes had already been developed by the state CTE office for reporting for Perkins IV and at least at the time of our early visits, these were often not integrated into the career majors and may have appeared in separate sections of the course catalog or in only a career center catalog.

Because OVAE was primarily interested in the development and implementation of those programs of study that were CTE-focused and not those majors/programs being developed in non-CTE areas. Because EEDA required career majors across the curriculum, in addition to majors such as welding, culinary arts, and accounting (more "traditional" CTE majors), there were career majors also being developed in areas such as English, journalism, the performing arts, math, and military services. To limit the majors/programs studied to just those that were strictly CTE, the study team had to develop a means of identifying the relevant career majors that were primarily CTE-focused.

In addition, in determining whether a POS existed at a school, we felt it was important to note for any major whether it was actually treated as a distinct major at the school and was identified in some materials as a major available to students with details disseminated on what the major entailed.

Finally, once we identified majors/programs to review, we found that the elements of Perkins IV POS, as outlined in the law and supporting implementation materials provided by OVAE, were not sufficiently defined to allow for easy translation into direct measures for each element. This required the operationalization of the four core elements by the study team for the purposes of this analysis, as described earlier and supplemented in Appendix K.

In order to identify CTE majors and analyze them for evidence of elements of the four core elements, as defined by the study team, and to determine if the programs existed at the schools,

we reviewed a variety of data sources and materials. These sources included information gleaned from on-site interviews and focus groups conducted during the site visits in 2008-2009 and the Fall of 2009 with guidance personnel, teachers, principals, and assistant principals; from content analysis of school archival and web materials on available courses, majors, and career clusters, and on career development and planning; from analysis of school responses to the Clusters & Majors checklist; and from information compiled from SDE CATE annual reports.

Programs of Study 1 (POS1) Concept

SLDS data. The POS1 measure serves as the measure of POS for all student-level quantitative analyses of the state longitudinal data system (SLDS) student outcome data. A POS1 student is defined in this study as a student who has completed 4 or more credits in a logical CTE course sequence within a single career cluster with a postsecondary component. Cosmetology and nail care students are excluded because there are no clear formal postsecondary components to those pathways. The cohorts for POS1 calculations consist of students who were enrolled at sample schools for at least 10 days of each of three years (tenth, eleventh, and twelfth grades) any time from the beginning of the school year until December 31 of that year. POS1 is based on a student completing a number of courses in a sequence and thus, it is not likely that POS1 students can be identified until later in high school, e.g., eleventh or twelfth grade. Limiting the sample to students enrolled continuously in tenth through twelfth grade allows for a more comparable group of non-POS students. Data limitations prevented us from tracking students who left the eight schools in the sample (dropouts and transfers) and did not allow us to start following students in ninth grade. For these reasons, we focused our analysis on students who were enrolled in our eight schools consecutively in tenth, eleventh, and twelfth grades. As indicated in Tables 9 and 10, limiting the sample in this way decreases the size of the samples for both the 2009 and 2011 cohorts. However, as Table 11 indicates for cohort 2011, the percentage of students identified as POS1 students increases substantially when we limit the cohort to continuous tenth through twelfth enrollees.

It is important to note that excluding dropouts and transfers can have a meaningful impact on the results presented. Without being able to discern between dropouts and transfers, for example, it will be difficult to know the impact of EEDA on dropout rates at sample schools. In addition, POS1 and non-POS1 students may differ on a number of observable and non-observable characteristics that are not accounted for by the design of this study. For these reasons, results should be interpreted with caution. Analyses in this study are purely descriptive; quantitative differences do not imply causal relationships between EEDA and student outcomes or POS1 and student outcomes.

Table 9
Diminishing Sample Size Using SLDS Data, 2009 Cohort, Starting and Continuing 10th through 12th Grades, by School

School	Number in 12th Grade	Number in 11th and 12th Grade	Number in 10th Through 12th Grade	Percentage of 12th Grade Cohort Continuously Enrolled
Apple	121	96	85	70.2
Azalea	114	104	96	84.2
Elm	223	179	166	74.4
Iris	176	161	153	86.9
Laurel	399	350	299	74.9
Orchid	276	231	208	75.4
Poplar	422	348	315	74.6
Redwood	220	181	169	76.8
Total	1951	1650	1491	76.4

Table 10
Diminishing Sample Size Using SLDS Data, 2011 Cohort, Starting and Continuing 10th through 12th Grades, by School

School	Number in 12th Grade	Number in 11th and 12th Grade	Number in 10th through 12th grade	Percentage of 12th Grade Cohort Continuously Enrolled
Apple	106	90	78	73.6
Azalea	120	109	106	88.3
Elm	213	172	159	74.6
Iris	180	166	155	86.1
Laurel	436	397	364	83.5
Orchid	344	276	243	70.6
Poplar	443	370	334	75.4
Redwood	228	192	177	77.6
Total	2070	1772	1616	78.1

POS1 variables. Two POS1 variables were developed for analysis of data from the Class of 2009 and Class of 2011 cohorts (as defined above) in the state longitudinal data system (SLDS) database. One variable was developed at the student level and one at the school level. Both are described below.

Identifying POS1 students. A POS1 student is defined in this study as a student in the Class of 2009 or Class of 2011 cohort who was continuously enrolled in a sample school in the tenth, eleventh, and twelfth grade, as defined above, and completed four or more credits in a logical sequence of courses within a single career cluster that has the potential to lead to a postsecondary component. Cosmetology and nail care students are excluded because there are no clear formal postsecondary components to those pathways.

Table 11
Percentage of POS1 Students, by Varying Cohort Definitions, 2011 Cohort

School	Percentage in 12th Grade	Percentage in 11th and 12th Grade	Percentage in 10th Through 12th Grade	Number of POS1 Students in Analysis Cohort
Apple	24.5	28.9	33.3	26
Azalea	5.0	5.5	5.7	6
Elm	17.4	21.5	23.3	37
Iris	31.1	33.7	36.1	56
Laurel	9.9	10.8	11.8	43
Orchid	8.7	10.9	12.3	30
Poplar	0.5	0.5	0.6	2
Redwood	19.3	22.9	24.9	44
Total	11.8	13.8	15.1	244

We identified POS1 students by examining the course sequences taken by Class of 2009 and Class of 2011 students through the following steps:

1. A file was created that linked course numbers to CTE career clusters using the South Carolina CATE course file book (SDE, undated) and we merged this on to the course file to identify courses students from the two cohorts took within each career cluster.
2. The number of credits earned by a student within each career cluster was computed. We focused only on students who had at least four credits earned in a cluster. It is important to point out that these 4 credits in course sequences were within larger career clusters and not necessarily a sequence of courses in specific programs within these clusters. These four credits or course sequences, therefore, don't necessarily represent cohesive programs or majors. In addition, some schools offer cross-cluster majors. This method does not account for cross-cluster students unless the students take four or more units within a single cluster.
3. Each student was rated for POS1 by two independent raters analyzing course history records to determine if courses taken were within one cluster and qualified as a logical POS sequence and if a student had earned at least 4 credits within a qualifying sequence. For POS1, by logical POS sequence, we mean that a student's courses made sense as a sequence within a cluster and that the sequence was a progression of courses applicable to that cluster. Cases with different ratings were discussed between raters, and where a consensus could not be reached were coded as non-POS. Only students with a logical POS sequence of at least three courses that resulted in the accumulation of at least four credits were included in POS1.

Students were then categorized as either "POS1" or "Non-POS1" students. This identification process resulted in 224 POS1 and 1,267 non-POS1 students in the 2009 cohort and 244 POS1 and 1,372 non-POS1 students in the 2011 cohort.

Developing percent POS1 students school-level variable. After categorizing students as either "POS1" or "Non-POS1" students, a school-level percentage of POS1students variable was

developed. To calculate this variable, the number of students identified as being POS1 students (as defined above) at each school was divided by the total number of students who were continuously enrolled in the school from tenth to twelfth grade at each school between 2008-2009 and 2010-2011.

Cohort definition (i.e., the number of consecutive years used to define the cohort) also impacted the percentage of students completing the POS1 course sequence. Table 11, which uses the 2011 cohort as an example, illustrates the variation in the school-level percentages, depending on the definition of the cohort. The percentage of POS1 students increases for all schools as more completed grade levels are required for the cohort, i.e., when dropouts and transfers are excluded from the cohort.

To analyze trends across the SLDS POS1 variables, we generated descriptive statistics (i.e., frequencies and relative frequencies) for both POS1 students and percent POS1 students for each cohort. Crosstabulations were used for comparisons of data collected from IGPs, including career cluster selection, cluster switching, intent to complete a major, and postsecondary plans by POV and LOI. T-tests of means were used to analyze changes in percentage of POS1 students across cohorts and differences in percentages across schools in course-taking of AP/IB and dual credit courses, attendance, and discipline. Regressions were used to analyze the relationship between the percent POS1 students variable and a variety of student- and school- level variables, such as percent POS1 students by POV and percent POS1 students by intentions to complete major, controlling for gender, a socioeconomic indicator, race/ethnicity, Limited English Proficiency (LEP), and participation in special education (EFA). A significance level of 0.05 was used for all tests of significance, where appropriate.

Programs of Study 2 (POS2) Concept

State-defined CTE programs. Another set of school-level program of study variables, designated POS2 variables, was developed. To provide a different perspective on programs of study in our schools as compared to the POS1 variables, the study team examined programs of study and their enrollment, starting from identified CTE programs. These variables were developed based on the CTE programs identified by the state Office of Career and Technical Education (SDE CATE) as having concentrators and completers at a sample school during the three primary years of the study, 2008-2009, 2009-2010, and 2010-2011. As was the case for POS1 variables, these variables also exclude cosmetology and nail technology programs because there is no clear postsecondary connection after high school graduation with these programs.

POS2 programs. The variables for the number of POS2 programs refer to the number of state-recognized CTE programs that were reported by the SDE CATE office to have had concentrators or completers at each sample school during the 2008-2009, 2009-2010, and 2010-2011 school years.

POS2 program ratio. A school-level variable to analyze availability and extent of POS2 programs at each school was created based on the ratio of the average enrollment to the average number of POS2 programs at each sample school over the three school years (2008-2009, 2009-2010, and 2010-2011). In other words, the ratio represents the number of students at each school

per CTE program, but not actual enrollment in CTE programs. The POS2 program ratio was calculated as the average of the total school enrollment over those three school years divided by the average number of CTE programs with concentrators and completers at the school over those three school years. A high ratio indicates that there are fewer CTE programs per enrollment, signifying a lower level of implementation of CTE programs relative to other sample schools and thus a Low POS2 implementation school. For example, one high school had an average of 14 CTE programs with concentrators and completers over the three-year period and the average total enrollment for that school over those three years was 2,044. Average enrollment (2,044) was divided by the average number of CTE programs (14), producing a ratio of 146 students for every CTE program. This ratio of students to programs was relatively high, thus leading to this school being classified as a Low POS2 implementation school. The values of the POS2 program ratio by school are presented in the POS Observation section of this report. The enrollment to programs ratios for the four High POS2 implementation schools range from 55:1 to 70:1; for the two Medium POS2 implementation schools, the ratios were 94:1 and 113:1; and for the two Low POS2 implementation schools, the ratios were 145:1 and 146:1.

The POS2 program ratio is presented in two ways in this report. The individual schools' ratio scores are compared to LOI and POV score variables using scatter plots to explore relationships between the variables. When appropriate, the school contextual variable was used to control for school circumstances. The scores are also grouped into Low, Medium, and High categories for other analyses, including comparing student outcomes across these categories from the *Student Engagement/POS Experiences Survey*.

Percentage of POS2 completers. A POS2 completer is similar in some ways to a POS1 student, but different in several important ways as well. A POS2 completer is a secondary student that the SDE classifies as a completer of a POS2 program because he or she has earned *all* of the required units in a state-identified CTE program, which must include at least 4 Carnegie units of credit within that program. The data reported include the total number of these students at each school for each of our study years. These students, then, are not just from the Class of 2009 or the Class of 2011, as is the case for POS1 students. Instead, POS2 data include any students at each sample school who were considered completers by the SDE for a particular school year. Completers would most likely be in the eleventh or twelfth grade but could also be in the 10^{th} grade. So, POS2 completers cross cohorts, unlike the POS1 students, making the number of students considered in the POS2 variable different from that of the POS1 students variable. In addition, because the POS2 completers could be in various grade levels and could include transfers in from other schools, we used a different grade span denominator than that used for the percentage of POS1students to construct the percentage of POS2 completers at any one school. We used eleventh and twelfth grade student enrollment at each school for each year because this group of students was the most likely to have had time to complete a POS2 program. Thus, the percentage of POS2 completers variable is the percentage of all POS2 completers compared to all eleventh and twelfth graders enrolled in a given school year.

Like the percentage of POS1 students, percentage of POS2 completers is a school-level variable. Analysis using the percentage of POS2 completers variable primarily consisted of examining relationships between this variable and POV, LOI and percentage of POS1 students. The individual schools' ratio scores are compared to LOI and POV score variables using scatter plots

to explore relationships between the variables. When appropriate, the school contextual variable was used to control for school circumstances. The scores are also grouped into Low, Medium, and High categories for other analyses, including comparing student outcomes across these categories from the *Student Engagement/POS Experiences Survey*.

POS2 participants. POS2 participants are defined by the SDE CATE office to be secondary students taking one or more CTE courses in a state-recognized CTE program. For our analyses using this variable, we removed concentrators and completers to have a group of "participant-only" students who were not yet concentrating in a state-recognized CTE program.

Differences between POS1 and POS2 Measures

While the POS1 and POS2 measures use similar techniques for identifying POS students, they are different measures of POS for three significant reasons.

First, POS1 and POS2 capture students at different times. POS2 is based on the number of CTE completers at a school for a specific school year. Thus it potentially counts (a) in the denominator some eleventh graders as non-POS2 because they haven't fully completed a sequence when in fact they will complete a POS2 program and (b) in the numerator some eleventh graders who completed a POS2 program early. Then, the denominator itself for POS2 is all eleventh and twelfth graders enrolled for that particular year. POS 1 only examines students after completion of twelfth grade and is thus not based on a particular school year, but a graduating cohort. The time period for POS1 is the three-year cohort period for the school. The time period for POS2 is a specific school year.

Second, POS1 and POS2 look at different populations of students – POS2 focuses on all students who have completed a POS2 program at a school. We make the assumption that these are mostly eleventh and twelfth graders and so that is used as the denominator in the calculations of percentage of POS2 students. POS1 focuses on students continuously enrolled in a sample school from tenth through twelfth because data limitations required this to track students throughout high school for POS analysis at the student level. Thus the numerator and denominator in percentage POS1 student calculations are both based on a graduating cohort that has been at the school three consecutive years.

Finally, POS1 was not able to track students with cross-cluster POSs unless at least four credits were completed within a single cluster. POS2 would include cross-cluster POSs approved by the state. This would make the numerator larger for schools with more cross-cluster POS students.

POS1 and POS2 are therefore not directly comparable, but provide alternative measures of POS. We would generally expect the two POS measures to show similar changes over time with EEDA, though relationships between the absolute measures and other variables (e.g. LOI, POV) may differ somewhat. Where possible in the report, we look at patterns for both measures and discuss the differences.

Although the POS1 and POS2 measures measure different things, we would expect that the trends in these meadures would be similar over time. Table 12 presents the changes between

2009 and 2011 for percentage of POS1 students and percentage of POS2 students. Because the two measures are so different, we produced a special POS1 calculation for this table where the denominator for calculations is twelfth grade enrollment at the school for each POS1 graduating cohort's twelfth grade school year. It should be noted that these POS1 data are not the same as are used in the rest of this report. They are presented here for two reasons: (a) calculating percentage POS1 students based on twelfth grade school enrollment makes the results somewhat more similar to POS2 data, and (b) the table still reflects that fact that, no matter how the variables are calculated, the measures approach POS from different angles and data sources and thus will be analyzed in the rest of this report as two different ways to look at POS outcomes.

From Table 12, created just to compare various trend outcomes between POS1 and POS2, we can see that the general trend is still the same. The impact of EEDA on POS completion is unclear. Looking at this specially calculated POS1, only Laurel had a substantial increase, whereas all others had small to medium decreases. Looking at POS2, only Laurel had a substantial increase, three others had small decreases, and the other four had no change or possibly a small increase. The only school that had a significantly different pattern across measures was Apple. The 2009 cohort had a much lower rate of POS completion using POS1 compared to using POS2 (whereas the 2011 rate was higher). We could not conclusively determine the source of the descrepancy (e.g., data issues), so we recommend that quantitative results for Apple be interpreted with caution. For discrepancies like Apple, we need to rely on other data to supplement these findings.

Table 12
Differences between POS1 and POS2, by School, Using Unrestricted POS1 as a Percentage of 12th Graders Only for Comparison of the Two POS Variables

	POS1		POS2			
School	2009 Cohort (Percent)	2011 Cohort (Percent)	2008-2009 School Year (Percent)	2010-2011 School Year (Percent)	POS1 Percent Difference	POS2 Percent Difference
Apple	5.8	24.5	14.7	16.6	18.7	2.2
Azalea	7.9	5.0	6.2	2.6	-2.9	-3.6
Elm	22.0	17.4	17.5	15.2	-4.6	-2.4
Iris	33.5	31.1	19.0	16.3	-2.4	-2.7
Laurel	3.0	9.9	3.3	8.3	6.9	5.0
Orchid	13.4	8.7	10.2	10.4	-4.7	0.2
Poplar	1.2	0.5	3.5	5.1	-0.7	1.6
Redwood	20.9	19.3	18.4	18.8	-1.6	0.4

Note. The POS1 data presented in this table is not the same as POS1 data presented elsewhere in the report. These POS1 figures were calculated in an attempt to compare data with POS2, and analyze the percentage changes based on more comparable data, but it should be noted that comparing these two measures is not recommended. The cohorts and time periods as well as other definitional aspects of the two measures are very different.

Programs of Study 3 (POS3) Concept

CTE and non-CTE student groupings for student survey analysis. In addition to other POS variables, an additional variable was developed for use in analysis of the *Student*

Engagement/POS Experiences Survey findings. This variable is based on students' self-reported participation in career and technical education (CTE) courses. In question 14b on the *Student Engagement/POS Experiences Survey*, students were asked about their participation in CTE classes. Students were asked, "How often have you been in the following courses or programs in high school?" with one course or program category being "Vocational/career/technical education courses (such as culinary arts, cosmetology, construction, graphic communication or health science courses)." Possible responses to this survey question included "Never," "1-2 Times," or "3 or More Times."

To make the identification of POS3 students among survey respondents as similar as possible to how POS1 and POS2 students were identified, students who reported that they had been in vocational/career/technical education courses "3 or More Times" were considered "POS3 CTE students," whereas students who reported "Never" or "1-2 Times" for the same question were considered "POS3 Non-CTE students." A binary indicator variable was used to classify student responses into these two categories to compare POS3 CTE and Non-CTE student responses to various survey questions. If a student failed to answer question 14b on the survey or provided multiple responses, they were not included in any CTE analyses of the *Student Engagement/POS Experiences Survey*.

While POS3 is a measure of CTE POS participation, this measure comes from self-reported student data and it simply measures students' self-reported participation in CTE. The sequence of courses or concentration/completion of a CTE program of study could not be determined. Therefore, a comparison between POS1, POS2, and POS3 will not be presented here as POS3 is not a similar measure to POS1 and POS2.

Other Measures Used to Examine the Number of Programs of Study in Sample Schools

In addition to the POS1, POS2, and POS3 variables, we developed three other types of variables related to CTE course-taking to explore the presence of programs of study at our sample schools. Using the tool we developed to measure which programs met a strict interpretation of the four core elements of Perkins IV, we created a fourth POS category (POS4) based on that definition. Very few majors/programs met the criteria we developed. Also, we were unable to collect enough comparable data for this variable for the 2010-2011 school year to enable comparisons between the beginning year of the study and the end of the study period. We therefore only present findings on the POS4 variable for the early years of the study in descriptive comparisons across schools. Two other POS variables (POS5 and POS6) were also identified/developed, although neither was used in quantitative analysis. The three POS variables used for descriptive purposes, but not quantitatively analyzed (POS4, POS5, and POS6), are described below. Results are included in the POS section because findings from all three of these additional methods offer important context to policy implementation and POS development in our sample schools.

South Carolina Pathways Study-Defined Perkins IV POS (POS4). The steps and criteria described below were developed to enable the study team, for purposes of addressing our research questions, to examine each of a school's career majors/programs to assess which could be considered to have met the four Perkins IV core elements. The initial goal was to identify the number of majors/programs meeting this definition at two points in the study, 2008-2009 and

2011-2012, to be able to explore any changes over the study period. The first analysis of majors/programs, and development of the Perkins IV POS variable, was conducted on data from the 2008-2009 school year with some data collected in the Fall of the 2009-2010 school year. These were some of the key years of policy exposure for our primary "treatment" cohort, the Class of 2011. However, in the last study year, we were only able to collect a portion of the data necessary for recalculation of this variable to study changes over time. Therefore, data presented here regarding POS4 only reflect what was present in the schools during those early study years, without comparisons to the level of development by the end of the study period.

We began exploring our options for counting POS4 by reviewing the items we had included on the Clusters & Majors Checklist. We soon realized that more specific rules/criteria/guidelines were needed to operationalize components of each of the elements. To develop these more specific criteria and guidelines, we consulted a number of sources. We spoke with content experts in the area of POS and Perkins IV at OVAE, NRCCTE, and AED, staff conducting the other NRCCTE POS studies, and staff from NASDCTEc. We reviewed the operationalization of these elements used by the other two NRCCTE POS studies and found those developed for the Rigorous Tests of POS Study to be most relevant to our study (personal communication with M. Castellano and K. Sundell, 2009). We also reviewed OVAE guidelines outlined in the Design Framework (Academy for Educational Development, 2009 and Office of Vocational and Adult Education, 2010), self-assessment tools for programs of study developed for the U.S. Department of Education by the NRCCTE (2009), and by NRCCTE in conjunction with AED, MPR Associates, Inc., and the National Association of State Directors of Career and Technical Education Consortium (2007), materials developed by the League for Innovation in the Community College for the College and Career Transitions Initiative (CCTI) (n.d.), materials available on the website of the National Association of State Directors of Career and Technical Education consortium (n.d.; 2007), as well as guides developed for some state programs (e.g., for the state of Washington, see Centers of Excellence for Allied Health, Construction and Information Technology, 2009, and for the state of Illinois, see Taylor et al., 2009).

From these discussions and reviews, we developed criteria for each of the four core Perkins IV elements to use in the examination of each school's career majors/programs to determine if they met these criteria for the purposes of analysis for this study. This review process proceeded in two stages. First, because OVAE was only interested in those career majors/programs that were considered CTE majors, we set criteria to determine which of the school's career majors/programs could be considered CTE majors. Second, any of the majors/programs determined to be CTE by these criteria would then be examined further to assess whether they met the criteria for each of the four core elements. These steps and criteria used are described below, with further details provided in Appendix K.

Step 1 of Identification of Study-Defined Perkins IV POS: Determine eligibility of major/program of study for review. Because OVAE was most interested in EEDA career majors that were centered around CTE, our first step in identifying what we would call a study-defined Perkins IV POS, or POS4 program, was to determine which of the career majors at each sample school would be eligible for CTE/Perkins IV funding purposes in South Carolina or would be considered a CTE program by the SDE CATE office. There are several ways that a major or program can be considered eligible to be funded by CTE funds or officially designated as a CTE

program in South Carolina, and we developed the following method as our first step in identifying such programs and majors.

A major/program had to meet at least *one* of the following five criteria:

1. ***SDE CATE office approval of the major/program for funding.*** A list of all of the career majors/pathways was sent to the SDE CATE office and staff was asked to report whether each major/program would be eligible for state CTE funding, by reporting "Yes" or "No." Any major/program that received a "Yes" response was considered to have passed our first step toward being eligible to be reviewed for POS elements.

2. ***eIGP major CIP Code matched a SDE CATE program CIP Code.*** Reported school major CIP Codes used for reporting enrollment on eIGPs were compared to CATE program CIP Codes in use during that school year (2008-2009) to find matches in codes. If an eIGP major CIP Code matched a CATE CIP Code, even if what the school and SDE CATE called the major/program differed, the major/program was considered eligible to be reviewed and was referred to in study reports by the name used by the SDE CATE office.

3. ***Listed major/program name was similar to SDE CATE program name.*** If a major/program was listed in the career center's registration guide, in the career section of the school's registration guide, or was an eIGP major with enrollment and had a name the same as or very similar to one in the SDE CATE office state approved program list for the designated school year but not the same CIP Code, the major/program was considered eligible to be reviewed.

4. ***SDE reported CATE concentrators in this CATE program.*** SDE CATE reports of CTE programs that had concentrators were examined for each of the schools. If a CTE program was reported to have concentrators in the designated school year (2008-2009) at the sample school, the major/program was considered eligible to be reviewed.

5. ***District reported major/program as Perkins IV POS.*** All districts that want to receive Perkins IV funding must implement at least one Perkins IV-defined POS to be eligible for funding. It was left to the states to decide what the requirements were to be to meet the four elements of Perkins IV POS. The SDE CATE office left the decision to each district to select one CTE program being implemented in their district that would meet the Perkins IV POS criteria. Data on these programs of study were requested in progress reports that districts were required to submit to the state at the end of each school year. These were the documents from which we pulled the district CATE POS for the appropriate school year (2008-2009; Flora & Whittle, 2010). Then, catalogs at sample schools were examined to find out if this POS and its 4-course sequence was being offered at the school during the specified school year. See the District Study-Defined Perkins IV POS section for more details.

Each of the majors/programs that met at least one of the above criteria, had to also meet the following requirement:

> ***Major/program treated as program of study by school.*** EEDA was designed to have career majors/programs developed across the curriculum for all students. To be considered a program of study, it would be important that the entire school be aware of and treat the major/program as a program of study and that information on the major/program be disseminated in some way to all students and not just those students already in CTE courses. So, in addition to meeting one of the above options, a major/program also had to be listed in one of the following: the school's registration guide for the designated year; the career center guide; or the course listings, as a major or program, or as a header/course grouping/program area of a narrow subject area outlined in the CTE section with more than one course listed under the header/area.

If a major/program met at least one of the five options and the additional requirement of being listed somewhere in course/registration materials, then the major/program was considered to be eligible to be reviewed for elements of Perkins IV. All others were considered ineligible and not reviewed further.

Step 2 of Identification of Study-Defined Perkins IV POS: Assess whether eligible programs meet Perkins IV core element criteria. Once a major/program was deemed eligible to be considered to be a POS4, the next step in the process was to examine each of the eligible CTE majors/programs using a set of criteria developed for each of the four Perkins IV core elements for POS. As described above, we consulted a number of sources to develop these criteria in similar ways to those in the field and where possible, used criteria similar to or the same as that used in the Rigorous Tests of POS Study (M. Castellano, personal communication, 10/4/2010) to allow for some continuity across NRCCTE studies. Criteria were developed around the description of the core Perkins IV elements as described in the law: We did not assume that if a district or the SDE CATE office declared a major or program as meeting the four core elements that these elements were actually met. All decisions about meeting or not meeting criteria were made by study team members reviewing the school's documents and interview and focus group responses.

Element 1: Incorporate and align secondary and postsecondary education elements. In keeping with how the Rigorous Tests of POS Study operationalized this element, a major/program would meet this element if there was at least one articulated course, training, or apprenticeship available during high school specifically for this major/program that offered the opportunity for college or other postsecondary credit. This could include a Technical Advanced Placement (TAP) or regular Advanced Placement (AP) course, dual credit or dual enrollment course, or an apprenticeship or training course that could result in postsecondary credit. Information from the Clusters & Majors Checklist, staff interviews, and school materials were reviewed to code each eligible major on this element. If the major/program met *one* of these options, the major/program was given a "Yes" on this element.

Element 2: Include academic and CTE content in a coordinated, non-duplicative progression of courses. For this element, we were only able to incorporate some of the requirements used by

the Rigorous Tests of POS Study to meet this element. As compared to our study schools, the schools examined in the Rigorous Tests of POS Study had been organized around programs of study, on average, for a longer period of time and thus would likely be further along in developing career pathways and in integrating college prep academic standards across their curriculum.

For our coding purposes, we used the text of this element in the Perkins IV law for guidance:

> Includes coherent and rigorous content aligned with challenging academic standards and relevant career and technical content in a coordinated, non-duplicative progression of courses that align secondary education with postsecondary education to adequately prepare students to succeed in postsecondary education (Carl D. Perkins Career and Technical Education Improvement Act of 2006; S250-35, Part B, Sec. 122(2)(c)(A)(ii)).

The following three criteria were thus used for Element 2:

1. Did the major/program include a coordinated progression of at least four required courses?
2. Were the core and major/program courses rigorous and aligned with South Carolina state standards and considered college prep courses?
3. Did the technical courses required for the major/program meet industry standards?

Then, based on materials and information we had available from schools, we developed various rules under which a major/program would meet these criteria. For example, we looked for progression of courses on the list of required courses for majors/programs outlined on the required IGP forms that were often included in a school's course catalog. Information from the Clusters & Majors Checklist, staff interviews, and school materials were reviewed to code each eligible major on this element. If the major/program met *all three* of these criteria, the major/program was given a "Yes" for Element 2.

Element 3: Includes dual or concurrent enrollment programs or other ways to acquire postsecondary education credits. Although Perkins IV does not require POS to offer opportunities for postsecondary education credits, i.e. this element is optional in the law, in keeping with the requirements of the Rigorous Tests of POS Study, offering at least one option for receiving postsecondary credit was a requirement to meet this element and we included this element as a requirement for a POS4. Information from the Clusters & Majors Checklist, staff interviews, and school materials were reviewed to code each eligible major/program on this element. For a major/program to receive a "Yes" for Element 3, there had to be at least one option for receiving postsecondary credit available specifically for the particular major/program and included as one of the required courses for completion of that major. A major/program's list of required courses had to include at least one dual enrollment or dual credit course, a course eligible for TAP credit, or an AP core academic course.

Element 4: Leads to credential after postsecondary training/education and/or leads to a two- or four-year degree. For a major/program to receive a "Yes" for this element, the major/program had to lead to some type of postsecondary certificate or two- or four- year degree in this subject

area. Information from the Clusters & Majors Checklist, staff interviews, and school materials were reviewed to code each eligible major on this element.

To be identified as a POS4, the major/program had to have received scores of "Yes" on *all four* elements. A limited reliability analysis was conducted on coding for this variable. For consistency, one study team member did all of the coding of these elements across all schools. For reliability purposes, another study team member was involved in some of the decisions made early in reviews of the first two schools to reach agreement on how to interpret some criteria. In addition, this same team member conducted a partial reliability check on selected elements from one school and her results were similar to those of the primary team member conducting the coding.

South Carolina Pathways Study-Defined District Perkins IV POS (POS5). Each South Carolina school district must annually report to the SDE CATE office at least one program in the district that demonstrates LEA efforts to comply with the Perkins IV criteria for that year. Initially, we considered using each district's one reported program as the Perkins IV POS for each school. The legislation allows states to decide whether these reported programs meet the Perkins IV core elements. In South Carolina, the decision is left to each school district. However, we could not determine whether consistent criteria were being used across districts. Nevertheless, because these programs were identified at the school district level as being Perkins IV POS, the study group explored the definitional criteria and the presence of the programs at sample schools during the 2008-2009 school year. Potential programs were analyzed as described below based on some of the same criteria described for POS4.

The study team first determined which major/program in each of our schools' districts was designated as the Perkins IV program of study for funding purposes for the 2008-2009 school year. These were determined based on the district reports of these programs for the 2008-2009 in their 2008-2009 annual progress reports to the SDE CATE office. The list of these district programs was also included in the state's summary progress report submitted to OVAE for that school year (Flora & Whittle, 2010).

The next step was to determine if each district reported Perkins IV program of study was available to students during the 2008-2009 school year at the sample school located within that particular district. This was determined based on a review of the school or career center's catalog/registration materials for that school year, using the following criteria:

1. Was the program of study listed in the catalog/registration materials of the school or career center as a major/program (as a major with an IGP template or CTE program, or as a header/course grouping/program area with more than one course listed under the header/area)?
2. Were the four core courses outlined in the district's report for that program of study listed as required for that major/program at that school in the IGP template, in the career center catalog/registration materials or in the catalog course listings? The team decided that the district courses had to be listed as either the only four courses specifically required for the major/program or if listed in a longer list with one or more additional courses, were

clearly listed as the primary courses or the first in a sequence of courses for this major/program.

3. Were all four core courses listed for the district program of study available/offered (according to the course catalog at the school or career center) to students at the sample school, at their career center, and/or through another high school during the 2008-2009 school year? Courses with very similar but not the exact same names as those outlined by the district were considered to be a match to the district designated course.

To be identified as a POS5, the District Perkins IV POS major/program had to have received scores of "Yes" on *all three* of these elements. For consistency, one study team member did all of the coding for this variable for each school. For reliability purposes, another study team member also coded elements for this variable for each school. Initial reliability results were high, with disagreement on elements for majors/programs at only two schools. The two study team members were able to reach agreement on all discrepancies in coding and agreed upon the final coding across all schools.

Sample School Identified Programs with the Strongest Secondary-Postsecondary Linkages (POS6). During discussions about linkages between majors/programs and secondary-postsecondary linkages in interviews conducted on school sites in the Fall of 2009, staff were asked which of their school's or career center's majors/programs had the best secondary-postsecondary linkages at the time of the interview. Programs that were reported by at least two staff members as having the best secondary-postsecondary linkages during interviews on POS in the Fall of 2009 were included on this list.

Appendix A: OVAE Career and Technical Programs of Study: A Design Framework

The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) calls for states to offer "career and technical programs of study," which may be adopted by local educational agencies and postsecondary institutions, as an option to students (and their parents as appropriate) when planning for and completing future coursework. These programs, at a minimum, must:

- Incorporate and align secondary and postsecondary education elements,
- Include academic and CTE content in a coordinated, non-duplicative progression of courses,
- Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits, and
- Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Each local recipient of Perkins funds must offer at least one career and technical program of study.

To help states and local recipients meet these requirements, the Office of Vocational and Adult Education (OVAE), in collaboration with major national associations, organizations, and states, have formulated a "career and technical programs of study design framework (framework)." The framework identifies a system of 10 components that, taken together, support the development and implementation of effective programs of study. Although all 10 components are important, they are neither independent nor of equal priority: State and local program developers must identify the most pressing components for state or local adoption, taking into consideration their relative need within their educational context.

PROGRAM OF STUDY (POS) COMPONENTS AND SUBCOMPONENTS

1. LEGISLATION AND POLICIES

Federal, state, and local legislation or administrative policies promote POS development and implementation.

Effective legislation and policies should:

- Provide for state and/or local funding and other resources, such as professional development and dedicated staff time, for POS development.
- Establish formal procedures for the design, implementation, and continuous improvement of POS.
- Ensure opportunities for any secondary student to participate in a POS.
- Require secondary students to develop an individual graduation or career plan.
- Provide resources for long term sustainability of POS.

2. PARTNERSHIPS

Ongoing relationships among education, business, and other community stakeholders are central to POS design, implementation, and maintenance.

Collaborative partnerships should:

- Create written memoranda of understanding that elaborate the roles and responsibilities of partnership members.
- Conduct ongoing analyses of economic and workforce trends to identify statewide (or regional) POS to be created, expanded, or discontinued.
- Link into existing initiatives that promote workforce and economic development, such as sector strategies and other activities supported by the Workforce Investment Act.
- Identify, validate, and keep current the technical and workforce readiness skills that should be taught within a POS.

3. PROFESSIONAL DEVELOPMENT

Sustained, intensive, and focused opportunities for administrators, teachers, and faculty foster POS design, implementation, and maintenance.

Effective professional development should:

- Support the alignment of curriculum from grade to grade (9-12) and from secondary to postsecondary education (vertical curriculum alignment).
- Support the development of integrated academic and career and technical curriculum and instruction (horizontal curriculum alignment).
- Ensure that teachers and faculty have the content knowledge to align and integrate curriculum and instruction.
- Foster innovative teaching and learning strategies (see #9 below).

4. ACCOUNTABILITY AND EVALUATION SYSTEMS

Systems and strategies to gather quantitative and qualitative data on both POS components and student outcomes are crucial for ongoing efforts to development and implement POS.

Well-designed accountability and evaluation systems should:

- Include the "10 Essential Elements of A State Longitudinal Data System" identified by the Data Quality Campaign.[1]
- Provide for administrative record matching of student education and employment data (i.e., Unemployment Insurance (UI) wage records).

[1] The 10 elements are: (1) statewide student identifier; (2) student-level enrollment data; (3) student-level test data; (4) information on untested students; (5) statewide teacher identifier with a teacher-student match; (6) student-level course completion (transcript) data; (7) student-level SAT, ACT, and Advanced Placement exam data; (8) student-level graduation and dropout data; (9) ability to match student-level P-12 and higher education data; and (10) a state

- Yield valid and reliable data on key student outcomes (indicators) referenced in Perkins and other relevant federal and state legislation.
- Provide timely data to evaluate and improve the effectiveness of POS.

5. COLLEGE AND CAREER READINESS STANDARDS

Content standards that define what students are expected to know and be able to do to enter and advance in college and/or their careers comprise the foundation of a POS.

Rigorous college and career readiness standards should:

- Be developed and continually validated in collaboration with secondary, postsecondary, and industry partners.
- Incorporate essential knowledge and skills (i.e., academic skills, communication, and problem-solving), which students must master regardless of their chosen career area or POS.
- Provide the same rigorous knowledge and skills in English and mathematics that employers and colleges expect of high school graduates.
- Incorporate industry-recognized technical standards that are valued in the workplace.
- To the extent practicable, be internationally benchmarked so that all students are prepared to succeed in a global economy.

6. COURSE SEQUENCES

Non-duplicative sequences of secondary and postsecondary courses within a POS ensure that students transition to postsecondary education without duplicating classes or requiring remedial coursework.

Well-developed course sequences should:

- Map out the recommended academic and career and technical courses in each POS.
- Begin with introductory courses at the secondary level that teach broad foundational knowledge and skills that are common across all POS.
- Progress to more occupationally-specific courses at the postsecondary level that provide knowledge and skills required for entry into and advancement in a chosen POS.
- Offer opportunities for students to earn postsecondary credit for coursework taken during high school.

7. CREDIT TRANSFER AGREEMENTS

Credit transfer agreements provide opportunities for secondary students to be awarded transcripted postsecondary credit, supported with formal agreements among secondary and postsecondary education systems.

Well-development agreements:

- Provide a systematic, seamless process for students to earn college credit for postsecondary courses taken in high school, transfer high school credit to any two- and

four-year institution in the state that offers the POS, and transfer credit earned at a two-year college to any other two- or four-year institution in the state that offers the POS.
- College credit should be automatically transcripted at the college for high school students so that they can transfer seamlessly into the postsecondary portion of a POS without the need for additional paperwork or petitioning for credit.
- Describe the expectations and requirements for, at a minimum, teacher and faculty qualifications, course prerequisites, postsecondary entry requirements, location of courses, tuition reimbursement, and credit transfer process.

8. GUIDANCE COUNSELING AND ACADEMIC ADVISEMENT

Guidance counseling and academic advisement help students to make informed decisions about which POS to pursue.

Comprehensive guidance counseling and academic advisement systems:

- Are based on state and/or local guidance and counseling standards, such as the National Career Development Guidelines.[2]
- Ensure that guidance, counseling, and advisement professionals have access to up-to-date information about POS offerings to aid students in their decision making.
- Offer information and tools to help students learn about postsecondary education and career options, including prerequisites for particular POS.
- Offer resources for students to identify their career interests and aptitudes and to select appropriate POS.
- Provide information and resources for parents to help their children prepare for college and careers, including workshops on college and financial aid applications.
- Offer Web-based resources and tools for obtaining student financial assistance.

9. TEACHING AND LEARNING STRATEGIES

Innovative and creative instructional approaches enable teachers to integrate academic and technical instruction and students to apply academic and technical learning in their POS coursework.

Effective teaching and learning strategies should:
- Be jointly led by interdisciplinary teaching teams of academic and career and technical teachers or faculty.
- Employ contextualized work-based, project-based, and problem-based learning approaches.
- Incorporate team-building, critical thinking, problem-solving, communication skills, such as through the use of career and technical student organization (CTSO) activities.

[2] See http://cte.ed.gov/acrn/ncdg/ncdg_what.htm.

10. TECHNICAL SKILLS ASSESSMENTS

National, state, and/or local assessments provide ongoing information on the extent to which students are attaining the necessary knowledge and skills for entry into and advancement in postsecondary education and careers in their chosen POS.

Well-developed technical skills assessments:

- Measure student attainment of technical skill proficiencies at multiple points during a POS.
- Employ industry-approved technical skill assessments based on industry standards, where available and appropriate.
- Employ State-developed and/or approved assessments, particularly where industry-approved assessments do not exist.
- Result in the awarding of secondary credit, postsecondary credit, or a special designation on a student's high school diploma.
- Incorporate performance-based assessment items, to the greatest extent possible, where students must demonstrate the application of their knowledge and skills.

Appendix B: Papers and Presentations on Study Findings

Articles

Withington, C., Hammond, C., Mobley, C., Stipanovic, N., Sharp, J. L., Stringfield, S., et al. (2012). "Implementing a statewide mandated career pathways/programs of study school reform model: Select findings from a multi-site case study." *International Journal of Educational Reform* 21(2):138-158

Mobley, C., Hammond, C., Withington, C., Stringfield, S., Stipanovic, N., Sharp, J. L., et al. (2012). "Developing programs of study via a statewide career-focused reform policy." *Techniques* (January): 24-27.

Sharp, J. L., Mobley, C., Hammond, C., Withington, C., Drew, S., Stringfield, S., et al. (2011). "A mixed methods sampling methodology for a multisite case study." *Journal of Mixed Methods Research*. Advance online publication. doi:10.1177/1558689811417133

Technical Reports

Hammond, C., Drew, S., Withington, C, Mobley, C., Sharp, J. L., Stringfield, S. C., et al. (2011). *Programs of study as a state policy mandate: A longitudinal study of the South Carolina Personal Pathways to Success initiative—Year 3 technical report*. Louisville, KY: National Research Center for Career and Technical Education.

Programs of Study Joint Technical Working Group. (2011). *Programs of study: Year 3 joint technical report*. Louisville, KY: University of Louisville, National Research Center for Career and Technical Education.

Smink, J., Drew, S., Hammond, C., Withington, C., Mobley, C., Sharp, J., et al. (2010, January). *A longitudinal study of the South Carolina Personal Pathways to Success initiative—Year 2 technical report*. Louisville, KY: National Research Center for Career and Technical Education.

Programs of Study Joint Technical Working Group. (2010). *Programs of study: Year 2 joint technical report*. Louisville, KY: University of Louisville, National Research Center for Career and Technical Education.

Conference Presentations and Podcasts

Hammond, C., Withington, C., Drew, S., Mobley, C., Sharp, J., Stringfield, S., & Stipanovic, N. (2012, April). Changes in Career and Technical Education Awareness and Participation in a Mandated Programs of Study School Reform Environment: Third Year Results. In *Programs of Study (POS) as Locally Adaptable High School Reforms*. Symposium conducted at the Annual Meeting of the American Educational Research Association, Vancouver, BC, Canada.

Hammond, C., Stipanovic, N., Sharp, J., Withington, C., Mobley, C., Drew, S., & Stringfield, S. (2011, April). A longitudinal study of the South Carolina Personal Pathways to Success Initiative. In M.V. Lewis, (Chair), *Programs of study: Multiple approaches examining the implementation of a federal policy on career preparation*. Symposium conducted at the Annual Meeting of the American Educational Research Association in New Orleans, LA.

Westray, L., Swiger, C., Sharp, J. L., Mobley, C., Hammond, C., Withington, C., et al. (2011, April). *Career and technical education (CTE) participants vs. non-CTE participants: A comparison of student survey findings*. Poster presented at the Clemson University HEHD Research Forum, Clemson, SC.

Stone, J., Drew, S., Castellano, M., Alfeld, C., Hammond, C., Withington, C., Mobley, C., Sharp, J., Stringfield, S., & Kosine, N. (2010, December). *Programs of study: Early lessons from three field-based studies*. Presentation made at the 2010 ACTE Convention in Las Vegas, NV.

Hammond, C., Withington, C., Mobley, C., Sharp, J. L., & Drew, S. (2010, April). *South Carolina Personal Pathways to Success initiative and Programs of Study: Early findings from a 5-year longitudinal mixed-methods Study*. Roundtable Presentation at the Clemson University HEHD Research Forum, Clemson University, Clemson, SC.

Stone, J., Alfeld, C., Sundell, K., & Hammond, C. (2010, March). *National Research Center for Career and Technical Education Programs of Study Seminar* presented at the ACTE 2010 National Policy Seminar, Washington, DC.

Castellano, M., Sundell, K., & Withington, C. (2010, February). *ACTE post-convention update: A podcast with Marisa Castellano, Kirsten Sundell, & Cairen Withington*. NRCCTE audio podcast of interview with Catherine Imperatore, Association for Career and Technical Education.

Stone, J., Alfeld, C., Castellano, M., Sundell, K., & Withington, C. (2009, November). *Programs of study: Early lessons from three field-based studies*. Presentation made at the 2009 ACTE Convention in Nashville, TN.

Hammond, C. (2009, July). *A longitudinal study of the South Carolina Personal Pathways to Success Initiative*. NRCCTE audio podcast of interview with Catherine Imperatore, Association for Career and Technical Education.

Smink, J., Drew S., Hammond, C., Withington, C., McMillan, R., Mobley, C., et al. (2009, April). *A sampling design for a longitudinal study of the South Carolina Personal Pathways Initiative*. Poster presented at the Clemson University HEHD Research Forum, Clemson University, Clemson, SC.

Appendix C: EEDA Policy Implementation and Study Timelines

Eight Sample Schools					
		Baseline POS stage Baseline EEDA stage			End EEDA stage End POS stage
Archival school data	Archival school data	Archival school data Site visits	Archival school data Site visits Guidance surveys & interviews	Archival school data	Archival school data Guidance surveys & interviews
Cohort 1 – control group					
10th grade	11th grade	12th grade			
Archival student data	Archival student data	Archival student data Survey			
Cohort 2 – treatment group					
8th grade	9th grade	10th grade	11th grade	12th grade	
Archival student data	Archival student data	Archival student data Survey	Archival student data	Archival student data Survey Focus groups	
Pre-Study 2006-2007	**Study Year 1 2007-2008**	**Study Year 2 2008-2009**	**Study Year 3 2009-2010**	**Study Year 4 2010-2011**	**Study Year 5 2011-2012**
Statewide EEDA Implementation Requirements					
Career awareness for 1-5th grades Eighth graders develop IGP HS org curricula on 3 + career clusters HS criteria to ID high-risk students	All MS & HS have 300:1 student-to guidance ratio HS implement programs for ID of high-risk students	10th graders declare major	All HS implement principles of HSTW	EEDA fully implemented 7-1-11	EEDA continued implementation

Appendix D: Spring 2009 Site Visit Protocols

South Carolina Personal Pathways Study Site Visits
Validation of Baseline EEDA Implementation Level

School/District/WIA: _____

Researchers conducting visit: _____

Date of visit: _____

School contact person: _____

School contact information: _____

1. These first items are about the Education and Economic Development Act (EEDA)/Personal Pathways Initiative in general and how it is being implemented at your school.

General questions for principal, assistant principal(s) and guidance director:

a. What do you see as the primary purpose of the EEDA/Personal Pathways Initiative?

b. How would you rate your school's overall level of implementation of EEDA requirements on a 5 point scale, where 1=planning stage and 5=fully implemented?

1	2	3	4	5
Planning stage				Fully implemented

Please, briefly explain your rating /why do you rate your school's implementation at that level?

c. What area or areas of EEDA implementation are the strongest at your school?

[PROMPTS: If doesn't know specific areas, could list the following: career clusters, majors, and career-focused content; whole-school reform; Individual Graduation Plans]

d. What area or areas of EEDA implementation need the most improvement at your school?

2. The following items are about the school's whole-school reform model

Questions for principal, assistant principal(s) and teachers:

a. Has your school selected a whole-school reform model?

Yes No Don't Know

b. If a whole-school reform model has been selected/adopted, which model was it?

America's Choice
First Things First
High Schools That Work
School Development Program
Talent Development High School
Model designed by school/district

Other: _____

c. If a whole-school reform model has been selected/adopted, what year did implementation begin or when do you expect it to begin?

Prior to 2005-2006 school year
2005-2006 school year
2006-2007 school year
2007-2008 school year
2008-2009 school year
2009-2010 school year

Questions for principal and assistant principal(s):

d. What led to your choice of this whole-school reform model?

e. What has been done to implement this model?

f. How would you rate the level of implementation of this model on a scale from 1 to 5, with 1 being "planning stage" and 5 being "fully implemented"? (Circle one number)

1	2	3	4	5
Planning stage				Fully implemented

Questions for the principal:

g. If the model is not High Schools That Work, why did you choose another model?

h. If you haven't selected a whole-school reform model, why not? What models are you considering?

Questions for teachers:

i. How would you describe this whole-school reform model?

j. Have you been trained on how to implement this model?

3. The following items are about programs being implemented for high-risk students at your school that have been put into place to meet EEDA requirements.

[EEDA requirement: high schools must identify high-risk students and implement evidence-based strategies to assist identified students.]

Questions for principal, assistant principal(s) and guidance director:

a. What are the 2 or 3 **primary** strategies or programs that your school has adopted to provide identified high-risk students with special assistance, as specified in the EEDA requirements?

Strategy/Program 1: _____
Could you briefly describe this strategy or program?

Strategy/Program 2: _____
Could you briefly describe this strategy or program?

Strategy/Program 3: _____

Could you briefly describe this strategy or program?

b. Which, if any, of the Tier 1 models identified in the Pathways to Success *At-Risk Student Intervention Implementation Guide*,* is your school implementing to support high-risk students? *[Give list to Interviewee to review]*

_____ Advancement Via Individual Determination (AVID)
_____ Big Brothers Big Sisters
_____ Boys & Girls Clubs of America
_____ Check & Connect
_____ Coca-Cola Valued Youth Program
_____ High Schools That Work (HSTW)
_____ keepin' it R.E.A.L. (Refuse, Explain, Avoid, Leave)
_____ Project Graduation Really Achieves Dreams (Project GRAD)
_____ Project Toward No Drug Abuse (Project TND)
_____ Quantum Opportunities Program
_____ School Transitional Environment Program (STEP)—(now HiPlaces School Improvement Model)
_____ Teen Outreach Program (TOP)
_____ Too Good for Drugs and Violence (TGFD)

c. Which, if any, of the Tier 2 models identified in the Pathways to Success *At-Risk Student Intervention Implementation Guide*,* is your school implementing to support high-risk students? *[Give list to Interviewee to review]*

_____ ACT EXPLORE
_____ Academic Alternatives
_____ Career Education Options Program (CEO)
_____ Complete High School Maize (CHSM)
_____ Computer-Based Instruction: Example: Educational Options, Inc.; NOVEL/STARS™
_____ Computer-Based Instruction: Example: Pearson Digital Learning/NovaNET
_____ Computer-Based Instruction: Example: PLATO Learning, Inc.
_____ Consistency Management & Cooperative Discipline® (CMCD®)
_____ Creating Lasting Family Connections (CLFC)
_____ Early College High School Initiatives: Gateway to College Tri-County Technical College, Richland One Middle College
_____ Fast Forward Center
_____ GEARUP
_____ Jefferson County Public Schools (Louisville, Kentucky)
_____ Jobs for America's Graduates (JAG)
_____ Leadership and Resiliency (LRP)
_____ Moss Point High School Entrepreneurship Program
_____ National Foundation for Teaching Entrepreneurship (NFTE): YEScarolina (Youth Entrepreneurship South Carolina)
_____ Phoenix Academy

_____ Pickens County Star Academy
_____ Positive Action
_____ Project Respect
_____ Reconnecting Youth
_____ School for Integrated Academies and Technologies (SIATech)
_____ South Carolina Advanced Technological Education (SCATE)
_____ South Carolina Virtual School
_____ Truant Recovery Program
_____ Union Alternative School
_____ Upward Bound, Federal TRIO Program
_____ WorkKeys/KeyTrain
_____ YouthBuild
_____ National Dropout Prevention Center's Program Assessment Review (PAR)
_____ Other, please specify: _____

[This Guide is online and was provided to each school by the SC Department of Education.]

d. What impact do you think implementation of EEDA at your school will have on high-risk students? On your school's dropout rate?

Question for guidance director:

e. What method are you using to identify the group of high-risk students at your school who will receive additional assistance funded through the EEDA? What characteristics are being used for student identification?

Questions for teachers:

f. What are the primary strategies or programs that your school has adopted to identify and assist students at high risk for failing and/or dropping out?

4. The following questions are about implementation of career clusters at your school, the reorganization of your school's curricula around these clusters, and Individual Graduation Plans (IGPs).
[EEDA requirement: high schools must implement at least three of 16 career clusters and integrate academic and career-focused content in courses.]

Questions for principal, assistant principal(s), guidance personnel and guidance director:

a. How many career clusters are available to students at your school? _____
Which ones do you offer?

b. Are 10th graders notified of the requirement that they must declare a major within a career cluster? [Not specifically asked of guidance personnel other than guidance director.]

Yes No Don't Know

If "yes," how are they notified?

c. Are your 9th graders coming to high school with completed IGPs? [Not specifically asked of guidance personnel other than guidance director.]

Yes No Don't Know

d. Are IGPs reviewed regularly?
Yes No Don't Know

If yes, who reviews them and how often are they reviewed?

Questions for principal and guidance director:

e. How does the IGP process work at your school? Who is involved and how are they developed? How are students informed of the IGP requirements?

f. How far along is your school in implementing the electronic IGP system?

Questions for guidance personnel:

g. How does the IGP process work at your school? Who is involved and how are they developed?

h. How are students informed of the IGP requirements and how to develop one? How are parents informed about IGPs and the IGP process?

i. Are there any other comments you would like to make about your school's implementation of career clusters?

Questions for principal:

j. What materials are available to students and parents about career clusters? How are these materials made available to them?

Questions for guidance director:

k. We would like to get a copy of the report that you submitted to the South Carolina Department of Education that reports on your last year's (2007-2008) EEDA-related activities implemented by guidance personnel at your school. It is a report called the *Career Specialists/Guidance Personnel Accountability Report* and was submitted by someone in your guidance office online some time in June.

It covers items like the following: During the last school year (2007-2008):

	Num	Activity
1)		How many 9th graders were assisted in identifying and accessing career information and resource materials pertaining to various career clusters?
2)		How many 9th graders completed at least one career inventory?
3)		How many 9th graders completed an individual graduation plan (IGP)?

Questions for teachers:

l. What is your general knowledge of career clusters/pathways/majors?

m. How are these clusters reflected in your teaching? Can you give us some examples? Examples: Has it required changes in technology you use? Materials you use? Used guest speakers?

n. Have you received any training related to career clusters and career-related content?
Yes No Don't Know

If yes, when did the training take place and who trained you?

Was the training helpful?

o. Do you feel prepared to incorporate career-related and major-specific content into your classes?
Yes No Don't Know

If yes, what has helped you be prepared? If no, why don't you feel prepared?

p. Are students given opportunities for extended learning/work-based learning experiences? What types of opportunities are available and who provides them? How do students learn about these?

5. The following items are about the role of guidance personnel in career-focused planning and education for students

Questions for guidance director:

a. How many guidance counselors and career specialists did your school have last year (2007-2008)?

Certified Guidance Counselors: _____

Career specialists who are not Guidance Counselors: _____

b. What types of career planning information is available to students and parents? How is it made available to them?

c. Are career skills or interest assessments available to students? Do students take them? If so, how often?

Questions for guidance director and guidance personnel:

d. During the last school year (2007-2008), how many career events, career classes, and career programming activities were coordinated by career specialists and/or guidance counselors?
_____

e. During the last school year, how many career development and guidance workshops were presented for teachers, school counselors, and work-based constituents?
_____workshops

f. During the last school year, how many participated in career development and guidance workshops presented for teachers, school counselors, and work-based constituents? _____ participants

g. Are students given opportunities for extended learning/work-based learning experiences? What types of opportunities are available and who provides them? How do students learn about these?

h. Has your level of effort in any of the following areas changed since the implementation of EEDA? Would you say that you now spend more time, less time, or the same amount of time on each of the following areas now as compared to before EEDA? ***[Hand them the chart and ask them to mark the appropriate box for each area]***

		Spend less time	**Spend same amount of time**	**Spend more time**
1)	Course scheduling			
2)	Counseling students about misbehavior			
3)	Counseling students about personal problems			
4)	Assisting with career preparation			
5)	Assisting with college planning and applications			
6)	Testing or planning and preparation for testing, such as for the SAT or ACT			
7)	Crisis intervention			
8)	Consultation			
9)	Classroom guidance			
10)	Other, please specify:			

Questions for guidance personnel:

i. b. What guidance personnel are involved in career planning and development at your school?

j. How are each of these guidance personnel at your school involved in career development and planning for **students**?

k. How are each of these guidance personnel at your school involved in career development **professional development activities/inservice for teachers and other staff**?

l. Have you received professional development or inservice on ***[Mark responses for each participant]***

1) student career development? Yes No Don't Know

2) your school's career clusters? Yes No Don't Know

Questions for teachers:

m. During last school year (2007-2008) how many career development and guidance workshops/professional development/inservice activities were given for teachers? What types of activities were offered?

n. How many/which ones did you attend?

o. Were these workshops professional development/inservice activities helpful? Why or why not? In what ways were they helpful? For example, did they help you change your lesson plans?

6. The following items are about the school's coordination with local 2- and 4-year colleges

[EEDA requirement: high schools must coordinate with local 2- and 4-year colleges and to offer opportunities for students to earn college credits.]

Questions for principals and guidance director:
Which of the following options are available to students at your school: ***[Circle one response for each question.]***

a1) Dual enrollment? Yes No
a2) Dual credit? Yes No
Which local colleges are involved? _____

b1) Advanced Placement courses? Yes No
b2) Technical Advanced Placement courses? Yes No
c) CTE/Tech Prep courses? Yes No
d) International Baccalaureate program? Yes No
e) Other college credit earning programs? Yes No
Which ones?
_____

f) National or industry certifications? Yes No

7. The following items are about the level of awareness of EEDA in the school, district, and community

Questions for principal, assistant principal(s), guidance personnel, guidance director and teachers:

a. What would you say is the level of awareness and understanding among the following groups about **EEDA** on a scale from 1 to 5, with 1 being "low to no awareness" and 5 being "high awareness"? What would you say is the level of awareness for each group on "**career clusters**"?

[Mark responses for each participant for each item]

Level of Awareness

	EEDA	**Career Clusters**
	Low/No High	**Low/No High**
Among teachers in your school?	1 2 3 4 5	1 2 3 4 5
Among administrators in your school?	1 2 3 4 5	1 2 3 4 5
Among counselors in your school?	1 2 3 4 5	1 2 3 4 5
Among students in your school?	1 2 3 4 5	1 2 3 4 5
Among parents of your students?	1 2 3 4 5	1 2 3 4 5
Among district staff?	1 2 3 4 5	1 2 3 4 5
Among district administrators?	1 2 3 4 5	1 2 3 4 5

Among your business partners?	1	2	3	4	5	1	2	3	4	5
Among the larger community in your district?	1	2	3	4	5	1	2	3	4	5

b. How has information on the EEDA been distributed to teachers at your school? To students? To parents?

c. How has information on career clusters been distributed to teachers at your school? To students? To parents?

[Note: The last two items (7b and 7c) were not asked specifically of guidance personnel except the guidance director.]

8. The following questions are about the REC in your region. [*IF THEY SAY THEY DON'T KNOW, MAKE A NOTE AND SKIP TO QUESTION 11.]*

[EEDA requirement: Regional Education Centers (REC) be developed in each of 12 geographic regions in South Carolina. These are being developed in all 12 EEDA geographic regions and will be virtual centers through Web sites. These Centers are to be designed to be focal points for regional training and education resources, provide help in facilitation of business-education partnerships, and promote community involvement.]

Questions for principal and guidance director:

a. How developed is the Regional Education Center (REC) in your region? How would you rate the level of implementation of your REC on a scale from 1 to 5, with 1 being "planning stage" and 5 being "fully implemented"? (Circle one number)

1	2	3	4	5
Planning stage				Fully implemented

b. Have you coordinated with your Regional Education Center in any way or used resources from it? If so, in what way(s)?

9. The following questions were asked as concluding questions of the principal, assistant principal(s), guidance director, guidance personnel and teachers.

a. Are there any other comments you would like to make about your school's EEDA implementation?

b. Are there any aspects of EEDA that we missed and should ask questions about?

Questions for Review of School Site Selection Visits
School Site Visit Team Summary

1. Where is the school on each of the following sections of EEDA?
   a. Whole-school reform

1 Planning stage	2	3	4	5 Fully implemented

   b. Programs for high-risk students

1 Planning stage	2	3	4	5 Fully implemented

   c. School's implementation of career clusters and integration of career-related content into core academic courses?

1 Planning stage	2	3	4	5 Fully implemented

   d. Opportunities for students to get college credit? LOW/ MEDIUM/ HIGH

   e. Level of awareness of EEDA in school and larger community? LOW/ MEDIUM/ HIGH

   f. Knowledge of and coordination with their Regional Education Center? LOW/ MEDIUM/ HIGH

2. Based on today's discussion and rankings from above, at what level is EEDA being implemented at this school? [Take a count from the group, marking with hatch marks the number of people who chose the various scores.]

1 Planning stage	2	3	4	5 Fully implemented

   a. Why would you give it this rating?

3. What would be the strengths of this school as a sample site?

4. What would be the drawbacks/weaknesses of this school as a sample site?

5. How does this site compare to other schools visited in this region? In other regions?

6. How cooperative would they be? How efficient in getting back with us?

7. How far do you think they will progress in implementing all aspects of the EEDA?

8. What is the school's vision of where they will go with EEDA? Does it appear that the school is doing this because they share the vision or are they doing it because they have to?

9. How would you characterize the style of leadership of the principal?

Appendix E: Fall 2009 POS Protocols and Measurement Tools

Example of 2008-2009 Clusters and Majors/Programs of Study/Completer Programs Checklist

Checklist Example **School Clusters & Majors/Programs of Study/Completer Programs** **2008-2009**	**Alignment with 2- and 4- year postsecondary education programs**								**Alignment with industry standards**						**Alignment with postsecondary apprenticeships, internships, training**						**Credential**											
	Major-specific curriculum is linked between secondary & postsecondary levels			**Has a major-specific written articulation agreement spelling out alignment**			**Institution agreement is with (Please list the institution(s))**	**Specific partner/ contact person that worked with on alignment**	**Major-specific required courses aligned with industry standards**			**Program completion prepares student to pass industry exam**			**Has written articulation agreement spelling out alignment**			**Business/ organization agreement is with**	**Specific partner/ contact person that worked with on alignment**	**Results in industry-recognized or sponsored credential -- at secondary level**			**Results in industry-recognized or sponsored credential -- at postsecondary level**			**Results in 2-year degree**			**Results in 4-year degree**		
	Yes	**No**	**N/A**	**Yes**	**No**	**N/A**	**Institution(s)**	**Contact(s)**	**Yes**	**No**	**N/A**	**Yes**	**No**	**N/A**	**Yes**	**No**	**N/A**	**Organization(s)**	**Contact(s)**	**Yes**	**No**	**N/A**	**Yes**	**No**	**N/A**	**Yes**	**No**	**N/A**	**Yes**	**No**	**N/A**
Agriculture, Food & Natural Resources																															
Horticulture																															
Architecture & Construction																															
Building Construction																															
Electricity																															
Arts, AV Technology, & Communication																															
English																															
Commercial Graphics																															
Performing Arts																															
Business, Mgmt & Admin																															

Checklist Example School Clusters & Majors/Programs of Study/Completer Programs 2008-2009	Alignment with 2- and 4- year postsecondary education programs								Alignment with industry standards						Alignment with postsecondary apprenticeships, internships, training					Credential											
	Major-specific curriculum is linked between secondary & postsecondary levels			Has a major-specific written articulation agreement spelling out alignment			Institution agreement is with (Please list the institution(s))	Specific partner/ contact person that worked with on alignment	Major-specific required courses aligned with industry standards			Program completion prepares student to pass industry exam			Has written articulation agreement spelling out alignment			Business/ organization agreement is with	Specific partner/ contact person that worked with on alignment	Results in industry-recognized or sponsored credential -- at secondary level			Results in industry-recognized or sponsored credential -- at postsecondary level			Results in 2-year degree			Results in 4-year degree		
	Yes	No	N/A	Yes	No	N/A	Institution(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Organization(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
Administration & Info Support																														
Financial Management & Accounting																														
Education & Training																														
Teaching & Training																														
Foreign Languages																														
Government & Public Administration																														
Social Studies																														
Health Science																														
Health Technology																														
Sports Medicine																														

Guidance Provided to Schools on POS Measurement Tool

1. Which of the majors/programs of study/completer programs offered at your school are formally aligned or sequenced with local technical college or other postsecondary programs?

   For each major/program of study/completer program aligned or sequenced with 2 or 4-year postsecondary programs:
   a. Does the curriculum link secondary and postsecondary levels? (Yes/No)
   b. Is there a written articulation agreement that details the alignment of the high school courses with the courses at the postsecondary level? (Yes/No)
   c. What postsecondary institution(s) is this agreement with? (Name of Institution)
   d. Is there a specific contact person at this postsecondary institution that you or someone in your school or district has worked with on developing the written articulation agreement? (Yes/No)
      If yes, who is it and how can we contact them? (Name_____ phone_____ email _____)

2. Which of the majors/programs of study/completer programs offered at your school are formally aligned or sequenced with business/industry standards for certification in this area or with postsecondary apprenticeships, internships, or further training in this area?

   For each major/program of study/completer program aligned or sequenced for certification purposes:
   a. Are the required courses aligned with the state standards or national industry standards required for certification in this area? (Yes/No)
   b. If a student completes the required courses for this major/program of study/completer program while in high school, will it prepare them to pass the industry exam for certification in this area? (Yes/No)

   For each major/program of study/completer program aligned or sequenced to move into postsecondary apprenticeships, internships, or further training:
   a. Is there a written articulation agreement that details the alignment of the high school courses with the requirements of an apprenticeship, internship, or further training in that area? (Yes/No)
   b. What business(s) or organization(s) is this agreement with? (Name of Business/Organization)
   c. Is there a specific contact person at this business or organization that works with apprenticeships, internships, or further training in this major/program of study/completer program that you or someone in your school or district has worked with to develop the written articulation agreement? (Yes/No) If yes, who is it and how can we contact them? (Name_____ phone_____ email _____)

3. Which of the majors/programs of study/completer programs offered at your school lead to an industry-recognized or sponsored credential or certificate at the high school or postsecondary level, or to an associate or baccalaureate degree? (Please mark all credentials that apply for each major/program of study/completer program.)

Fall 2009 POS Site Visit Protocol

Introduction for Interviews

Topic for today's discussion

Thank you for agreeing to talk with us today.

Things to emphasize:

- We are studying the implementation of EEDA in a number of schools across SC
- Interested in how policy impacts school, programs and student outcomes
- Not here to evaluate what you are doing or monitor your school in any way
- What we are asking about is not necessarily mandated in the EEDA or in Perkins
- Just interested in how this policy is being implemented at your school and how it's playing out in the majors that you offer
- Visiting with different staff in the next few days to find out more about particular majors offered at your school that seem to have strongest ties to postsecondary certificates, further training, and degrees.
- During our discussion, we will be asking you a number of questions about this major(s) or program(s).

Permission to audio-tape interview [PLEASE TALK ABOUT THIS TO PARTICIPANTS] We would like to audio-tape this interview to make sure that we accurately portray your interview in our notes.

To ensure confidentiality and anonymity, we will:

- Use all responses recorded for research purposes only
- Will summarize your responses and not release your identity
- Will not associate your name with your responses.
- Secure the audiotape in our research facility at Clemson University for access by research team members only
- After completion of the study or three years from the date of the interview, whichever is first, the audiotape will be destroyed

Your participation in the interview is voluntary and if you do not wish to be recorded, you have the option to deny permission at any time.

Any questions before we begin?

Introductory Meetings to Go Over the Major/Cluster Matrix
(Interviews with guidance director, curriculum coordinator and/or career center director)

1. **Finalize the Majors/Clusters matrix**

   What we want to do first is to go over the majors/clusters matrix that you and others filled out and make sure that we haven't missed anything and have correctly captured the links between your majors and postsecondary education and training.

   For each major, make sure all columns are filled in where appropriate and establish whether:

   - The major is smaller than a cluster and is narrow enough to be a potential POS and considered an independent major at the school

   - (1) Is formally aligned or sequenced with business/industry standards for certification purposes or
     (2) Is formally aligned or sequenced with business/industry standards for future internship/apprenticeship purposes with written articulation agreement or
     (3) Is formally aligned or sequenced with a postsecondary education program and has a written articulation agreement describing the link [*find out how many courses are covered – all for major? Only some courses?*]

   - Leads to credential in high school or can lead to a postsecondary apprenticeship, further training, or 2- or 4-year degree program

2. **Decide which majors we will want to follow-up on and identify who we need to talk to to address questions on all four key POS elements. Get contact information.**

   Some general questions:
   1. **Have their programs changed in the past three years? What changed and why?**
   2. **Have the courses they offer changed during that time? What changed and why?**
   3. **Has implementing EEDA changed any programs and/or courses? How?**
   4. **Has implementing HSTW changed any programs and/or courses? How?**
   5. **Have they seen any impact of EEDA on staying in school? On graduation rate?**
   6. **Which has had more impact on majors and clusters – EEDA or HSTW?**

Other Majors not Meeting Minimal Criteria for POS
(interviews with guidance personnel or curriculum coordinator)

1. **We are interested in the types of linkages that there are in your majors that do not have articulation agreements with 2- or 4-year institutions or result in a credential at the high school level only. In what ways are the courses in these majors linked to education and training after high school graduation?**

   a. Does one particular major have stronger linkages than others?

   b. What types of AP courses are available?

   c. What types of dual credit courses are available in these majors?

   d. What about postsecondary links through honors courses?

   e. Are students informed about any linkages? If so, how and what do you tell them?

2. **Are any of the courses in these majors formally aligned or sequenced with <u>business/industry standards?</u>**

Majors Meeting Minimal Criteria for Programs of Study (POS)
(interviews with those knowledgeable about these POS at high school)

1st Interview

Some general questions:

1. **Have their programs changed in the past three years? What changed and why?**
2. **Have the courses they offer changed during that time? What changed and why?**
3. **Has implementing EEDA changed any programs and/or courses? How?**
4. **Has implementing HSTW changed any programs and/or courses? How?**
5. **Have they seen any impact of EEDA on staying in school? On graduation rate?**
6. **Which has had more impact on majors and clusters – EEDA or HSTW?**

1. **Incorporation of secondary and postsecondary elements**

   The first aspect of this major that we want to talk about is how the curriculum for this major may be aligned with curriculum at the postsecondary level.

   Is the curriculum of this major linked in any way to the postsecondary curriculum in this same major? If yes, how?

a. Is the curriculum for this major aligned or sequenced with a postsecondary program, where the curriculum reflects a progression from secondary courses to postsecondary courses? How are the two levels linked?

b. Is the sequence non-duplicated across levels so that students don't have to repeat any courses when they get to college or postsecondary training?

c. Is there an articulation agreement for this major/program?

   Is it with a 2-year postsecondary institution?

   Is it with a 4-year postsecondary institution?

   Is it for a postsecondary apprenticeship, internship or other training

d. In what year was the agreement originally developed? Is it renewed on a regular basis – how often?

e. What does this articulation agreement cover? For example, does it identify specific courses and the necessary content, or what teachers/faculty will teach the courses, and the necessary teacher qualifications?
   Who is the agreement with?

   How often do you meet with them?

   Can we see a copy of the agreement?

2. Credit transfer options and agreements

We would like to know about any opportunities in this major for students to earn postsecondary education credits.

What dual/concurrent enrollment options are available to students in this major?

a. Are both academic and CATE courses specific to this major available for dual credit?

b. Are these courses included in the articulation agreements that we talked about earlier?

c. What <u>kinds</u> of credit are available through these options (i.e., postsecondary online courses, dual credit/enrollment, concurrent credit/enrollment, transcripted credit, or other methods to earn postsecondary credit in high school)?
   - How/when is the credit awarded?
   - How is credit tracked/transferred? Who tracks it – the high school or the postsecondary institution or both?

3. **Industry-recognized credentials, certificates or degrees**

   We are interested in finding out for this major the credential/certificates students can earn while in high school and the options they have to continue training or education in this major after high school graduation.

   a. First, can students earn an industry-recognized credential or certificate specific to this major while in high school? If so, what would that be?

   b. Can students earn an industry-recognized credential or certificate in specific to this major **after** high school graduation if completing training or an apprenticeship? If so, what would that be?

   c. If students continue in this same area in postsecondary education, what certifications or degrees could they earn? Is it a 2-year or 4-year degree?

   d. How do students learn about these options?

Majors Meeting Minimal Criteria for Programs of Study (POS)
(interviews with those knowledgeable about these POS at high school)

2nd Interview

1. **Overview**
   a. Please tell us a little bit about your program. How long have you offered it here at the school?

   b. Has the curriculum for this program area changed in past three years? If so, how? Why did it change?

   c. Has there been any impact of EEDA implementation on your program/courses?

   d. has there been any impact of HSTW implementation on your program/courses?

   e. Are students prepared in the basics to take your courses? Meet all prerequisites and equipped with necessary skills?

   f. Have you seen any changes in the focus of students on careers/goals after high school?

2. **Rigorous Academic and Technical Standards and Assessments**

   We want to get some information on the standards that are incorporated in both the academic and technical courses for this major and the types of assessments used.

First, for the academic courses for this major . . .

a. Are there specific academic core courses just for this major? Or do students in this major take the same core courses that students in other majors take?

b. Do you incorporate state academic standards in the academic courses for this major? Would you consider all courses to be college prep? Are honors courses available in this major?

   Are these standards aligned with those at the postsecondary level for this major?

c. How are students assessed in the academic courses for this major?

Also, for the technical/CATE courses for this major . . .

d. Are there specific career and technical education (CATE) courses just for this major?

e. Do you incorporate state CATE standards in the CATE courses for this major? Are any of these courses TAP?

   Are these standards aligned with those at the postsecondary level for this major?

f. How are students assessed in the CATE courses in this major? Are the assessments aligned with industry standards?

Academic and technical content integration

g. How have you integrated both academic and CATE content and skills into curricula for this major? Has the curriculum been modified in any way since Fall 2007 (after EEDA)? If yes, please describe what has been modified.

h. Do academic and CATE teachers: [*If "yes," can you give an example of each?]*
   - Have any common planning time?
   - Make joint assignments?
   - Co-teach courses?
   - Plan joint field trips?
   - Provide real-life applications in all courses?
   - Provide opportunities to use academic and technical skills across courses?

i. Do major-specific courses prepare students for postsecondary education without the need for academic or technical remediation?

j. Does completing major-specific courses give students the ability to test out of or skip introductory courses if they continue on in this major after high school?

k. Does completing major-specific courses make students better prepared to continue into postsecondary education to a greater degree than someone who did not complete the required courses for this major??

Majors Meeting Minimal Criteria for Programs of Study (POS)
(Interviews with postsecondary personnel)

1. General questions

a. Has your relationship with local high schools changed in any way over the past three years? What about with _____ high school? If yes, how? Why the change?

b. Has the number of students taking dual credit courses at your institution from _____ high school changed in the past three years? How has it changed? Why do you think it has changed?

c. Has EEDA implementation had any impact on your relationship with high schools and dual credit options?

d. Are students coming ready for your programs without need for remediation? If needing remediation – in what areas – reading, math, science or specific program areas?

e. Are certain programs stronger at _____ high school than others in terms of their preparation for postsecondary education?

f. What types of articulation agreements do you have with _____ high school?

g. What types of dual credit options are available to those students?

h. How often do you meet with staff at that school about these articulation agreements? About curriculum or other aspects of the program?

i. Are you tracking the number of students coming in with dual credit into your institution?

2. Incorporation of secondary and postsecondary elements

We are interested in finding out the level to which the curriculum for certain high school majors/programs are linked and aligned with the same area of study in postsecondary institutions. We are interested in these particular majors [*provide list*] at this high school _____.

a. Is the curriculum for this major linked in any way to the postsecondary curriculum in this same major/program area?

b. Are courses aligned or sequenced with a postsecondary major/program, where the curriculum reflects a progression from secondary courses to postsecondary courses? How are the two levels linked?

c. Is the sequence non-duplicated across levels so that students don't have to repeat any courses when they get to college or postsecondary training?

d. Do you have an articulation agreement for this major/program area?

e. In what year was the agreement originally developed? Is it renewed on a regular basis – how often?

f. What does this articulation agreement cover? For example, does it identify specific courses and the necessary content, or what teachers/faculty will teach the courses, and the necessary teacher qualifications?
Who is the agreement with?

How often do you meet with them?

Can we see a copy of the agreement?

3. Curriculum standards and rigor in the major at the secondary and postsecondary levels

We want to get some information on the standards that are incorporated in both the academic and technical courses for this major at the high school and postsecondary levels.

a. Are the academic standards aligned between the secondary and postsecondary curriculum in this major/program area?

b. Are the technical standards aligned between the secondary and postsecondary curriculum in this major/program area?

c. Do high school courses in this major/program area prepare students for postsecondary education without the need for academic or technical remediation at your institution? What about at other institutions?

4. Credit transfer options and agreements

We would like to know about any opportunities in this major for students to earn postsecondary education credits. What dual/concurrent enrollment options are available to students in this major/program area? Are these for specific courses?

a. Are these courses included in the articulation agreements that we talked about earlier?

b. What kinds of credit are available through these options (i.e., postsecondary online courses, dual credit/enrollment, concurrent credit/enrollment, transcripted credit, or other methods to earn postsecondary credit in high school)?
    - How is credit tracked/transferred?
    - How/when is the credit awarded?

5. Industry-recognized credentials, certificates or degrees

We are interested in finding out for this major/program area the options students have to continue training or education in this major or program area after high school graduation.

a. Can students earn an industry-recognized credential or certificate in specific to this major **after** high school graduation if they complete additional training or an apprenticeship? If so, what credential could they earn?

b. If students continue in this same area in postsecondary education, what certifications or degrees could they earn? A 2-year degree? A 4-year degree?

Appendix F: School Guidance Personnel Surveys

School Identifier: _____

Survey for Career Specialists

Directions: Read each of the school counseling/guidance duties listed in the first column of the table below. Then, tell us whether this is one of your assigned duties as a career specialist at your school by checking either "YES" or "NO" in columns 2 or 3.

School Counseling/Guidance Duties	YES	NO
1a. Classroom guidance on personal/social issues		
1b. Classroom guidance on career issues		
1c. Classroom guidance on academic issues		
2a. Curriculum development on personal/social issues		
2b. Curriculum development on career issues		
2c. Curriculum development on academic issues		
3a. Counseling students on personal/social issues		
3b. Counseling students on career issues		
3c. Counseling students on academic issues		
3d. Assisting students with the development of their career plans and IGPs		
3e. Assisting students with college planning and applications		
4a. Consulting with teachers and administrators about personal/social issues		
4b. Consulting with teachers and administrators about career issues		
4c. Consulting with teachers and administrators about academic issues		
5a. Assisting with exceptional students on personal/social issues		
5b. Assisting with exceptional students on career issues		
5c. Assisting with exceptional students on academic issues		
5d. Chairing individualized education (IEP) program meetings		

School Counseling/Guidance Duties	YES	NO
5e. Chairing Section 504 of the Rehabilitation Act of 1974 meetings		
5f. Coordinating special services referrals		
6a. Meeting with parents about personal/social issues		
6b. Meeting with parents about career issues		
6c. Meeting with parents about academic issues		
7a. Coordinating special events/programs for the school regarding personal/social issues		
7b. Coordinating special events/programs for the school regarding career issues		
7c. Coordinating special events/programs for the school regarding academic issues		
7d. Conducting professional development workshops in career development and guidance for teachers and guidance counselors		
8. Identifying and coordinating work-based/extended learning opportunities for students		
9. Crisis management		
10. Participating on committees within the school		
11a. Coordinating the standardized testing program		
11b. Administering standardized tests		
12. Organizing outreach to low income families (i.e., Thanksgiving dinners, Holiday families)		
13. Responding to health issues (e.g., check for lice, eye screening, 504 coordination)		
14. Performing hall, bus/car pick-up, cafeteria duty		
15a. Registering and scheduling students for classes		
15b. Developing the master class schedule		
16. Enrolling students in and/or withdrawing students from school		

School Counseling/Guidance Duties	YES	NO
17. Maintaining/Completing educational records/reports (cumulative files, test scores, attendance reports, drop-out reports)		
18. Handling discipline of students		
19. Substitute teaching and/or covering classes for teachers at your school		
In the spaces below, indicate any other duties that have not been covered in this survey that are part of your responsibilities at your school.		

We would appreciate getting some background information on you:

Number of years as a career specialist: _____

Number of years at this school as a career specialist: _____

Have you completed the Global Career Development Facilitation certification?
____ yes ____no ____ in process

Are you also a school guidance counselor? ____ yes ____no

Please either return the survey to the researchers while they are at your school or mail it back in the stamped, addressed envelope provided. We appreciate your taking the time to take our survey!!

Survey for School Guidance Counselors School Identifier: _____

Directions: Read each of the school counseling duties listed in the first column of the table below. Then, circle the number that best represents how your participation in these duties has or has not changed **since the beginning of implementation of the EEDA at your school**. The scale ranges from 5 (duties have increased greatly) to 1 (duties have decreased greatly). If there is a duty that does not apply to your position, circle 0 (not applicable, this has never been a part of my duties).

School Counseling Duties	Duties have **increased greatly**	Duties have **increased somewhat**	Duties **have not changed** in this area	Duties have **decreased somewhat**	Duties have **decreased greatly**	**Not applicable**, this has **never** been a part of my duties
1a. Classroom guidance on personal/social issues	5	4	3	2	1	0
1b. Classroom guidance on career issues	5	4	3	2	1	0
1c. Classroom guidance on academic issues	5	4	3	2	1	0
2a. Curriculum development on personal/social issues	5	4	3	2	1	0
2b. Curriculum development on career issues	5	4	3	2	1	0
2c. Curriculum development on academic issues	5	4	3	2	1	0
3a. Counseling students on personal/social issues	5	4	3	2	1	0
3b. Counseling students on career issues	5	4	3	2	1	0
3c. Counseling students on academic issues	5	4	3	2	1	0
3d. Assisting students with the development of their career plans and IGPs	5	4	3	2	1	0

School Counseling Duties	Duties have **increased greatly**	Duties have **increased somewhat**	Duties **have not changed** in this area	Duties have **decreased somewhat**	Duties have **decreased greatly**	**Not applicable**, this has **never** been a part of my duties
3e. Assisting students with college planning and applications	5	4	3	2	1	0
4a. Consulting with teachers and administrators about personal/social issues	5	4	3	2	1	0
4b. Consulting with teachers and administrators about career issues	5	4	3	2	1	0
4c. Consulting with teachers and administrators about academic issues	5	4	3	2	1	0
5a. Assisting with exceptional students on personal/social issues	5	4	3	2	1	0
5b. Assisting with exceptional students on career issues	5	4	3	2	1	0
5c. Assisting with exceptional students on academic issues	5	4	3	2	1	0
5d. Chairing individualized education (IEP) program meetings	5	4	3	2	1	0
5e. Chairing Section 504 of the Rehabilitation Act of 1974 meetings	5	4	3	2	1	0

School Counseling Duties	Duties have **increased greatly**	Duties have **increased somewhat**	Duties **have not changed** in this area	Duties have **decreased somewhat**	Duties have **decreased greatly**	**Not applicable**, this has **never** been a part of my duties
5f. Coordinating special services referrals	5	4	3	2	1	0
6a. Meeting with parents about personal/social issues	5	4	3	2	1	0
6b. Meeting with parents about career issues	5	4	3	2	1	0
6c. Meeting with parents about academic issues	5	4	3	2	1	0
7a. Coordinating special events/programs for the school regarding personal/social issues	5	4	3	2	1	0
7b. Coordinating special events/programs for the school regarding career issues	5	4	3	2	1	0
7c. Coordinating special events/programs for the school regarding academic issues	5	4	3	2	1	0
7d. Conducting professional development workshops in career development and guidance for teachers and guidance counselors	5	4	3	2	1	0

School Counseling Duties	Duties have **increased greatly**	Duties have **increased somewhat**	Duties **have not changed** in this area	Duties have **decreased somewhat**	Duties have **decreased greatly**	**Not applicable**, this has **never** been a part of my duties
8. Identifying and coordinating work-based/extended learning opportunities for students	5	4	3	2	1	0
9. Crisis management	5	4	3	2	1	0
10. Participating on committees within the school	5	4	3	2	1	0
11a. Coordinating the standardized testing program	5	4	3	2	1	0
11b. Administering standardized tests	5	4	3	2	1	0
12. Organizing outreach to low income families (i.e., Thanksgiving dinners, Holiday families)	5	4	3	2	1	0
13. Responding to health issues (e.g., check for lice, eye screening, 504 coordination)	5	4	3	2	1	0
14. Performing hall, bus/car pick-up, cafeteria duty	5	4	3	2	1	0
15a. Registering and scheduling students for classes	5	4	3	2	1	0
15b. Developing the master class schedule	5	4	3	2	1	0

School Counseling Duties	Duties have **increased greatly**	Duties have **increased somewhat**	Duties **have not changed** in this area	Duties have **decreased somewhat**	Duties have **decreased greatly**	**Not applicable**, this has **never** been a part of my duties
16. Enrolling students in and/or withdrawing students from school	5	4	3	2	1	0
17. Maintaining/ Completing educational records/reports (cumulative files, test scores, attendance reports, drop-out reports)	5	4	3	2	1	0
18. Handling discipline of students	5	4	3	2	1	0
19. Substitute teaching and/or covering classes for teachers at your school	5	4	3	2	1	0
In the spaces below, indicate any other duties that have not been covered in this survey that have either increased or decreased since the implementation of EEDA in your school.						
	5	4	3	2	1	0
	5	4	3	2	1	0
	5	4	3	2	1	0
	5	4	3	2	1	0

We would appreciate getting some background information on you:

Position at the school: ____ Guidance director ____ Guidance counselor Other, please specify: _____

Number of years as school counselor: _____

Number of years <u>at this school</u> as a school counselor: _____

Have you completed the Global Career Development Facilitation certification? ____ yes ____no ____ in process

Please either return the survey to the researchers while they are at your school or mail it back in the stamped, addressed envelope provided. We appreciate your taking the time to take our survey!!

Appendix G: School Counselor In-Depth Follow-Up Phone Interview Protocol

School Counselor/Career Specialists Phone Interview
Spring 2010

Date:_____
Interviewer:_____
School Name:_____
Name of
Interviewee:_____
Position/Title:_____

I. Job duties since EEDA

1. Please explain how the implementation of EEDA has changed your duties:

2. How has EEDA affected your caseload (check)?
   ____Increased caseload ____Decreased caseload ____No change to caseload

3. What was your approximate caseload before EEDA?

4. What is your approximate caseload now?

5. How have changes in your caseload affected your job duties?

6. When EEDA was initiated, were new counselors and/or career specialists hired?

7. Do you currently hold or have ever held a Career Development Facilitator certification.
   ___Yes, currently certified as a Career Development Facilitator.
   ___No, I am not certified as a Career Development Facilitator.
   ___I have been certified as a Career Development Facilitator in the past, but not currently.
   ___I am currently pursuing a certification as a Career Development Facilitator.

8. How are the duties of school counselors and career specialists defined and divided up?
   a. How are duties coordinated between counselors and specialists?

9. Do you feel that your school has the resources needed to provide students with effective career guidance services in accordance with EEDA guidelines? Explain.

10. If you do **not** have sufficient resources, what do you believe is needed to improve career guidance services to students?

WHAT ABOUT STUDENTS WHO ARE UNABLE TO GET INTO COURSES THEY WANT/NEED OR IF THE SCHOOL DOES NOT HAVE THE DESIRED MAJOR? WHAT IS DONE IN ADVISING THESE STUDENTS?

II. Advising students on career pathways/majors

11. Please explain the ways in which you incorporate career pathways-focused-language when advising students (e.g., program of study, career clusters, career majors, etc.).

12. How would you characterize the level of knowledge of students transitioning into high school regarding career pathways and/or career majors?
    a. Do students generally have *sufficient* knowledge of the 16 career pathways to make an informed decision about declaring a major upon entering high school?
    b. Do they seem uninformed about career pathways?

13. Describe the amount of effort/time you expend in explaining career pathways/career majors to students.
    a. Are there occasions when more time is spent discussing career pathways/career majors?
    b. Are there certain groups that you work with more than others in explaining career pathways/career majors?

14. Upon their entrance into high school, what role do you play in helping students define their career goals? What exactly do you do to help?

15. Upon their entrance into the 10^{th} grade, what role do you play in helping students declare their career major? What exactly do you do to help?

16. What role do you play in helping students develop and update their **individual graduation plan** (IGP)? What exactly do you do to help?

17. Explain your role in providing **work exploration guidance activities and career awareness programs** to students.

    a. Explain the types of work exploration guidance activities and career awareness programs you provide for students.
    b. How often do you provide these types of activities?
    c. Are these provided on an individual, school-wide, program-wide, etc. basis?
    d. Explain how you go about providing these services.

18. Explain your role in providing students with a variety of **work-exploration experiences**.

    a. Explain the types of work-exploration experiences you provide for students.
    b. How often do you provide these types of experiences?
    c. Are these established on an individual, school-wide, program-wide, etc. basis?
    d. Explain how you go about providing these activities.

19. How has the amount of time you interact with students' parents changed since the implementation of EEDA?

____**Some increase** in the amount of time interacting with parents
____A **significant increase** in the amount of time interacting with parents
____**No change** in amount of time interacting with parents
____**Some decrease** in the amount of time interacting with parents
____A **significant decrease** in the amount of time interacting with parents
____Not applicable, why? _____

20. How has the amount of time you spent interacting with students changed since the implementation of EEDA?
    ____**Some increase** in the amount of time interacting with students
    ____A **significant increase** in the amount of time interacting with students
    ____**No change** in amount of time interacting with students
    ____**Some decrease** in the amount of time interacting with students
    ____A **significant decrease** in the amount of time interacting with students
    ____Not applicable, why? _____

21. What type of information do you provide parents regarding the career pathways and/or career majors available to students?

III. Confidence level in guidance on career pathways and majors

The intention of the following items is to get a picture of your confidence level in providing students with career guidance in relation to career pathways and career majors.

22. Please describe the type of training you received in providing career guidance to students (e.g., training through formal schooling, training through yearly or one-time workshops, self-taught, etc.).

23. Please describe the level of confidence you have in your ability to provide students with career guidance in relation to the career pathways and the career majors in your school.

24. Please describe the level of confidence you have in your ability to inform students about the careers or degree programs they can pursue once they have completed a career major, upon graduation (e.g., types of programs available to them post-high school, types of careers available to them post high school, etc.).

25. Please describe the level of confidence you have in your ability to answer students' questions about specific careers (e.g., type of training needed, job demand, pay rate, etc.).

26. Since the implementation of EEDA, have you noticed a change in students' interest in their career and/or postsecondary plans or changes in engagement (e.g., increased career focus; increased academic/career motivation; improvements in grades, attendance, etc.)? Please explain.

27. Please describe students' level of responsiveness to your career guidance efforts (For example, are students showing a stronger interest in CATE courses and careers? Are students seeking out more information on CATE courses and careers? Or other courses and careers?).

IV. ASCA and EEDA? Or just leave ASCA?

The purpose of the following items is to get a sense of how your school counseling program aligns with the ASCA National Model standards.

28. ____Our district has formally adopted the ASCA National Model.
____Our district has not formally adopted the ASCA National Model, but we are aligned with the model's guidelines.
____Our district is not currently following the ASCA National Model guidelines.
____I am unaware of the implementation of the ASCA National Model in our district.

29. What effect, if any, has the implementation of EEDA had on your school counseling programs ability to implement/follow ASCA guidelines?

30. Are there any particular ways that EEDA has positively affected your counseling program's ability to follow the ASCA standards?

31. Are there any particular ways that EEDA has negatively affected your counseling program's ability to follow the ASCA standards?

ADDITIONAL QUESTIONS:
What do your testing duties consists of?

Can you briefly describe support from administration?

South Carolina Personal Pathways Study School Counselor Phone Interview Protocol

Spring 2012

Date: _____ Interviewer: _____

School Name: _____

Name of Interviewee: _____

Position/Title: _____

Years as a Guidance Counselor: _____ # Years as a Counselor at this School: _____

School Counselor Role

1. In what ways has EEDA affected your duties as a school counselor since 2008?
2. What effect has EEDA had on the level and types of contact you have with students? Has it affected the amount of time you interact with students?
3. What effect has EEDA had on the level and types of contact you have with parents? Has it affected the amount of time you interact with parents?
4. Please describe the types of IGP development and career development activities conducted by guidance personnel at your school each year (e.g., individual counseling, group counseling, classroom guidance, career fairs, etc.).
5. What effect has EEDA had on your caseload?
    a. What is your approximate caseload now?
6. Please address any changes to the Career Development Facilitator certification within your school since 2008. For example, are more people certified than before? Are there any structural changes in the ways that career counseling services are offered? Please explain how you coordinate activities with the career specialists in your building or district.
    a. How are roles defined between school counselors and career specialists?
7. How would you characterize the level of knowledge of students transitioning into high school regarding career pathways and/or career majors (e.g., Do students generally have *sufficient* knowledge of the 16 career pathways to make an informed decision in declaring a major upon entering high school?)?
    a. Specifically, what notable changes have you seen in student knowledge of career pathways and/or career majors since the initiation of EEDA?
8. How would you characterize the majors/career pathways available to students at your schools? Do you view your school's majors as well-developed programs of study that students can follow into a career after graduation?

9. How much time do you spend with students individually, who are on your caseload, engaging in career guidance? Such as, developing IGP, defining career goals, discussing training and postsecondary options, discussing appropriate courses to meet goals, etc. What types of career guidance are you mainly engaging in with students?
10. What role do you play in helping students develop and update their **individual graduation plan** (IGP)?
11. Overall, what do you believe is the most significant role of the school counselors in providing services related to EEDA? What are the most important EEDA-related services that counselors provide? Is it to help with development of career goals? To develop a plan for a program of study?
12. Explain your role in providing **work exploration guidance activities and career awareness programs** to students.

The Individual Graduation Plan (IGP)

13. How would you characterize the importance of IGPs and the IGP process in helping students prepare for their future and careers?
14. How are you using IGPs and the IGP process? Which of the following would best characterize how you view IGPs and the IGP process at your school:
    (1) As a means of registering students for classes to make sure they meet core requirements to graduate? (2) As a means of developing your school's master schedule?
    (3) To help students with selection of high school courses relevant to their major and/or career interests?
    (4) To help students develop and/or clarify career goals?
    (5) To help students develop a plan to meet their career goals?
    (6) Some other purpose? Please explain: _____
15. How has the IGP process changed since the 2008-2009 school year? What materials are you providing students prior to IGP meetings that they can take home and look at/discuss with their parents to be able to prepare for the IGP meeting? Are these the same materials that you provided to students during the 2008-2009 school year prior to IGP meetings?
16. What types of materials does your school counseling program provide students regarding majors and careers each year? How, where and when do they access these materials? How frequently?
17. Have there been any changes in the types of materials that your school counseling program provides students now in comparison to when EEDA initially began? If so, please explain.
18. Are you providing materials on all possible majors to students? Or are you only providing materials on selected majors/programs, based on the student's interests? If the latter, what is your rationale for doing so?
19. Are parents provided with materials on all possible majors or are they provided with materials based on their child's career interests only? How, where and when do they access these materials? How frequently?

Training/Professional Development

20. Please describe the type(s) of training you have received in providing career guidance to students (e.g., training through formal schooling, training through workshops, self-taught, etc.). Who provided this training? How frequently?
21. How much of the training/professional development that you have received has been directly related to EEDA (e.g., provided by the state, includes EEDA goals/components, etc.)? Who provided EEDA-related training? How frequently? How much training have you had on career pathways and guiding students through programs of study?
22. Describe your level of satisfaction with the professional development you've received in relation to EEDA and in providing students with career and academic guidance.
23. What effects do you believe EEDA has had on students' interest in their career and/or postsecondary plans (e.g., increased career focus; increased academic/career motivation; improvements in grades, attendance, etc.)? Please explain.

ASCA National Model and EEDA

24. How well do you feel that the counseling-related components of EEDA align with the services that counselors should provide, according to the ASCA National Model?
25. Are there areas of the National Model that you feel are not addressed/ignored by EEDA? If so, explain.
26. How do the duties required by EEDA affect your school counseling program's ability to address the personal/social needs of students?
27. How do the duties required by EEDA affect your school counseling program's ability to address the academic development of students?
28. Overall, what **benefits** has EEDA provided to your school counseling program that affect both your duties as a counselor and the services you are able to provide students?
29. Overall, what **drawbacks** or obstacles has EEDA created in your school counseling programs that affects both your duties as a counselor and the services you are able to provide students?

Appendix H: Student Engagement/POS Experiences Survey, with Frequencies

Student High School Survey

All Schools Class of 2011 survey responses after completion of 10th grade: Total Sample Size = 1,455

Student Engagement/POS Experiences Survey

Part I: Course and Career Planning

1. Have you selected a career cluster to plan for? (**See a sample list of career clusters and high school majors on page 11**)

N = 1442; Missing=3

85.16%	Yes
6.17%	No
8.67%	Don't Know

2. Have you selected a high school major within that career cluster?

N = 1409; Missing=46

15.47%	No
21.58%	Don't Know
62.95%	Yes

If you answered "yes" to question 2, please continue below. If you did NOT answer "yes," go to question 6 on page 2.

2a. Please write the high school major that you selected on the line below. If you have two or more majors, write in your primary major (the one for which you will take the most courses).

N = 1374; Missing= 81

High School Major	
0.07%	AV Tech
0.07%	Accountant
0.51%	Accounting
0.51%	Agriculture
0.07%	Agriculture and Health Science
0.15%	Agriculture, Food, and Natural Resou
0.07%	Agriculture/Science
0.07%	Anatomy
0.07%	Anesthesiology
0.07%	Animal System
0.07%	Animal Systems
0.29%	Architecture
0.07%	Architecture (Architect) Entrepreneu
0.29%	Architecture and Construction
0.07%	Architecture, Construction
0.07%	Army
0.15%	Art
0.22%	Arts
0.07%	Arts and Humanities
0.15%	Arts, Audio and Video Technology, Co
0.07%	Arts, Audio/Video

0.07%	Arts, Audio/Video Tech and Communica
0.22%	Arts, Audio/Video Technology and Com
0.07%	Arts/Graphics Design
0.07%	Audio and Film
0.07%	Audio and Video Technology and Film
0.07%	Audio-Video, Technology and Film
0.07%	Auto Class
0.07%	Auto Collision
0.15%	Auto Mechanic
0.22%	Auto Tech
0.07%	Auto Tech/Business
0.07%	Automechanics at career center
0.07%	Automotive
0.07%	Automotive Industry
0.07%	Automotive Tech
0.15%	Automotive Technology
0.07%	Basketball and Engineering
0.44%	Biology
0.07%	Biology/Chemistry
0.07%	Biology/Medical
0.07%	Biology/Sports Medicine
0.15%	Biotechnology Research and Developme
0.07%	Broadcast Journalism
0.44%	Building Construction
0.07%	Building and Construction
0.07%	Business and Management
1.60%	Business
0.07%	Business Accountant/Cook
0.07%	Business Admin. Accounting
0.07%	Business Finance
0.07%	Business Financial Management
0.29%	Business Financial Management and Ac
0.07%	Business Law
0.95%	Business Management
0.44%	Business Management and Administrati
0.07%	Business Management/Construction
0.07%	Business Mgt
0.07%	Business and Administration
0.51%	Business and Engineering
0.07%	Business and Finance
0.07%	Business and Law
0.36%	Business and Management
0.07%	Business and Mathematics
0.07%	Business and Sales
0.07%	Business, Art and Design
0.07%	Business, Management and Adm
0.29%	Business, Management and Administrat
0.07%	Business/Law
0.07%	Business/Management
0.07%	Business/Music
0.07%	Business/Sports Management and Admin
0.07%	C
0.07%	Can’t remember
0.07%	Carpentry/Construction
0.29%	Chemistry
0.07%	Civil Engineering

0.07%	Civil or Mechanical Engineering
0.29%	Commercial Graphics
0.07%	Communication
0.07%	Communications, Journalism and Broad
0.07%	Computer Design
0.07%	Computer Engineer
0.22%	Computer Engineering
0.07%	Computer Graphics
0.07%	Computer Programming
0.15%	Computer Science
0.07%	Computer Tech
0.07%	Computer Technician
0.15%	Computer Technology
0.07%	Computer and Technology
0.07%	Computers
0.36%	Construction
0.07%	Construction (Welding)
0.07%	Corporate Lawyer
1.31%	Cosmetology
0.07%	Cosmetology/Health and Human Service
0.44%	Counseling and Mental Health Service
0.36%	Criminal Justice
0.07%	Criminal Justice (Law and Law Enforc
0.44%	Culinary
0.29%	Culinary Arts
0.07%	Culinary Arts (Primary) Education
0.07%	Culinary Chef
0.07%	Culinary and Business
0.07%	Current Events
0.07%	D5 (Marketing)
0.15%	Dance
0.07%	Dance (Performing Arts)
0.07%	Dance and Acting
0.07%	Dental Hygienists
0.07%	Dental hygiene
0.07%	Design
0.07%	Diagnostic Health Science
0.07%	Diagnostic Services
0.73%	Diagnostic Services (H2)
0.07%	Dietician
0.07%	Doctor
0.07%	Don’t Know
0.29%	Don’t have one yet
0.07%	EMS
0.22%	Early Childhood Development
0.15%	Early Childhood Education
0.07%	Early Childhood and Development Serv
0.73%	Education
0.07%	Education Teaching/Training
0.07%	Education and Music
0.36%	Education and Training
0.07%	Education/Psychology
0.07%	Education/Training
0.07%	Education/Training (Teaching/Trainin
0.07%	Electrical Engineering
0.07%	Electricity

0.07%	Electronic Technician
0.07%	Elementary Education
0.07%	Elementary Teacher
0.07%	Emergency Fire Services
0.29%	Engineer
2.33%	Engineering
0.29%	Engineering Graphics
0.07%	Engineering Technology
1.89%	Engineering and Technology
0.07%	Engineering or Graphics
0.07%	Engineering, Military
0.07%	Engineering/Manufacturing
0.07%	Engineering/Psychology
0.07%	English
0.07%	Entrepreneurship
0.07%	Family Life
0.07%	Family and Community Services
0.07%	Fashion Design
0.07%	Fashion Marketing
0.15%	Fashion and Construction
0.07%	Finance
0.07%	Fine Arts
0.07%	Fire and Emergency
0.07%	Firefighting
0.07%	Firefighting
0.29%	Foreign Language
0.07%	Foreign Service
0.07%	Forensic Science
0.07%	Forensics
0.07%	Forestry Production
0.07%	Graph (illegible)
0.07%	Graphic
007%	Graphic Arts
0.15%	Graphic Communications
0.22%	Graphic Deisgn
0.07%	Graphic Design
0.29%	Graphic Design – Business Application
0.07%	Graphics
0.07%	Hair
0.07%	Health
0.07%	Health Informatics
0.80%	Health Informatics (H3)
0.07%	Health Informatics/Therapeutic Servi
6.33%	Health Science
0.07%	Health Science (Science Major)
0.07%	Health Science Diagnostic Services
0.07%	Health Science Tech
0.07%	Health Science Tech/Nursing
0.07%	Health Science Technology
0.07%	Health Science and Human Services
0.07%	Health Science – Diagnostic Services
0.07%	Health Science/ Business and Engineer
0.07%	Health Service
0.07%	Health Studies
0.07%	Health Tech I
0.29%	Health and Human Services

0.07%	Health, Safety, and Environmental Aw
0.07%	Healthcare
0.15%	History
0.07%	History Teacher/Strength
0.07%	History and English
0.15%	Horticulture
0.15%	Hospitality
0.44%	Hospitality and Tourism
0.44%	Human Health Services, Banking and R
0.07%	Human Resources
0.15%	Human Services
0.80%	Human Services (Cosmetology)
0.07%	Human Services, Early Childhood Deve
0.07%	IDK
0.07%	IT
0.07%	Info Tech
0.22%	Information Technology
0.07%	International Business/Fashion
0.07%	Intro HS and EMS
0.22%	JROTC
0.07%	JROTC (Pilot)
0.07%	JROTC and Chemistry
0.07%	Journalism
0.66%	Journalism and Broadcasting
0.29%	Journalism and Broadcasting (C5)
0.07%	Junior ROTC
0.07%	Language (Spanish)
1.38%	Law
0.07%	Law Criminal Justice
0.07%	Law Education
0.15%	Law Enforcement
0.07%	Law Enforcement Service
0.58%	Law Enforcement Services
0.07%	Law Enforcement Services (L4)
0.07%	Law Public Safety/Law Enforcement Se
0.07%	Law Services
0.07%	Law and Governance
0.07%	Law and Legal Studies
0.07%	Law, Human Services
0.29%	Law, Public Safety, Corrections and
0.07%	Law – Real Estate and Divorce
0.07%	Law/Public Safety
0.07%	Lawyer
0.87%	Legal Services
0.07%	Legal Services, Teaching
0.07%	Legal Services/Law
0.07%	Local college
0.29%	Management
0.07%	Management (D1)
0.07%	Management and Entrepreneurship
0.07%	Manufacturing
0.22%	Manufacturing Production Process Dev
0.07%	Marine Biology
0.44%	Marketing
0.07%	Marketing Communications and Promoti
0.07%	Marketing Sale Service

0.07%	Marketing and Education
0.07%	Marketing and Entrepreneurship
0.07%	Mass Communications/Journalism
0.22%	Mass Communications
0.80%	Math
0.07%	Math and Science
0.07%	Math and Science, Engineering and Te
0.07%	Mathematics
0.07%	Mathematics – Teacher
0.07%	Mechanic
0.07%	Mechanical Engineer
0.15%	Mechanical Engineering
0.07%	Mechanical Engineering and Machining
0.07%	Medical
0.36%	Medical Diagnostics
0.07%	Medical Health
0.07%	Medical Science
0.07%	Medical and English
0.22%	Medicine
0.07%	Meteorology
0.36%	Military
0.07%	Military Science
0.15%	Military Services
0.07%	Music
0.15%	Music Education
0.07%	Music Management
34.13%	NA
0.07%	Nails
0.07%	National Security
0.07%	National Service
0.07%	Nurse
0.87%	Nursing
0.07%	Nursing – Health Care
0.07%	O and D (Science, Technology, Engine
0.07%	Occupational Therapist/OBN
0.07%	Orthopedic Surgeon
0.29%	Pediatrician
0.07%	Pediatrician/Health Science
0.07%	Pediatrician/Veterinarian
0.95%	Performing Arts
0.07%	Performing Arts (Band)
0.07%	Performing Arts (Theater)
0.07%	Performing Arts Dance
0.07%	Performing Arts – Drama
0.07%	Performing Arts/Music Education
0.07%	Performing Arts: Dance
0.07%	Personal Care Services
0.15%	Pharmacist
0.22%	Pharmacy
0.07%	Photography and Sports Medicine
0.07%	Physical Education
0.07%	Physical Therapist
0.07%	Pre-Law and Political Science
0.07%	Pre-Med
0.07%	Pre-medicine
0.15%	Programming

1.02%	Psychology
0.07%	Public Management and Administration
0.07%	Public Relations
0.07%	RN
0.15%	RN in Trauma
0.07%	ROTC
0.07%	ROTC, Engineering
0.07%	Radiology
0.22%	Restaurants and Food/Beverage Servic
0.07%	School of Bioengineering and Constru
1.09%	Science
0.07%	Science Health Science
0.15%	Science and Math
0.07%	Science, Health
0.29%	Science, Technology, Engineering and
0.07%	Sciences (Nursing)
0.07%	Secondary School Teacher
0.07%	Security and Protective Services
0.07%	Soccer
0.22%	Sociology
0.07%	Spanish
0.07%	Sports Analysis
0.07%	Sports Marketing
0.07%	Sports Medicine
0.87%	Teacher and Training
0.07%	Teaching
0.07%	Teaching and Education
0.29%	Teaching and Training
0.07%	Teaching and Training (E3)
0.29%	Teaching/Training
0.07%	Teaching/Training (E3)
0.07%	Technician
0.07%	Technology
0.51%	Therapeutic Services
0.07%	Therapist
0.07%	Transportation Operations
0.07%	Turf and Lawn
0.07%	Veterinarian
0.07%	Veterinary Assistant
0.07%	Video Game Designer
0.07%	Video Game Programming
0.07%	Video Production
0.07%	Visual Arts
0.80%	Visual Arts
0.07%	Visual Arts (C3)
0.58%	Welding
0.07%	Welding/Manufacturing
0.07%	Wildlife Biology
0.07%	World Languages

3. Is the high school major you gave above in Question 2a. the one you are most interested in?
N = 1421; Missing=34

55.24 %	Yes
5.49%	No
9.92%	Don't Know
23.22%	NA

6.12%	Created Not Applicable

4. Was the high school major you were most interested in available at your school?

N = 1419; Missing=36

49.33%	Yes
5.00%	No
16.21%	Don't Know
23.26%	NA
6.13%	Created Not Applicable
0.07%	Multiple Response

4a. No, the major I was most interested in was:

N = 1405; Missing=50

0.07%	Agricultur
0.07%	Animal Hea
0.07%	Army not M
0.07%	Artilery E
0.07%	At the career center
0.07%	Available
0.07%	Barbershop
0.07%	Building C
0.07%	Business E
0.07%	Business M
0.07%	Childcare/
0.07%	Civil Engi
0.07%	Commerical
0.07%	Computer S
0.07%	Constructi
0.43%	Cosmetology
0.07%	Culinary A
0.07%	Dance Educ
0.07%	At the career center
0.07%	Dentist
0.07%	Dentistry
0.07%	Don't Know
0.07%	Early Chil
0.14%	Education
0.28%	Engineerin
0.07%	English or
0.07%	Full
0.07%	Graphic De
0.07%	Health Car
0.21%	Health Sci
0.07%	Human Serv
0.07%	Journalism
0.07%	Law Educat
0.07%	Law/Public
0.07%	Masonry
0.07%	Mechanical
0.07%	Medical As
0.07%	Medical, D
0.07%	Merchandis
94.38%	NA
0.07%	Nails
0.14%	No
0.21%	Performing

0.07%	Police Off
0.07%	Police fie
0.07%	Political
0.07%	Pre-Med/Ph
0.07%	Pre-Medica
0.07%	Programming
0.14%	Psychology
0.07%	RN
0.07%	Rapping, S
0.07%	Real Estat
0.07%	Science an
0.07%	Sound Engi
0.07%	Sports Man
0.07%	Sports Med
0.14%	Teacher Ca
0.07%	Teaching/T
0.07%	Theatrical
0.07%	Three-Dime
0.07%	Veterinary
0.07%	Zoology

5. How much do you agree or disagree with the following statements?

Having a high school major and career cluster has (Mark **ONE** RESPONSE FOR EACH ITEM):

	Strongly Disagree	**Disagree**	**Agree**	**Strongly Agree**	**NA**	**N (Missing)**
a. Made me more likely to want to come to school.	4.05%	18.31%	37.95%	6.92%	23.06%	1431 (24)
b. Made me less likely to want to drop out of school.	10.28%	11.33%	25.73%	19.79%	23.15%	1430 (25)
c. Helped me get better grades.	2.95%	18.55%	35.77%	9.77%	23.19%	1423 (32)
d. Helped me make connections between what I study and what type of career I want.	2.03%	7.22%	36.82%	21.04%	23.14%	1426 (29)
e. Made it more likely that I would take courses that I need for the future.	2.10%	4.69%	32.66%	27.69%	23.08%	1430 (25)
f. Made it more likely that my parents got involved in my selection of courses.	5.25 %	19.82%	30.74%	11.34%	23.11%	1428 (27)

6. Have you put together a "career plan" or 4-year "Individual Graduation Plan (IGP)," that outlines a series of activities and courses that you will take throughout high school? (Mark **ONE** RESPONSE)

N = 1391; Missing=64

18.69% No →

16.53% Don't Know →

64.56% Yes

0.22% Multiple Responses

If you answered "yes" to question 6, please continue below. If you did NOT answer "yes," go to question 9 on page 4.

7. When you put together your career plan or 4-year Individual Graduation Plan, how often did you:

	Never	1-2 Times	3 or More Times	NA	Multiple responses	N (Missing)
a. Talk with your parents, step-parents, or other adults that you live with	4.90%	27.91%	32.32%	23.72%	0.00	1408 (47)
b. Talk with your teachers	17.43%	35.49%	12.09%	23.76%	0.07%	1406 (49)
c. Talk with your guidance counselor	9.92%	31.98%	22.84%	23.84%	0.21%	1401 (54)
d. Talk with your friends	10.17%	23.77%	30.07%	24.43%	0.07%	1367 (88)
e. Take part in a meeting at school with your parents (step-parents or guardians) and guidance counselor to talk about plans for after high school	25.23%	28.67%	10.90%	23.94%	0.00%	1395 (60)
f. Review the sequence of courses you planned to take throughout high school	6.83%	31.72%	26.53%	23.76%	0.00%	1406 (49)

8. When you put together your career plan or 4-year Individual Graduation Plan, who was the most helpful in developing your plan? (Mark **ONE** RESPONSE)

N = 1403; Missing=52

21.38% Parents, step-parents or other adults with whom you live
3.48% A teacher
31.93% A guidance counselor
2.57% Friends
4.70% No one helped me to put together my career plan/4-year Individual Graduation Plan.
23.81% NA
0.93% Multiple responses

9. In **high school**, have you ever done any of the following activities to help you identify jobs or careers that you might be interested in pursuing? (Mark **ONE** RESPONSE FOR EACH ITEM)

	Yes	No	Multiple responses	N (Missing)
a. Answered questions related to jobs and careers on a computer or filled out a questionnaire.	78.82%	21.18%	0.00%	1407 (48)
b. Researched different jobs or careers.	83.75%	16.25%	0.00%	1403 (52)
c. Researched different colleges, universities, military branches or technical/community colleges.	77.92%	22.08%	0.00%	1404 (51)
d. Spoke with or visited someone in a career that interests me.	54.29%	45.71%	0.00%	1400 (55)
e. Been in a class where someone from a local business talked about working at their company or in their career.	55.84%	44.16%	0.00%	1404 (51)
f. Toured a local business with a group from my school.	22.61%	77.39%	0.00%	1402 (53)

10. Between the start of 9th grade and now, have you talked to a school guidance counselor about the following topics? (Mark ALL THAT APPLY)

	Yes	No	Multiple responses	N (Missing)
a. What courses to take this school year	91.38%	8.55%	0.07%	1415 (40)
b. Going to college	71.62%	28.31%	0.07%	1413 (42)
c. Possible jobs or careers when you are an adult	63.83%	36.17%	0.00%	1410 (45)
d. Finding a job after high school	35.44%	64.56%	0.00%	1411 (44)
e. Steps necessary to pursue your career	63.34%	36.66%	0.00%	1402 (53)
f. Applying for college or vocational/ technical school	44.18%	55.82%	0.00%	1408 (47)

11. How much thinking and planning have you done in the following areas? For each item below choose the **ONE** answer that **BEST** tells what you have done so far.

	I have not thought about or done this	I have thought about doing this	I have made plans to do this	I have already done this	Multiple responses	N (Missing)
a. Gathering information about jobs I might be interested in.	7.62%	31.05%	27.17%	33.87%	0.28%	1417 (38)
b. Taking classes to help me decide what kind of job I want.	10.18%	18.,25%	24.12%	47.38%	0.07%	1414 (41)

c. Participating in school or out-of-school activities that will help me decide what kind of job I want.	19.08%	27.77%	20.78%	32.23%	0.14%	1415 (40)
d. Volunteering, interning, or working on a job to help find out what kind of job I want to have in the future.	19.36%	35.32%	22.55%	22.70%	0.07%	1410 (45)

12. In which of the following **work-based learning experiences** have you participated during high school? (Mark ALL THAT APPLY)

- Internship (work experience, but not necessarily part of a vocational/career/technical class)
  N = 1402; Missing=53
  15.19%
- Co-op (work experience at a local business in your high school major or career cluster)
  N = 1400; Missing=55
  8.43%
- Job shadowing or work-site visits (visits to work places to observe one worker or many workers)
  N = 1401; Missing=54
  36.12%
- Mentoring (a match with an adult in your career area for advice and support)
  N = 1401; Missing=54
  11.35%
- Community service (volunteer work to support your local community)
  N = 1401; Missing=54
  28.62%
- School-based enterprise (working in a business run by students or teachers from your school)
  N = 1401; Missing=54
  12.56%

Part II: Classes and Schoolwork

13. How many courses do you plan to take that will earn college credit by the time you graduate from high school? (Mark **ONE** RESPONSE)

N = 1427; Missing=28

3.64%	0 courses
5.61%	1 course
10.86%	2 courses
12.54%	3 courses
10.23%	4 courses
17.66%	5 courses or more
38.40%	Don't know
0.77%	Not applicable, not an option at my school
0.28%	Multiple responses

14. How often have you been in the following courses or programs in **high school**? (Mark ALL THAT APPLY)

	Never	1-2 Times	3 or More Times	Multiple responses	N (Missing)
a. Advanced Placement	52.54%	32.63%	14.68%	0.00%	1376 (79)

b. Vocational/career/technical courses (such as culinary arts, cosmetology, construction, graphic communication or health science courses)	28.62%	56.17%	15.20%	0.00%	1401 (54)
c. Special education (resource room or regular class)	80.06%	10.38%	9.34%	0.22%	1349 (106)

15. Please respond to the following statements about your **high school teachers** and **courses** this year.

	Strongly Disagree	Disagree	Agree	Strongly Agree	Multiple responses	N (Missing)
a. Most of my teachers make the subject matter interesting and useful.	8.44%	24.00%	58.41%	9.08%	0.07%	1421 (34)
b. Most of my teachers have set high standards for me.	4.08%	11.67%	62.61%	21.57%	0.07%	1423 (32)
c. Most of my teachers have encouraged me to do well in school.	2.62%	11.27%	56.34%	29.62%	0.14%	1411 (44)
d. Most of my teachers make connections between what they are teaching and how it applies in the real world.	7.05%	20.65%	55.25%	16.84%	0.21%	1419 (36)
e. Most of my teachers give me extra help when I need it.	4.78%	13.08%	59.35%	22.71%	0.07%	1422 (33)

16. What have most of your grades in **high school** been up to now?

N = 1432; Missing=23

6.22%	Mostly A's
37.22%	Mostly A's and B's
11.59%	Mostly B's
30.31%	Mostly B's and C's
6.77%	Mostly C's
5.17%	Mostly C's and D's
0.14%	Mostly D's
0.63%	Mostly D's and F's
1.96%	Multiple responses

Part III: Plans For The Future

17. As things stand now, what is the **highest** level of education you expect to complete? (Mark **ONE** RESPONSE)

N = 1430; Missing=25

4.13%	Not finish high school
6.85%	Graduate from high school or earn my GED
1.33%	Attend college but not complete a degree
11.96%	Complete a certificate or associate's degree
21.05%	Complete a bachelor's degree
26.22%	Complete a master's degree
18.88%	Complete a doctoral degree
8.32%	Don't know
1.26%	Multiple responses

18. What is the main thing that you plan to do the year after graduation from high school? (Mark **ONE** RESPONSE)

N = 1427; Missing=28

67.27%	Enroll in a 4-year college or university
6.68%	Enroll in a 2-year community college
7.64%	Enroll in a 2-year community college and then transfer to a 4-year college/university
2.52%	Enroll in a vocational, technical, or trade school
6.59%	Join the armed services/military
1.40%	Get a job
0.49%	Start a family
0.91%	Travel
0.07%	Do paid community service or missionary work
0.21%	Do unpaid volunteer, community service, or missionary work
1.26%	Other
5.34%	Not sure what I want to do
1.61%	Multiple responses

18a. If get a job, please give the job title:

N = 1421; Missing=34

0.07%	Any I like
0.07%	Auto repair or
0.07%	Auto technician
0.07%	Beautician
0.07%	Coast Guard
0.07%	Construction wi
0.07%	Dispatcher
0.07%	Drive trucks
0.07%	Electrician
0.07%	Get a job
0.07%	Gym
0.07%	Hair salon
0.07%	Landscaping and
0.07%	Musician
93.38%	NA
0.07%	Pediatrician
0.07%	Private detecti
0.07%	Truck drive
0.07%	Waitress
0.07%	Welding
0.07%	Whatever I find
0.07%	Work at UTI
0.07%	Work at a salon

18b. If other, please specify:

N = 1430; Missing=25

0.07%	Army
0.07%	Army, then enroll in 4 yr college
0.07%	Attend a music school
0.07%	Attend art institute
0.07%	Attend arts institute
0.07%	Attend the national fire academy
0.07%	Enroll in 4 year college and cosme
0.07%	Enroll in a 8-year college or univ
0.07%	Get a job and got to college or ge
0.07%	Get married, travel, go to a 2 yea

0.07% Go in the military
0.07% Go to Paul Mitchell
0.07% Go to an art institute
0.07% Hair School
0.07% Hike to Alaska
0.07% Jedi knight
0.07% Military and college
98.11% NA
0.07% Not sure yet might play sport
0.07% Paid internship
0.07% Part-time job
0.07% Party
0.07% Rule a country
0.07% Study abroad for a semester
0.07% Take care of my son
0.07% Technical institute
0.07% Working musician/drug dealer

19. Looking ahead to when you are 30 years old, do you plan to have a job at that time?
N = 1358; Missing=97
54.20% Yes, I plan to have a job at age 30. The name of the job that I plan to have at that time is:
N = 1357; Missing=98
0.07% A traveling band (rock preferably)
0.07% AV Tech
0.44% Accountant
0.07% Accountant at a bank
0.07% Accountant or computer engineer/financial analy
0.07% Accountant or statistician
0.07% Accounting
0.07% Accounting, business, or computer tech
0.07% Actor, voice actor, and writer
0.07% Advertising agent
0.07% Aerospace engineer
0.07% Aerospace engineer or biomechatronics engineer
0.07% Aerospace engineering or aircraft engineering
0.29% Air Force
0.07% Air Force JAG
0.07% Air Force fighter pilot
0.07% Air Force fixing planes
0.07% Algebra teacher
0.52% Anesthesiologist
0.07% Anesthesiologist and Army
0.07% Anesthesiologist or nurse anesthesist
0.07% Anesthesiologist/psychologist
0.07% Anesthesiology
0.07% Anestology and cosmetologist
0.07% Animator
0.07% Archeaology
0.44% Architect
0.07% Architect or entrepreneur
0.15% Architecture engineer
0.15% Architecture
0.07% Architecture or landscaper
0.07% Armed Forces
0.15% Army

0.07%	Art professor/teacher
0.07%	Art therapist for children
0.07%	Artist
0.07%	Assistant principal or athletic trainer
0.07%	Athletic trainer
0.22%	Attorney
0.07%	Attorney/business owner
0.15%	Auto mechanic
0.07%	Auto mechanic/carpenter
0.07%	Auto technician
0.07%	Automotive industry
0.07%	Automotive mechanic
0.07%	Automotive mechanics and collision
0.07%	Automotive technician
0.07%	Bail bondsman
0.07%	Baller
0.15%	Band director
0.07%	Bank manager
0.07%	Be successful
0.07%	Beautician
0.07%	Behavioral psychologist
0.07%	Being a chemical engineer in the Air Force
0.07%	Being in the military
0.07%	Biologist or biochemist
0.07%	Broadcast journalist
0.07%	Broker/accountant
0.07%	Building construction
0.07%	Business accountant
0.07%	Business and management (owning a business)
0.07%	Business manager
0.07%	Business manager; taking over my mother’s salon
0.07%	Business owner
0.07%	C.N.A., cosmetologist, or doctor
0.07%	CEO executive
0.07%	CEO of a major company
0.07%	CEO or financial analyst
0.07%	CFO
0.07%	CSX
0.07%	Campaign staffer
0.07%	Cancer specialist (doctor)
0.07%	Cardiac physician
0.15%	Cardiac surgeon
0.07%	Cardiovascular-thoracic surgeon
0.15%	Carpentry
0.07%	Certified athletic trainer
0.07%	Certified registered nurse anesthesist
0.15%	Chef
0.07%	Chef or anesthesiologist
0.15%	Chemical engineer
0.07%	Chemical engineering
0.07%	Chemistry teacher and a pharmacist
0.07%	Chief designer of Nike’s design team – skateboar
0.07%	Child psychologist or guidance counselor
0.07%	Cisco networking
0.07%	Civil engineer
0.22%	Clinical laboratory scientist/technologist

0.07%	Clinical psychologist
0.07%	Clinical psychology
0.07%	Club owner; open my own club
0.07%	Coast Guard
0.07%	College professor
0.22%	Computer engineer
0.07%	Computer engineer or civil engineering
0.07%	Computer engineering
0.07%	Computer graphics
0.07%	Computer programmer or something in the military
0.07%	Computer science
0.07%	Computer tech
0.07%	Construction
0.07%	Cop/coroner/forensic investigator
0.15%	Corporate lawyer
0.29%	Cosmetologist
0.07%	Cosmetologist/nurse
0.29%	Cosmetology
0.07%	Cosmetology/military
0.07%	Counselor
0.07%	Crime scene investigation
0.22%	Crime scene investigator
0.07%	Crime scene investigator and cosmetologist
0.07%	Crime scene investigator, med. Examiner
0.07%	Criminal defense attorney or family court lawyer
0.07%	Criminal investigator in the US Army
0.07%	Criminal justic investigator
0.07%	Criminal lawyer
0.07%	Criminal profiler
0.07%	Culinary arts
0.07%	Culinary arts becoming a chef
0.07%	Culinary/wedding planning
0.07%	DEA
0.07%	Dance teacher
0.07%	Dancer, actor, and business woman
0.07%	Dealing with psychology
0.07%	Dental assistant
0.07%	Dental hygiene
0.07%	Dental hygienist
0.07%	Dental hygienists
0.15%	Dentist
0.07%	Dentist or therapist
0.07%	Dermatologist
0.07%	Design
0.07%	Designing and engineer automobiles
0.07%	Diesel mechanic/welder
0.07%	Dietician for in and out patients
0.07%	Director or producer
0.07%	Divorce lawyer
1.03%	Doctor
0.07%	Doctor working in ER
0.07%	Doctor, ambulance, or fire fighter
0.07%	Doctor, pediatrician
0.07%	Doctor – OBGYN
0.07%	Doctor – internist
0.07%	Doctor/physician

0.07%	Driving trucks
0.07%	Early childhood education (elementary teacher)
0.07%	Ecology
0.07%	Education
0.07%	Education or engineering
0.07%	Electrical engineer
0.07%	Electrician/own a farm plantation
0.07%	Electrical engineer
0.15%	Elementary teacher
0.74%	Engineer
0.07%	Engineer [at specific company]
0.07%	Engineer of some kind
0.07%	Engineer or architect
0.44%	Engineering
0.07%	Engineering, computer engineering
0.07%	Engineering; Comp. Tech
0.15%	Entrepreneur
0.07%	Environmental engineering
0.07%	Environmental lawyer, criminal lawyer or crimin
0.07%	Esthian
0.07%	Ether working someone's massage parlor or milit
0.07%	Event planner
0.07%	Event planner working for a business
0.07%	Event planner/party planner
0.07%	FBI
0.07%	Family practice PR
0.07%	Farmer
0.07%	Farming
0.07%	Fashion Designer
0.07%	Fashion des.
0.07%	Fashion design
0.22%	Fashion designer
0.07%	Fashion designer/artist
0.07%	Fighter pilot for the USAF
0.15%	Fighter pilot in the Navy
0.07%	Fighting – military
0.07%	Film scorer for movies, looking more at Disney
0.07%	Financial analyst
0.07%	Fire department
0.07%	Fire dept and a cop
0.07%	Firefighter/paramedic
0.07%	Force recon
0.07%	Foreign language instructor for the government
0.07%	Forensic chemist
0.07%	Forensic pathologist
0.29%	Forensic scientist
0.07%	Forensic scientist (CSI)
0.07%	GM car company
0.07%	Manicures/pedicures/chiropractor business
2.15%	Game designer
0.07%	Game warden or animal control
0.07%	General practitioner in a hospital or own office
0.07%	Going to the military
0.37%	Graphic designer
0.07%	Graphic/game designer
0.07%	Have my own business

0.07%	Have my own hair salone
0.07%	High school math teacher
0.07%	High school principal or playing prof. basketba
0.15%	High school teacher
0.07%	High school teacher
0.07%	Home health care nurse
0.07%	Homocide detective
0.15%	I don't know
0.07%	I don't know but I want my own restaurant
0.07%	I plan to have my own hair salon
0.07%	I will have a career
0.07%	In a office
0.07%	Insurance service
0.07%	Interning residential neurosurgeon
0.07%	Investment banker
0.07%	Journalist
0.07%	Journalist (magazine/newspaper article writer)
0.07%	Journalist/novelist/editor
0.07%	K-4 teacher
0.07%	Keneisiology
0.07%	Kindergarten or 1st grade teacher
0.15%	Kindergarten teacher
0.07%	LPN/nurse
0.07%	Labor lawyer
0.07%	Landscape photographer/model photographer
0.07%	Landscaping
0.07%	Landscaping and lawn maintenance
0.07%	Law enforcement services
1.03%	Lawyer
0.07%	Lawyer in criminal justice
0.07%	Lawyer, start a law firm
0.07%	Legal counselor/psychologist
0.07%	Licensed pharmacist
0.07%	Machinist or mechanical engineer
0.07%	Magazine editor
0.15%	Managing a welding business
0.07%	Marine Corps Judge Advocate General
0.07%	Marine biologist
0.22%	Marine corps
0.07%	Marines
0.07%	Marketing executive or CEO of my own corporation
0.07%	Marketing for a business I create
0.07%	Marketing/PR
0.07%	Master Sergeant in the US Army
0.07%	Master of the universe or concert pianist
0.07%	Maternity nurse
0.07%	Maternity nurse or pediatrician
0.07%	Maternity ward nurse
0.22%	Math teacher
0.22%	Mathematician
0.07%	McDonals or Burger King
0.07%	Mechanic
0.07%	Mechanic and own my own business
0.07%	Mechanical drafting engineer
0.22%	Mechanical engineer
0.07%	Mechanical engineering

0.07%	Mechanical or aerospace engineering
0.07%	Medical assistant in a doctor’s office or hospi
0.07%	Medical field in the military
0.07%	Medical research
0.07%	Medical researcher
0.07%	Medical researcher/university faculty
0.15%	Meteorologist
0.52%	Military
0.07%	Military Navy
0.07%	Military and medical school
0.07%	Military nurse
0.22%	Military officer
0.07%	Military technician
0.07%	Millitary
0.07%	Modeling, acting, author
0.15%	Mortician
0.07%	Multimedia and graphics designer
0.07%	Music education or musical theory
0.07%	Music production or graphic designing
0.07%	Music store owner, recording label owner
0.07%	Music teacher
0.22%	Musician
0.07%	My business I start
0.07%	My own architect business
0.07%	My own business
0.07%	My own enterprise
0.07%	My own fashion business, like my own clothing d
0.07%	My own fashion design line
0.07%	My own logging business
0.07%	My own salon
45.10%	NA
0.07%	NBA
0.07%	NBA legend
0.07%	NBA player
0.15%	NFL
0.07%	NFL or pilot in Air Force
0.07%	National football player
0.07%	Navy Seal chemist
0.07%	Navy Seal, forensic scientist, trauma doctor
0.07%	Neonatal doctor
0.07%	Neonatal nurse
0.07%	Neonatologist or obstetrician
0.15%	News anchor
0.29%	Nurse
0.07%	Nurse anesthesist or a restaurant owner
0.07%	Nurse or doctor in the A.F.
0.07%	Nurse or nurse practitioner
0.29%	Nurse practitioner
0.07%	Nurse practitioner or doctor
0.07%	Nurse/cosmetology
0.07%	Nurse/writer
0.29%	Nursing
0.07%	Nursing home
0.15%	Nursing job
0.07%	Nursing or medical assisting
0.07%	Nursing, teaching

0.07%	OB/GYN
0.15%	OBGYN
0.15%	Obstetrician
0.15%	Obstetrician gynecologist
0.07%	Officer in US Army
0.07%	Officer in the US Army
0.07%	Officer in the military
0.07%	Opening up my hair shop and getting good busine
0.07%	Optometrist
0.15%	Orthodontist
0.07%	Orthopedic surgeon
0.07%	Orthopedist
0.07%	Own my own business
0.07%	Own my own business or be in the NFL or be a ba
0.07%	Own my own daycare
0.07%	Own my own law firm
0.07%	Owner of [a bakery]
0.07%	Owning my own bakery
0.07%	Owning my own business
0.07%	Owning my own business being a cosmetologist
0.07%	Owning my own business or two
0.07%	Owning my own graphic company
0.07%	Owning my own restaurant
0.07%	Owning strip clubs
0.07%	PE teacher
0.07%	Local hospital
0.07%	Paralegal
0.07%	Pastor of a local Independent Baptist church
0.22%	Pastry chef
0.07%	Machine tool technology company
0.22%	Pediatric nurse
0.07%	Pediatric nurse/cosmetologist
0.07%	Pediatric physical therapist
1.18%	Pediatrician
0.07%	Pediatrician or biomedical engineer
0.07%	Pediatrician or cosmetologist
0.07%	Pediatrician or nurse
0.07%	Pediatrician or physician asst.
0.07%	Pediatrician or psychologist
0.07%	Performing musician
0.07%	Pharmaceutical manager
0.74%	Pharmacist
0.07%	Pharmacist (working in medical field)
0.07%	Pharmacist or basketball player or own my own b
0.07%	Pharmacy
0.07%	Pharmacy tech
0.07%	Photographer
0.07%	Photography or nursing
0.07%	Physical education
0.52%	Physical therapist
0.07%	Physical therapist or athletic trainer
0.07%	Physical therapist or something in medical fiel
0.15%	Physical therapy
0.07%	Physical therapy or marriage counseling
0.07%	Physician
0.07%	Physician (oncologist)

0.07%	Physician assistant
0.07%	Physician or dentist
0.07%	Physician or running a successful business
0.07%	Pilot
0.07%	Plant manager
0.07%	Plastic surgeon and owner of a club
0.07%	Plastic/cosmetic surgeon
0.07%	Playing in the NBA
0.07%	Playing sports still
0.15%	Police
0.15%	Police officer
0.07%	Police work/forensics
0.07%	Principal of a high school
0.07%	Private detective
0.07%	Professional athletic trainer
0.07%	Professional basketball player
0.07%	Professional clarinetist
0.07%	Professional dancing and choreographer
0.07%	Programming and software development
0.29%	Psychiatrist
0.07%	Psychiatrist or teacher
1.03%	Psychologist
0.07%	Psychologist or psychiatrist
0.07%	Psychologist or vet
0.07%	Psychologist/lawyer
0.07%	Psychology
0.07%	Psychology, professional WNBA player
0.07%	Deputy sheriff
0.59%	RN
0.07%	RN nurse
0.07%	RN and then later an anesthesiologist
0.07%	RN at a hospital
0.07%	RN nurse
0.07%	RN or neonatal nurse
0.07%	RN, nursing
0.07%	RNA
0.07%	Radio personnal
0.44%	Radiologist
0.07%	Radiology
0.07%	Radiology, cyciratrist, and performing arts
0.07%	Real estate and modeling (super)
0.07%	Real estate and wedding planning
0.07%	Real estate or professional football, or contra
0.07%	Recording artist/video game tester
0.07%	Recording engineer
0.07%	Registered dietician
1.18%	Registered nurse
0.07%	Registered nurse or nurse practitioner
0.07%	Registered nurse or therapist
0.07%	Registered pediatric nurse
0.07%	Retina specialist (surgeon)
0.07%	Running my own welding shop
0.07%	Local law firm
0.07%	Local power company
0.07%	School principal
0.07%	Services

0.07%	Sex therapist
0.07%	Singer
0.15%	Social worker
0.07%	Social worker, meteorologist, or a policeman
0.07%	Sociology
0.07%	Software engineer
0.07%	Soldier in the US Army
0.07%	Some kind of middle school teaching, preferrabl
0.07%	Some type of architectural firm
0.07%	Something in journalism
0.07%	Something in the medical field
0.07%	Something to do with med
0.07%	Something with criminal justice
0.07%	Something within pharmaceuticals
0.07%	Sous chef in a restaurant
0.07%	Spanish translator
0.07%	County SWAT Team
0.07%	Special ed teacher or nurse
0.07%	Specialist doctor
0.07%	Speech therapist
0.07%	Sportfishing captain
0.07%	Sports agent
0.07%	Sports manager
0.07%	Sports medicine
0.07%	Sports therapist
0.07%	Steel mill
0.07%	Stewardess or translator
0.07%	Still in the military
0.07%	Stock broker
0.07%	Superintendent of schools
0.07%	Supreme ruler of the world
0.15%	Surgeon
0.07%	TV newscaster
0.59%	Teacher
0.07%	Teacher or photographer
0.07%	Teacher, football coach
0.22%	Teaching
0.07%	Teaching at school
0.07%	Teaching elementary school and dance
0.07%	Teaching high school
0.07%	Teaching school or education
0.07%	Technician
0.07%	Technologist
0.07%	The same job that I went to college for
0.07%	Theater director or a theater professor in NYC
0.07%	Therapist
0.07%	Therapist, modeling, fashion industry, business
0.07%	Top lawyer or owner of a law firm
0.07%	Translator (anything to do with linguistics)
0.07%	Traveling nurse
0.07%	Local styling salon
0.07%	Truck drive
0.07%	Truck driving
0.07%	US Army
0.07%	US Army aviation officer
0.07%	Underwater welder

0.07%	United States Marshal
0.07%	Veterinary
0.29%	Vet
0.07%	Vet/animal doctor
0.74%	Veterinarian
0.07%	Veterinarian medicine
0.07%	Video game designer
0.07%	Video game designer/programmer
0.07%	Welding firm
0.07%	Welding
0.29%	Wildlife biologist at DNR
0.07%	Work with arts
0.07%	Work with music and have my own business
0.07%	Working at a business or a plant
0.07%	Working at a hospital
0.07%	Working at a law firm
0.07%	Working in a doctor's office
0.07%	Working in a hair salon
0.07%	Writer
0.07%	Writing novels
0.07%	X-ray technician
0.07%	Youth director
0.07%	Youth ministry pastor

44.18%	Yes, I plan to have a job at age 30 but don't know what type of job I will have.
1.25%	No, I don't plan to have a job at age 30.
0.37%	Multiple Responses

20. How far in school do you think your parents or guardians want you to go?
(Mark **ONE** RESPONSE that reflects the highest level of education that you think your parents or guardians want you to achieve.)

N = 1423; Missing=32

1.55%	Not finish high school
6.96%	Graduate from high school or earn my GED
1.90%	Attend college but not complete a degree
10.68%	Complete a certificate or associate's degree
19.89%	Complete a bachelor's degree
24.17%	Complete a master's degree
25.44%	Complete a doctoral degree
8.36%	Don't know
1.05%	Multiple responses

Part IV: Beliefs and Opinions About Self/School

21. How much do you agree or disagree with the following statements? (Mark **ONE** response for each item)

	Strongly Disagree	Disagree	Agree	Strongly Agree	Multiple responses	N (Missing)
a. Most of the information we learn in school is useful for everyday life.	7.67%	34.20%	47.71%	10.34%	0.07%	1421 (34)
b. Most of the information we	2.54%	7.56%	59.22%	30.67%	0.00%	1415

learn in school will be useful for college or further training.						(40)
c. Most of the information we learn in school will be useful for my career.	6.09%	25.09%	52.94%	15.80%	0.07%	1411 (44)

22. How many times did the following things happen in the first half of **this school year**?

	Never	1-2 Times	3-4 Times	5 or More Times	Multiple responses	N (Missing)
a. I was late for school.	25.30%	43.01%	20.10%	11.60%	0.00%	1423 (32)
b. I cut or skipped classes.	72.90%	16.73%	5.86%	4.16%	0.35%	1417 (38)
c. I was absent from school.	13.15%	35.75%	28.78%	22.32%	0.00%	1407 (48)
d. I was put on in-school suspension.	70.68%	21.25%	4.89%	3.19%	0.00%	1412 (43)
e. I was suspended out of school.	79.83%	12.78%	4.69%	2.63%	0.07%	1408 (47)
f. I was expelled from school.	93.68%	3.69%	1.42%	0.99%	0.21%	1408 (47)
g. I went to class without my homework finished.	18.53%	37.27%	23.20%	20.93%	0.00%	1414 (41)
h. I went to class without pencil, paper, book, or other necessary supplies.	43.63%	32.16%	11.68%	12.46%	0.07%	1421 (34)

Part V: Demographics

23. What grade are you enrolled in this school year (2008-2009)?

N = 1455; Missing=0

0.00 %	9th grade
100.00%	10th grade
0.00%	11th grade
0.00%	12th grade
0.00%	Multiple responses

24. Since the beginning of 9th grade, how many times have you changed schools? DO NOT count changes that occurred only because you graduated to another grade level.

N = 1387; Missing=68

_____ times zero: ; one: ; two: ;

82.77%	0
10.89%	1
3.10%	2
2.24%	3
0.43%	4
0.36%	5
0.07%	6
0.07%	8
0.07%	63

25. What is your gender?

N = 1450; Missing=5

44.55%	Male

55.31%	Female
0.14%	Multiple Responses

26. Which of the following best describe your race/ethnicity? (Mark ALL THAT APPLY)
N = 1442; Missing=13

1.04%	American Indian or Alaskan Native
1.66%	Asian
50.42%	Black or African American
3.12%	Hispanic or Latino
0.76%	Native Hawaiian or Other Pacific Islander
34.81%	White
8.18%	Multiracial

27. How old are you today?
N = 1444; Missing=11

0.07%	13
0.07%	14
3.74%	15
76.87%	16
17.17%	17
1.73%	18
0.35%	19 or older
0.00%	Multiple responses

28. What is the highest level of education that your parents [or guardians] completed? Indicate the highest level of education for your mother [or female guardian] and father or [male guardian]. (Mark only **ONE** answer for each parent or guardian.)

	Mother/female Guardian	**Father/male Guardian**
a. Did not finish high school	5.42%	7.65%
b. Graduated from high school or earned a GED	18.87%	23.33%
c. Attended college but did not complete degree	11.64%	9.77%
d. Completed a certificate or associate's degree	12.08%	8.48%
e. Completed a bachelor's degree	13.45%	10.45%
f. Completed a master's degree	10.92%	8.11%
g. Completed a doctoral degree	1.66%	2.42%
h. Don't Know	11.14%	16.59%
i. Does Not Apply	1.01%	2.58%
j. Multiple responses	13.81%	10.61%
k. *N* (missing)	1383 (72)	1320 (135)

Thank you for taking the time to take our survey! Do you have any comments you would like to make about anything in the survey?

Career Clusters (underlined and in **bold**) and **High School Majors** (listed under clusters)

A. Agriculture, Food & Natural Resources
A1. Food Products and Processing Systems
A2. Plant Systems
A3. Animal Systems
A4. Power, Structural & Technical Systems
A5. Natural Resources Systems
A6. Environmental Service Systems
A7. AgriBusiness Systems

B. Architecture & Construction
B1. Design/Pre-Construction
B2. Construction
B3. Maintenance/Operations

C. Arts, Audio/Video Technology & Communications
C1. Audio and Video Technology and Film
C2. Printing Technology
C3. Visual Arts
C4. Performing Arts
C5. Journalism and Broadcasting
C6. Telecommunications

D. Business, Management & Administration
D1. Management
D2. Business Financial Management & Accounting
D3. Human Resources
D4. Business Analysis
D5. Marketing
D6. Administrative & Information Support

E. Education & Training
E1. Administration and Administrative Support
E2. Professional Support Services
E3. Teaching/Training

F. Finance
F1. Financial & Investment Planning
F2. Business Financial Management
F3. Banking & Related Services
F4. Insurance Services

G. Government & Public Administration
G1. Governance
G2. National Security
G3. Foreign Service
G4. Planning
G5. Revenue and Taxation
G6. Regulation
G7. Public Management and Administration

H. Health Science
H1. Therapeutic Services
H2. Diagnostic Services
H3. Health Informatics
H4. Support Services
H5. Biotechnology Research and Development

I. Hospitality & Tourism
I1. Restaurants and Food/Beverage Services
I2. Lodging
I3. Travel & Tourism
I4. Recreation, Amusements & Attractions

J. Human Services
J1. Early Childhood Development & Services
J2. Counseling & Mental Health Services
J3. Family & Community Services
J4. Personal Care Services
J5. Consumer Services

K. Information Technology
K1. Network Systems
K2. Information Support and Services
K3. Interactive Media
K4. Programming and Software Development

L. Law, Public Safety, Corrections & Security
L1. Correction Services
L2. Emergency and Fire Management Services
L3. Security & Protective Services
L4. Law Enforcement Services
L5. Legal Services

M. Manufacturing
M1. Production
M2. Manufacturing Production Process Development
M3. Maintenance, Installation & Repair
M4. Quality Assurance
M5. Logistics and Inventory Control
M6. Health, Safety and Environmental Assurance

N. Marketing, Sales & Service
N1. Management and Entrepreneurship
N2. Professional Sales and Marketing
N3. Buying and Merchandising
N4. Marketing Communications and Promotion
N5. Marketing Information Management and Research
N6. Distribution and Logistics
N7. E-Marketing

O. Science, Technology, Engineering & Mathematics
O1. Engineering and Technology
O2. Science and Math

P. Transportation, Distribution & Logistics
P1. Transportation Operations
P2. Logistics Planning and Management Services
P3. Warehousing and Distribution Center Operations
P4. Facility and Mobile Equipment Maintenance
P5. Transportation Systems/Infrastructure Planning, Management and Regulation
P6. Health, Safety and Environmental Management
P7. Sales and Service

Appendix H Supplement: Creation of the Variables Used for Analysis of Responses to Q3-Q5f and Q7a-Q8 of the Student Survey to Adjust for Skip Pattern Errors

The first part of the *Student Engagement/POS Experiences Survey* includes 12 questions that inquire about a student's coursework and career planning. In this section of the survey, there are two instances when a student's response to a question dictates which question should be next answered: question 2 (Q2) and question 6 (Q6). Directions beside the answer choices for these two questions indicate whether the student should continue to the next question or skip to a subsequent question.

Q2 is the first item that includes directions to skip certain questions depending on the student's response to this question. Q2 asks if the student has selected a high school major within a career cluster. If the student responds that she has not selected a major ("No") or is not sure ("Don't Know"), arrows beside those response choices prompt the student to go to Q6 on page 2. The student should only respond to Q3, Q4, and Q5a-f if she responds that she has selected a major ("Yes"). In addition, if the student responds that she has selected a major in question 2, a subsidiary question (Q2a) asks her to write the selected high school major on the line below. Likewise, Q6 asks if the respondent has put together a "'career plan' or 4-year 'Individual Graduation Plan (IGP)'" that outlines a series of courses that the respondent will take throughout high school. If the student responds that she has not done this ("No") or is not sure ("Don't Know"), then the student should skip to question 9a on page 4. Because questions 7a-f (Q7a-f) and 8 (Q8) reference the student's experience putting together a career plan or 4-year IGP, the student should only complete those items if she responded "Yes" to Q6.

During the data entry process, it became apparent that many respondents did not skip questions appropriately. In fact, in almost 30% of the surveys analyzed, respondents did not skip questions correctly after responding to Q2 or Q6. To circumvent eliminating these surveys altogether, new variables were created for Q3, Q4, and Q5a-f, and for Q7a-f and Q8. These new variables included an additional data code created to indicate when a question was not skipped appropriately and the response should not be included in the analysis ("Created Not Applicable," i.e., "Created NA"). Relative frequencies were created for Q3 – 4 under the following conditions:

- The respondent responded "Yes" to Q2
- The respondent responded "Yes" to Q2, even if they didn't report a major for Q2a
- The respondent did not respond to Q2 but reported a major for Q2a
- The respondent responded "No" or "Didn't Know" to Q2 but reported a major for Q2a
- The respondent responded "No" or "Didn't Know" to Q2, did not report a major for Q2a but responded "Don't Know" to both Q3 and Q4

Because Q5a-Q5f involve agreement with outcomes associated with having a high school major and career cluster, the surveys where respondents indicated that they did not have a major or were not sure they had selected a major and did not list a major were not included in the analysis, that is, they were "Created NA." Relative frequencies were created for Q5 under the following conditions:

- The respondent responded “Yes” to Q2
- The respondent responded “Yes” to Q2, even if they didn’t report a major for Q2a
- The respondent did not respond to Q2 but reported a major for Q2a
- The respondent responded “No” or “Didn’t Know” to Q2 but reported a major for Q2a

The schematic below summarizes the creation of the new Q3Analysis-Q5fAnalysis variables.

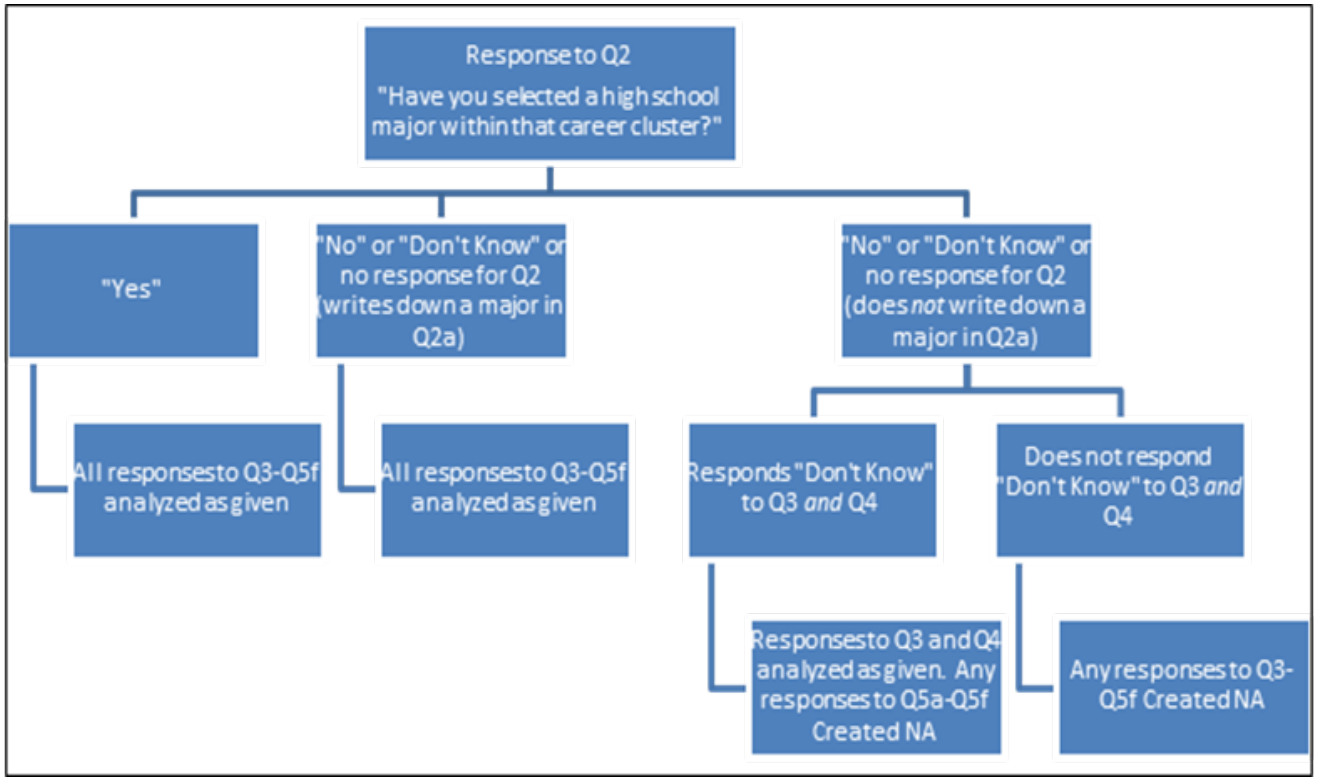

FIGURE H1. Creation of the Q3Analysis-Q5fAnalysis variables.

The analysis of the questions following the second instance when survey respondents were prompted to skip or continue (Q6) was straightforward. If a student answered that she had not put together a career plan or IGP (“No”) or that she did not know (“Don’t Know”) whether she had put together a career plan or IGP, then any response for Q7a-Q8 was “Created NA.” Figure I2 highlights when a student’s responses following Q6 were analyzed as provided or “Created NA.”

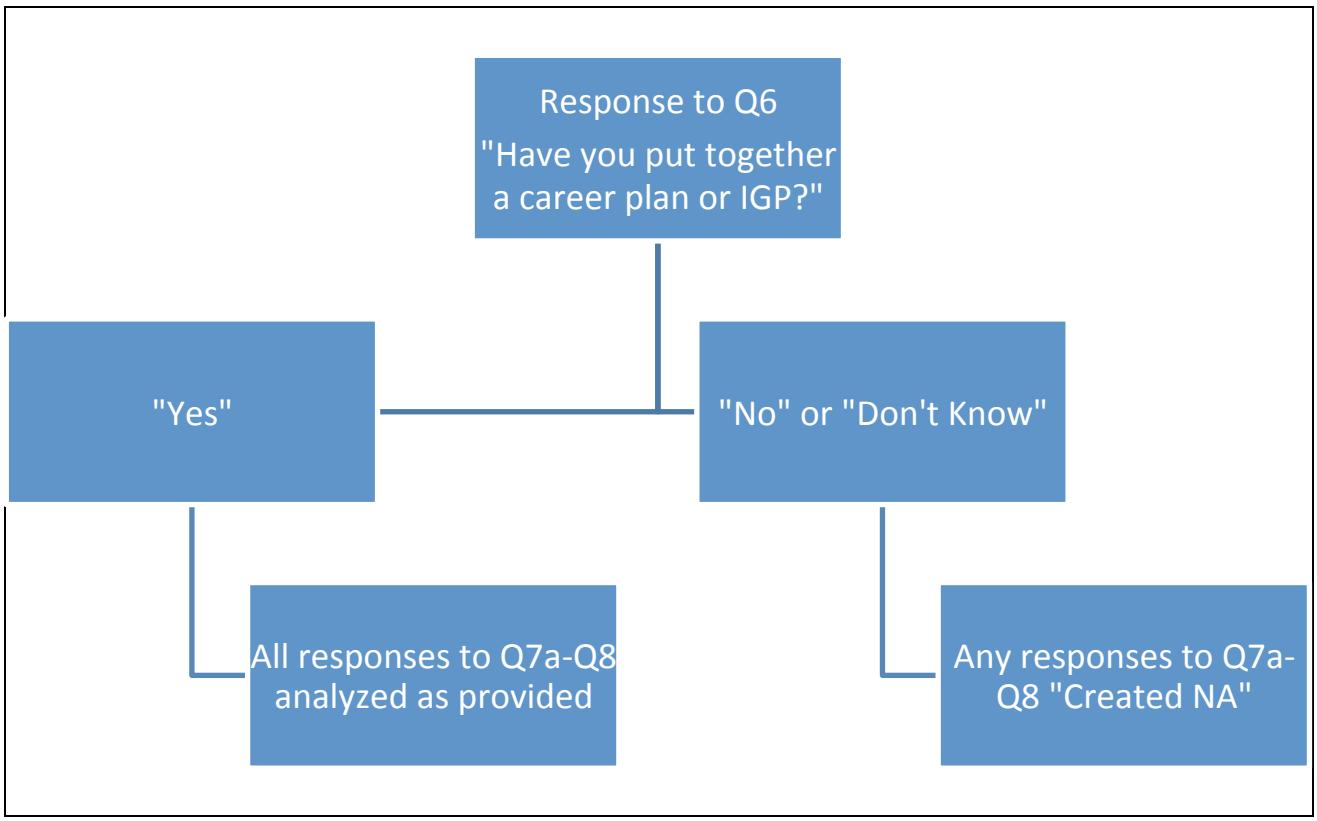

FIGURE H2. Creation of the Q7aAnalysis-Q8Analysis variables.

Appendix I: Student Focus Group Interview Protocol

Introduction to Focus Groups

- About our study:
  We are conducting a study in 8 high schools across South Carolina about career clusters, majors, and career planning activities. We've already talked to staff at your school but want to get the perspective of students about these activities.

- We want to talk to you about
  1. Your experiences with:
     - developing an Individual Graduation Plan,
     - career planning in high school, and
     - having a major or cluster of study
  2. and How the IGP and your major/career cluster impacted your school experience and future plans

- This interview will last about 45 minutes.

We want to assure you that:

- Your comments will remain anonymous and confidential. Your name will not be associated with answers that you give.
- School administrators and teachers will not be looking at what you tell us.
- Participation in this study is completely voluntary. You may decide not to participate or not to answer some of the questions.
- Your participation is up to you and you may stop participating at any time without getting into trouble.
  - This research will not affect your grades in any way.

We would like to audio-tape this interview to make sure that we accurately portray your interview in our notes.

- This recording will be used for research purposes only and will not be shared with your school.
- If you do not wish to be recorded, you can ask us to stop recording at any time. Would it be OK if we recorded our discussion?

Any questions for us before we begin?

South Carolina Personal Pathways Study
Protocol for Student Focus Groups in Sample Schools (Year 4)
Class of 2011 as Seniors

[Note: For each group, the facilitator will have a copy of the registration guide and materials and a blank, sample IGP used by their school to show students if they are unsure of whether they developed a plan.]

Note majors and/or CATE programs of students in each group:
_____

---

1. UNDERSTANDING THE IGP

   a. Do you know what an Individual Graduation Plan is?

      ✓ *Did you fill out a piece of paper or a chart, maybe online, that told you about or outlined the classes that you will be taking each year – or did you fill out a form for pre-registration?*

   b. What do you call it?

   c. Did you develop one of these plans?

2. THE IGP PROCESS AND THE GUIDANCE COUNSELOR

   a. Would you explain how the IGP process worked at your school?

      ✓ *How often did you meet and with whom?*

      ✓ *What information was shared with you at that time?*

      ✓ *What were you told about the range of options of CATE courses and programs and possible certifications available through these programs?*

      ✓ *How was this process helpful to you in planning for high school?*

      ✓ *How was it helpful in planning for your future career?*

3. THE IGP PROCESS AND PARENTAL INVOLVEMENT

   a. When you were developing your course plans and plans for your future, how were your parents involved in this process?

- ✓ *Did they have to come in to the school and sign your IGP and/or talk to the counselor or teachers?*

- ✓ *Did you talk at home about this? What did you talk about? (courses? graduation? career goals?)*

4. CAREER CLUSTER/MAJOR

   a. When you developed your Individual Graduation Plan (IGP), what did you select as a career cluster? Major?

   b. Why did you select this career cluster and major?

   c. Were you encouraged to explore and/or try different majors before you made a final selection or were you asked to pick one and stay with it?

   d. Are you satisfied with the major you are in now?

****

   [For students who selected a career cluster/major]

   e. Has having a cluster/major/plan influenced you in any way?

   f. Did it influence how you felt about school?

   g. Did it influence the types of courses that you took in high school?

   h. How did your academic courses change due to your major?

   i. Did it influence or change your performance in your courses?

   j. Did it affect your post high school plans?

   k. Have you taken any courses that give you dual or college credit? (for example AP, TAP, dual credit?)

   l. Were they related to your career cluster/major?

   m. CATE-Related Experiences/Activities (or something like this)

5. CATE-RELATED EXPERIENCES/ACTIVITIES

   a. Have you been involved in a career-technical student organization such as FFA, HOSA, DECA, BPA, FBLA, TSA, FCCLA, Skills USA, or National Technical Honor Society during high school?

b. How was participation in one or more of these groups helpful to you in planning for your future?

c. Are you going to complete a CATE program before you graduate? If so, which one(s)? If not, why not?

d. Are you going to get, or have you already received, certifications in any area before you graduate? If so, which one(s)? If not, why not?

6. APTITUDE EVALUATIONS

a. Before or during the development of your course and/or plans for the future, , did you ever take a skills assessment/test or a test to identify your career interests (such as Kuder or SCOIS or WorkKeys)?

b. If so, how were they helpful?

7. REAL OR SIMULATED WORK EXPERIENCE/INFORMATION

a. During high school, what experiences such as internships, job shadowing, senior project with a mentor, service learning, volunteering or paid employment were you involved in?

b. Did the school make all or part of the arrangements for this opportunity? Did you get course credit for it or was it required or encouraged through some course?

c. How were they related to your major or CATE program?

d. How were these helpful to you in affirming or changing your chosen major or in planning for your future career?

e. When in your academic courses (such as English, math, science, social studies, art), did you talk about different careers and how what you were doing in that particular subject related to different careers or specific jobs?

- ✓ *For example, in math, did you talk about which careers need to have math and how math is used in those careers?*

- ✓ *Or in English or journalism did you talk about how what you were learning applied to different careers? (marketing campaigns, radio broadcasts, writing technical manuals)?*

f. When, in your academic courses (such as English, math, science, social studies, art), did you do any projects that simulated real job experiences?

- ✓ *English – designing/producing a brochure or newsletter, simulating a broadcast, preparing a marketing plan*

- ✓ *Math – solving an engineering problem, building a bridge, solving mathematical problems that applied to your cluster*

- ✓ *Science – relating the environment or animal life, chemistry, temperature of materials to your area of study, health related projects, taking blood samples*

- ✓ *Social Studies – relating historical changes to your area and how they have affected it, how human relations affect the world of work*

- ✓ *Art –graphic computer projects, clothing design projects, design of product packaging and marketing*

g. In which courses did you have these experiences?

h. How about any CATE courses you took – Can you give some examples of experiences you had in those courses that involved hands-on opportunities—either real or simulated?

- ✓ *i.e., an auto mechanic major working on a real automobile*

- ✓ *a computer technician working on computers in the school office or regular computer lab*

- ✓ *engineering student solving a real engineering problem or designing a usable part*

- ✓ *a health sciences major participating in clinicals, hospital rounds, testing each other*

i. In which courses did you have these experiences?

8. <u>POST HIGH SCHOOL PLANS</u>

a. What are your after-graduation plans – for the year after you graduate from high school?

b. How are they related to the major you selected/the courses you took while you were in high school?

c. How well prepared do you feel for your post high school plans?

d. To what would you attribute that answer? Did anything during high school help or not help you feel more prepared?

Appendix J: EEDA Level of Implementation (LOI) Coding Scheme

Based on guidelines provided to school personnel,[3] the study team identified the most salient initiatives for high schools (our focus in this study) and grouped them into six key facets to construct our conceptualization of EEDA Level of Implementation (LOI). The six identified facets are listed below with the coding scheme to determine one LOI measurement for each sample school. Each facet subscore with a finite range was standardized by dividing the actual score by the possible score. For facet subscores with infinite ranges, quartile rankings were determined, then standardized as stated above. Where scores or subscores were averaged, the scores were standardized first, prior to averaging.

Facet 1: ***Identification of and assistance for high-risk students.*** All schools are required to identify students at risk of dropping out of school using the criteria defined by the State Board of Education, and to adopt one or more of the evidence-based strategies identified by the Board to assist identified students.

1. As mandated by EEDA, does the school have a clear and specific method or process (such as reviewing grades and/or discipline referrals each year, getting referrals from teachers, counselors and/or parents, etc. each year) to identify the high-risk students to receive special assistance that is obviously being used by school staff, according to reports/descriptions of at least one staff member?
   Note: Evidence could appear in the interviews with the principal, the asst. principals, the guidance director and/or the teacher focus groups. In section about your school's programs for high-risk students. Yes = 1; No = 0
2. Are you providing evidence-based assistance programs to these students? Yes = 1; No = 0
3. Are the programs Tier 1 or Tier 2 programs (from the SDE list)? Neither = 0; Tier 1 = 1; Tier 2 = 2; Both = 3
4. When was it implemented? (Note the law had a deadline: implemented by school year 2007-2008.) Before deadline = 2; At deadline = 1; After deadline = 0
   Based decision on principal interviews - what reform the principals said they are using and when it was implemented (Principal Interview Questions 3. a-c)
5. Principal's rating of implementation of this facet (range 1-5 – Serve Survey from 2006-2007 school year) – from scoring sheets. 1 & 2 = Planning stage; 3 & 4 = Partially implemented; 5 = Fully implemented
6. Team's rating of implementation of this facet (range 1-5 – Site Visits 2008-2009 school year). Took the average - averaged all of the team members scores
   1 & 2 = Planning stage; 3 & 4 = Partially implemented; 5 = Fully implemented

Facet 2: ***Integration of rigorous academic and career-focused curricula, organized into career clusters and majors.*** High schools must implement at least three career clusters, organize

[3] South Carolina Technical College System series, *How EEDA Works for South Carolina*, including: *An Educator's Guide to Develop and Implement the EEDA Curriculum Framework and Individual Graduation Plan* (2006a) and *An Educator's Orientation Guide to the Education and Economic Development Act* (2006b); and South Carolina Department of Education, *South Carolina Education and Economic Development Act Guidelines* (2006a).

curricula around these three clusters and create majors within the clusters. All students are required to take the 17 core academic courses. Students should meet these requirements with courses that best fit their selected major/career cluster. School districts must provide work exploration guidance activities and career awareness programs that combine counseling on career options and experiential learning with academic planning to assist students throughout their high school years in fulfilling their IGPs. Every eighth grader will design an Individual Graduation Plan (IGP) that will serve as a guide for academic, career, and postgraduation transition planning. The IGP will be developed with input from guidance personnel, parents, and students.

1. Implementation of clusters
   a. Three or more clusters in place as required by law? (Spring interviews)? Yes = 1; No = 0. Was there agreement among interviewers? Yes=2; Agreed within 3 = 1; Greater than 3 difference or more than two with little or no knowledge = 0. Average of two subscores.
   b. Indication of a dynamic process in clusters/majors (e.g. adding programs, etc.)? Conveyed interest and commitment to process (added additional information, conveyed enthusiasm and hope)? Have programs changed since EEDA? (See POS interview Q2 and Spring 2009 questions P5a1, AP5a1, GD3a1, GP1a1, P5a2, AP5a2, GD3a2, GP1a2) Average of two subscores, each 0 or 1: one from Spring 2009 interview notes and one from Fall 2009 interview notes.
   c. How were clusters/majors developed? Who was involved in development of program curriculum? (EEDA district curriculum integration survey – three schools missing – found supplemental info in interview notes or POS charts) Score based on average scores of two subscores: one an indicator of "Factors Considered" (student needs and/or community needs) and the other an indicator of "People Involved" (secondary education administrators, secondary education teachers, higher education and/or the business community).
      2.1.c., subscore 1, Factors Considered: if considered both student and community needs = 2; if just one of these = 1; if none = 0
      2.1.c., subscore 2, People Involved: 1 point for each of these indicated: Teachers involved (CTE and/or non-CTE); Other school, district or state secondary education people involved; Business representatives involved; High education representatives involved
   d. 2009 Class of 2011 10^{th} grade survey – Have you selected career cluster to plan for? Maximum percentage of students at each school responding "yes" was 91%
   e. 2009 class of 2011 10^{th} grade survey – Have you selected a major within that career cluster? Maximum percentage of students at each school responding "yes" was 72%
   f. Class of 2011 10^{th} grade survey (2009) – questions about if major they wanted available at their school? (Q4 on survey). Maximum percentage of students at each school responding "yes" was 63%

2. Evidence of shift to using EEDA terminology and providing information on EEDA and clusters to students
   a. EEDA language used in written materials? (original SLOI scoring from materials review--Supplemented with materials collected on site & responses)

1. General overview/description of EEDA? Yes = 1; No = 0
2. General outline of available career clusters? Yes = 1; No = 0
3. Provides list of additional resources on EEDA/career cluster materials or information? Yes = 1; No = 0
4. Current catalog uses EEDA terminology? Yes = 1; No = 0
5. Catalog in compliance?
   Catalog outlines career clusters, majors within each cluster, and specific courses for each major = 5; Catalog outlines career clusters and specifies majors, but not specific courses for each major = 4; Catalog lists career clusters only, but does not specify majors or courses within each cluster = 3; Clusters, majors, and courses outlined only for district's Career/Tech Center = 2; or Catalog does not mention career clusters = 1

b. Students' access to occupational information? (what information is distributed to students, how is it distributed and how often is it distributed? – from original scoring sheets, supplemented w/ interview data)
   1. Is career planning information made available to students?
      i. Ease of access and coverage to all students. (Spring 2009 interviews: GP2c&b, GP4f, P5g, AP6c, GD3g, etc.) Scale of 0-2
      ii. Average perceived level of student awareness of clusters as reported by administration, staff, teachers (level of awareness questions from Spring 2009 interviews) (For level of awareness scores for facet 2, the teachers' average responses were weighted 3 times, since 1-3 groups of 3-4 teachers were interviewed at each school, compared to only 1 principal, 1 assistant principal, 1 guidance director, and 2-3 guidance personnel.) Ranges for each staff interviewed: 1-5

      Responses to student survey of the class of 2011 as 10th graders. In high school, have you ever done any of the following activities to help you identify jobs or careers that you might be interested in pursuing?
      iii. Q9a, Answered questions related to jobs and careers on a computer or filled out a questionnaire? Maximum percentage of students at each school responding "yes" was 88%
      iv. Q9b, Researched different jobs or careers? Maximum percentage of students at each school responding "yes" was 88%
      v. Q9d, Spoke with or visited someone in a career that interests me? Maximum percentage of students at each school responding "yes" was 65%

      Responses to student survey of the class of 2011 as 10th graders. Between the start of 9th grade and now, have you talked to a school guidance counselor about the following topics:
      vi. Q10c, Possible jobs or careers when you are an adult? Maximum percentage of students at each school responding "yes" was 88%
      vii. Q10d, Finding a job after high school? Maximum percentage of students at each school responding "yes" was 49%
      viii. Q10e, Steps necessary to pursue your career? Maximum percentage of students at each school responding "yes" was 82%
   2. Is career planning information made available to parents?

i. Looking at Spring 2009 interviews GP2a4, GD4h4, and other contextual data from Spring 2009 interviews. Yes = 1; No = 0
ii. Average perceived level of parent awareness of clusters as reported by administrators, staff, teachers. (level of awareness questions from Spring 2009 interviews) (For level of awareness scores for facet 2, the teachers' average responses were weighted 3 times, since 1-3 groups of 3-4 teachers were interviewed at each school, compared to only 1 principal, 1 assistant principal, 1 guidance director, and 2-3 guidance personnel.) Ranges for each staff interviewed: 1-5

3. Is career planning information readily available to staff?
   i. Looking at Spring 2009 interviews T1c, GP2c, GP2h. Yes = 1; No = 0
   ii. Average perceived level of teacher awareness of clusters as reported by administrators, staff, teachers. (level of awareness questions from Spring 2009 interviews) (For level of awareness scores for facet 2, the teachers' average responses were weighted 3 times, since 1-3 groups of 3-4 teachers were interviewed at each school, compared to only 1 principal, 1 assistant principal, 1 guidance director, and 2-3 guidance personnel.) Ranges for each staff interviewed: 1-5
4. Are career skills assessments available to students, from GD4g? Yes = 1; No = 0

3. Use of the IGP. Organization of curricula around offered clusters--the IGP process - selection of cluster in eighth grade, selection of major in 10th grade, students provided w/ individualized choices, appropriate resources and materials, availability of courses in major?
   a. P5b, AP5b, GD3b Are 9th and 10th graders notified of IGP requirement? Yes = 1; No = 0
   b. P5b1, AP5b1, GD3b1 – Are 10th graders notified of the requirement that they must declare a major within a career cluster? YES = 1; NO = 0
   c. P5e, AP5d, GD3e Are IGPs updated annually? YES = .5; NO = 0
   d. Parental involvement:
      1. Are parents included in update meeting? Yes = 1; No = 0 (based on Spring 2009 interviews)
      2. Percentage of 9th and 10th graders attending IGP meetings (2009 GP report) Maximum percentage was 94%
   e. P5f, GD3f – How far along is your school in implementing the electronic IGP system? – open-ended question (supplemented with SDE data from 3/2008) Just getting started, significant problems mentioned = 1; Minor issues = 3; No problems mentioned, all indications that all aspects are working well = 5. Also included scores of 2 and 4 for "in between" 1 and 3 and 3 and 5, respectively.
   f. Assessment of interactions between middle schools and high schools on IGP development/9th grade registration (method of getting involvement?) – are 9th graders coming to high school with IGPs? Do high school staff work w/ MS, or with eighth graders on IGPs - Are middle schoolers brought in for a tour of the high school and/or tech center? Range 0-3
   g. Class of 2011 10th grade survey (2009) – Q6. Have you put together a career plan or 4-yr IGP that outlines a series of activities and courses that you will take throughout high school? Maximum percentage responding "yes" was 77%

4. Programs developed around majors/clusters/careers? Inclusion of career-focused curriculum – availability of information and experiences relating to career major? Integration of rigorous core curriculum?
    a. Evidence of CTE being incorporated into core curriculum and other non-CTE classrooms/curricula?
        1. Inclusion of career-focused curriculum--particularly availability of information and experiences relating to career major--in non-CTE courses? Range 0-2, depending on the number of teachers who gave specific examples (from material in interview notes from Spring 2009)
        2. Inclusion of career-focused curriculum--particularly availability of information and experiences relating to career major--in non-CTE courses? Are Core and CATE teachers working together? Range 0-2, depending on the number of teachers who gave specific examples (from material in interview notes from Fall 2009)
        3. Are extended learning opportunities for students available? Yes = 1; No = 0, from Spring 2009 interviews T1e, GP2g, GD4e
    b. Evidence of non-CTE and core curriculum being incorporated into CTE classrooms/curricula?
        1. Inclusion of core curriculum. Range 0-2, depending on the number of teachers who gave specific examples (from material in interview notes from Spring 2009)
        2. Inclusion of core curriculum. Range 0-2, depending on the number of teachers who gave specific examples (from material in interview notes from Fall 2009)
    c. Class of 2011 10^{th} grade survey (2009) – questions about WBL in educational activities?
        1. Q9 on survey (% who answered yes to "Been in a class where someone from a local business talked about working at their company or in their career" Maximum percentage responding "yes" was 66%
        2. Q9 on survey (% who answered yes to "Toured a local business with a group from my school") Maximum percentage responding "yes" was 34%
        3. Q12 on survey (% students who took part in an internship) Maximum percentage responding "yes" was 17%
        4. Q12 on survey (% students who took part in a co-op experience) Maximum percentage responding "yes" was 11%
        5. Q12 on survey (% students who took part in job shadowing) Maximum percentage responding "yes" was 49%
        6. Q12 on survey (% students who took part in a school-based enterprise) Maximum percentage responding "yes" was 17%
5. Is school physically organized around clusters/majors/POS as SLC, where clusters are grouped and co-located in hallways and/or buildings? Yes = 1; No = 0

Facet 3: ***Increased counselor role in education and career planning***. School counselors are seen as key players in the implementation of EEDA. EEDA requires the implementation of a career guidance program model in high school. All middle and high schools must provide students with the services of a counselor with a Global Career Development Facilitator (GCDF) certification or a career specialist with a bachelor's degree and GDCF certification, to help students, for example, to select majors, develop and revise their IGPs, and set up out-of-

classroom learning experiences. The student-to-guidance personnel ratio has to be no more than 300 to 1 at every middle and high school. Professional development related to career development must be provided for all school counselors.

1. Is guidance being reorganized and trained to handle the new requirements? Organization and structure of guidance staff. Have they restructured their roles as required? Are they being overwhelmed (adding duties rather than restructuring)?
   A. Are they being prepared?
      1. Certifications – GDCF certification, interviews & GP report--Do they have one person certified as GDCF? In process = 1; Yes = 2; No = 0--Refer to the guidance survey.
      2. Professional Development (thoroughness and frequency). Focus groups for GP on interview notes. Question III 2h. h. Have you received professional development or inservice on…
         SCORE 2 = Received professional development or inservice on student career development AND school's career clusters
         SCORE 1 = Received professional development or inservice on student career development OR school's career clusters
         SCORE 0 = received NO professional development or inservice on student career development or school's career clusters
         PLEASE NOTE: IT MAY BE DIFFICULT TO GET A FREQUENCY MEASURE BECAUSE NOT ALL OF THE SCHOOL'S INDICATED HOW OFTEN THEY RECEIVED TRAINING...
   B. Are they being given the time?
      1. Fewer "inappropriate duties"? Specifically Cited as Inappropriate Activities for Counselors in the Personal Pathways Guidelines Document (June 2006, p. 16). Use the guidance survey for the official answer. Use the means for whether it's changed for each school for those kinds of duties. Use the interview notes for context only (GP and GD). 1= Duties increased greatly; 2 = Duties have increased somewhat; 3 = Duties have not changed in this area; 4 = Duties have decreased somewhat; 5 = Duties have decreased greatly.
      2. Chart of duties (spending more time w/ assisting with career preparation) – "appropriate duties".
         Use the guidance survey for the official answer. Use the means for whether it's changed for each school for those kinds of duties (e.g., all duties related to career preparation). Use the interview notes for context only (GP and GD). 5= Duties increased greatly; 4 = Duties have increased somewhat; 3 = Duties have not changed in this area; 2 = Duties have decreased somewhat; 1 = Duties have decreased greatly.
      3. Have roles been redefined/reorganized? Is there now a career specialist? Do counselors have specialized counselor roles? Or have duties been redistributed over existing personnel?
         Look across GD & GP interviews for emergent themes. Interview notes IV. #4 or guidance surveys for information about career specialists. What specialized counselor roles means is do they have counselors that only do IGPs and another counselor that only does academic. Or, do they not have specialized roles (e.g.,

they divide up alphabet and everyone does everything)? CONTEXTUAL ONLY - NO SCORING

4. Are school staff other than counselors involved with career guidance duties (outside of guidance - ex: use of other personnel, use of school-to-work personnel, or no change in personnel.) (For example, are other school staff involved in the IGP process – who? Also, are other school staff teaching students about extended learning opportunities - who?) What guidance personnel are involved in career planning and development at your school?) Might find in GP interviews III 2a or the GD interviews when they are talking about their roles (e.g., SB 2.8 has a school-to-work coordinator so this is unique). This question is not directly asked so look through the interview notes.
   GP Interview Notes Q III 2 b. What guidance personnel are involved in career planning and development at your school?
   CAREER SPECIALIST, COUNSELORS, AND OTHER (E.G., TEACHERS, SCHOOL-TO-WORK) – 2; CAREER SPECIALIST, COUNSELORS – 1; ALSO, KEEP THE CONTEXT IN THERE.
5. Are there reports of having duty overload? (Look through entire GP and GD interviews. Note what challenges such as not enough time or not enough knowledge)
   Look throughout the interview notes. Look after the chart of duties – maybe comments there. Or, sometimes at the end when asked if there is anything that we missed. SCORING: SCORE OF 0 - (YES) REPORT OF DUTY OVERLOAD; SCORE OF 1 - NO REPORT OF DUTY OVERLOAD
6. Student/Counselor ratio <= 300:1? Yes = 1; No= 0
   From Scoring Sheet: Requirement: student-to-guidance personnel ratio of 300 to 1. Does school meets ratio requirement? Left column

2. Are IGPs being implemented as planned? Scale GD Interview notes III 3d. How does the IGP process work at your school? Who is involved and how are they developed? How are students informed of the IGP requirements? Same question for GP interviews. Requirements: 1. update student IGP yearly, 2. Meeting must be between counselor, student, parent/parent designee meet annually, 3. it must be done online
   SCORE OF 3 - MEET ALL THREE REQUIREMENTS; SCORE OF 2 - MEET 2 REQUIREMENTS; SCORE OF 1 - MEET 1 REQUIREMENT; SCORE OF 0 - MEET NO REQUIREMENTS
   A. Did the school develop eIGPs for the required grade levels for 2008-2009? Yes = 2; In Process =1; No = 0
   GD Interview Q III 3f. How far along is your school in implementing the electronic IGP system? I did not see the same question asked to GP. Requirement: 2008-2009 was the last year that they were supposed to be in process for 9th and 10th graders. Interviewed in Spring 2009.
   B. Degree to which counselors are meeting w/ students on their IGPs?
      1. Interviews w/ principals/assistant principals/counselors. Interview notes questions: Are IGPs reviewed regularly? Who reviews them and how often are they reviewed? Same question across interview groups. SCORE OF 1: REVIEW IGP ANNUALLY AND MEET WITH STUDENTS ABOUT IGPS; SCORE OF 0: DO NOT MEET WITH STUDENTS ANNUALLY TO

REVIEW IGPS

2. GP Accountability Reports. CS/GP report - add the numbers all together for the student data for Q10-12 and for January & June to get the student data/9th and 10th grade enrollment
3. For LOI, add student survey data
   a. Q6 - % yes; Look at class of 2011 as 10th graders
   b. Q7c on student survey (% that said 3 or more times)

C. Degree to which counselors are meeting w/ parents/parent designee about students' IGPs?

1. Interviews w/ principals/ap/counselors . Interview Protocols: Are IGPs reviewed regularly? Who reviews them and how often are they reviewed? Same question across interview group. SCORE OF 1: REVIEW IGP ANNUALLY AND EFFORTS MADE TO ENCOURAGE PARENT PARTICIPATION (E.G., PARENT REGISTRATION); SCORE OF 0: DO NOT MENTION ENCOURAGING PARENT PARTICIPATION AND/OR REVIEW IGP ANNUALLY
2. GP Accountability Reports . Add together Q10 and 11 to get the % parent/parent designee (9th and 10th graders) / 9th and 10th grade student enrollment
3. For LOI, add student survey data
   a. Q7a on student survey (% that said 3 or more times)
   b. 7e on student survey (% that said 3 or more times) – refer to blackboard to get student survey results – Look at class of 2011 as 10th graders

3. Distribution of Information/Training/Career Planning guidance

A. Information to students

1. GP - # assisted w/ accessing info on careers and career clusters . Career Specialist/GP report 2008-2009 – Q6 - % 9th and 10th students
2. GP- # completing at least 1 career assessment . Career Specialist/GP report 2008-2009 – Q8 - % 9th and 10th students
3. Interview data on career assessments. Interview notes for GD using Q IV. 4g. Are career skills or interest assessments available to students? Do students take them? If so, how often? GP not asked same questions so just used GD interviews. CONTEXTUAL INFORMATION ONLY
4. Student Survey Data. Q9a % yes (class 2011 – 10th graders)
5. GP - # using computer-assisted career planning systems . Career Specialist/GP report 2008-2009 – Q9 - % 9th and 10th students
6. Interview - Are they providing career planning information. Interview notes for GD using Q IV. 4f. What types of career planning information is available to students and parents? How is it made available to them? I did not see the same question asked to GP so just use GD interviews. CONTEXTUAL QUESTION ONLY
7. Career programming events at schools
   a. Look at student survey for issues related to these for LOI2- Q9d & e on student survey (class 2011, 10th graders) - % yes
   b. Look at student survey for issues related to these for LOI2- Q9f on student survey (class 2011, 10th graders) - % yes

B. Information to parents

1. % parents provided with info on career development activities. Career Specialist/GP report 2008-2009 – Q13 - # parents (Jan and Jun) /total school enrollment (NOT just 9th and 10th graders). So Q13/Q3.
2. Interview – Are they providing career planning information . Interview notes for GD using Q IV. 4f. What types of career planning information is available to students and parents? How is it made available to them? I did not see the same question asked to GP so just look at GD interviews. CONTEXTUAL QUESTION ONLY

C. Information for/training of teachers
1. GP - % workshops. Career Specialist/GP report 2008-2009 – Q5a Divided by total # of educators
2. GP - % educators. Career Specialist/GP report 2008-2009 –Q5b/total number of educators using report Cathy H. sent me
3. Teacher interviews. Teacher interviews Q III 2a. During the last school year (2007-2008), how many career development and guidance workshops/professional development/inservice activities were given for teachers? What types of activities were offered? WE ARE MISSING TEACHER DATA FROM TWO SCHOOLS. WE DECIDED TO USE THESE DATA FOR CONTEXTUAL INFORMATION.
4. Guidance (GP) interviews. For GP interviews, Q III 2d. How are each of these guidance personnel at your school involved in career development professional development activities/inservice for teachers and other staff? CONTEXTUAL INFORMATION ONLY

4. Guidance personnel providing access to experiential learning (ex: WBL, co-op, apprenticeships). Interview notes for GD using Q IV 4e. and GP using QIII2g - Are students given opportunities for extended learning/work-based learning experiences? What types of opportunities are available and who provides them? How do students learn about these? CONTEXTUAL INFORMATION ONLY

A. Identifying and coordinating work-based/extended learning opportunities for students GP SURVEY DATA IN EXCEL FILE

5. The number of educators, parents and students provided with information on CTE programs offered in the district. For parents and students, get percentage in relation to student enrollment and then put into 1 of three or four possible ranges (wait to do ranges after we have the percentages). For educators, compare to # staff, teachers, educators from school report cards.

A. GP - % educators provided info on CTE
Career Specialist/GP report 2008-2009 – # Q7/total number of educators using report that Cathy H. sent me
B. GP - % students provided info on CTE
Career Specialist/GP report 2008-2009 – # Q7/total 9th and 10th graders
C. GP - % parents provided info on CTE
Career Specialist/GP report 2008-2009 – # Q7/total school enrollment

Facet 4: ***Implementation of evidence-based high school reform.*** High schools must organize their programs around the 10 key practices outlined in the High Schools That Work model or another similar model approved by the South Carolina Department of Education (SDE).

1. As mandated by EEDA, does the school have a specific whole-school reform model?

(pulled from scoring sheets) . Yes = 1 No = 0

2. Did you select HSTW or a state-approved program like HSTW? (pulled from scoring sheets) Yes = 1 No = 0
3. When was the program implemented (before or with EEDA)? (EEDA deadline was 2007-2008 school year) (pulled from scoring sheets). Before deadline = 3; At EEDA deadline = 2; After deadline = 1
4. School staff's (Principal and AP) average rating of level of implementation of this facet? FOUND IN INTERVIEW NOTES - 3. E.
5. Research team's rating of level of implementation of this facet? Find it on summary sheets in interview notes. Question 2.a. Avg taken from team.
6. Indication that HSTW has changed or impacted the day-to-day activities at the school (e.g., it's assisting EEDA or POS implementation, it's why we are getting professional development, it helped us select clusters/majors, helped set up WBL initiatives). INDICATION THAT HSTW HAS AFFECTED OTHER THINGS. LOOK FOR KEY WORD OF HSTW. INTERVIEW NOTES - III, #
   Don't know the Impact = 1; Impact is Minimal (just started recently, provided some professional development but unaware of whether it has affected students/school) = 2; Moderate Impact (had some professional development or some school-based exercises/learning; clusters have been developed through/because of HSTW; evidence that it has affected students/school) = 3; Considerable Impact ("fabric of the school"; considerable professional development, use in school is apparent; it's assisting EEDA or POS implementation, it's why we are getting professional development, it helped us select clusters/majors, helped set up WBL initiatives) = 4
7. Level of detail about HSTW according to teachers (as only group asked this question). WHAT IS HSTW ACCORDING TO THESE TEACHERS? INTERVIEW NOTES - V, #4D
   Teachers have little to no details about HSTW = 1; Teachers had some training and have some general knowledge about HSTW but are not fully implemented/knowledgeable = 2; Teachers know a great deal about it and have been trained to implement it/implementing it = 3

Facet 5: ***Facilitation of local business-education partnerships and resource dissemination.***
Regional Education Centers (RECs) are being developed in 12 designated Local Workforce Investment Areas in accordance with the South Carolina Workforce Investment Act. They will serve as the focal point for each region's training and education resources, helping to facilitate business-education partnerships, coordinate workforce education programs, and promote community involvement. This facet also includes each school's efforts to disseminate information on CTE and efforts toward school/business partnerships.

1. Knowledge of REC and school involvement with REC (from GD and P interviews)? Level of involvement and coordination?
   No information in interview notes/scoring sheet = 0; Didn't know anything about it = 1; Knew about it but had no involvement = 2; Knew about it and had involvement with it = 3
2. Levels of awareness of EEDA and clusters at the school (teachers, admin, counselors, parents, students)? Average and Range (Look at top right column of top table for each school "Average EEDA and Career Cluster," then average across groups.)

3. Levels of awareness of EEDA and clusters at the district (district staff, district admin)? Average and Range (Look at top right column of top table for each school "Average EEDA and Career Cluster," then average across groups.)
4. Levels of awareness of EEDA and clusters among business partners? Average (Look at top right column of top table for each school "Average EEDA and Career Cluster.")
5. Levels of awareness of EEDA and clusters in the larger community? Average (Look at top right column of top table for each school "Average EEDA and Career Cluster.")
6. Variation in perceptions of awareness across the 5 different school groups that were interviewed (teachers, asst principals, principals, guidance director and guidance personnel) on each level of awareness? Combined standard deviation of awareness scores for each school. Cathy is sending this. Do not use in scoring.
7. Amount of information distribution on EEDA and career clusters and how often distributed? (Interview responses on coding sheet and the following GP report (2008-2009 report for baseline) questions:
   a. Career Specialist/GP report 2008-2009 – Q5a Divided by total # of educators
   b. Career Specialist/GP report 2008-2009 –Q5b/total number of educators using from report Cathy H. sent me
   c. GP report 6 (percent of students assisted in identifying and assessing career cluster info and materials) - 9th and 10th grade students
   d. Career Specialist/GP report 2008-2009 – # educators Q7/total number of educators using report that Cathy H. sent me
   e. Career Specialist/GP report 2008-2009 – # students Q7/total 9th and 10th graders
   f. Career Specialist/GP report 2008-2009 – # parents Q7/total school enrollment
   g. Career Specialist/GP report 2008-2009 – Q13 - # parents (Jan and Jun) /total school enrollment (NOT just 9th and 10th graders). So Q13/Q3.
   h. GP report 14 (#one-time career events/programs coordinated by career spec/ total student enrollment
   i. GP report 15 (# ongoing career events attended by students coordinated by career spec/ total student enrollment)
8. Comments about business partnerships – level of involvement, based on comments about awareness and elsewhere in interviews/focus groups. Look in level of awareness discussion in the interview notes.
   a. Look at student survey for issues related to these for LOI2- Q9d & e on student survey (class 2011, 10th graders) - % yes
   b. Look at student survey for issues related to these for LOI2- Q9f on student survey (class 2011, 10th graders) - % yes
   c. Student survey #12 (participation in WBL) - % yes internship
   d. Student survey #12 (participation in WBL) - % yes co-op
   e. Student survey #12 (participation in WBL) - % yes job shadowing
   f. Site Visit protocols notes (interview notes) - around the level awareness of charts will find will find information on whether they have business partnerships and how good they are. 1 = provided some business partnerships; 0 = did not mention any business partnerships

Facet 6: ***Articulation between K-12 and higher education or employment.*** Colleges must find ways to articulate with the K-12 career clusters and make sure dual enrollment credits are accepted and college curricula continue the career pathways. Articulation agreements, guidelines, and policies for dual enrollment coursework will be reviewed at the state level and recommendations made for providing seamless pathways for students from high school into postsecondary education.

1. Are there national or industry certification programs available to students at the high school level? (found on LW coded Facet 6 Excel file and/or interview notes)
2. Opportunities for students to get college credit through
   a. dual enrollment
   b. dual credit
   c. or other college credit earning program?
   (found on scoring sheet and/or interview notes)
3. Opportunities for students to get college credit through
   a. AP (or TAP)
   b. IB
   (found on scoring sheet and/or interview notes)
4. Articulation agreements in place for these courses? (see POS charts) .
   # Major/Programs w/ articulation agreements at school or career center divided by # Majors/Programs at school and career center
5. Plans of students to earn college credit while in high school (Student Survey #13) Class of 2011 10th grade. % 4+ courses
6. Expectations of students to go into higher ed or be industry certified? (SS Q# 17) Class of 2011 10th grade. Q17 - Sum of % Attend college but not complete a degree; %Complete a certificate or associate's degree; % Complete a bachelor's degree; % Complete a master's degree; %Complete a doctoral degree

Appendix K: Study-Defined Perkins IV POS (POS4) Development and Identification

Example of 2008-2009 Clusters and Majors/Programs of Study/Completer Programs Checklist

Checklist Example School Clusters & Majors/Programs of Study/Completer Programs 2008-2009	Alignment with 2- and 4- year postsecondary education programs								Alignment with industry standards						Alignment with postsecondary apprenticeships, internships, training					Credential											
	Major-specific curriculum is linked between secondary & postsecondary levels			Has a major-specific written articulation agreement spelling out alignment			Institution agreement is with (Please list the institution(s))	Specific partner/ contact person that worked with on alignment	Major-specific required courses aligned with industry standards			Program completion prepares student to pass industry exam			Has written articulation agreement spelling out alignment			Business/ organization agreement is with	Specific partner/ contact person that worked with on alignment	Results in industry-recognized or sponsored credential -- at secondary level			Results in industry-recognized or sponsored credential -- at postsecondary level			Results in 2-year degree			Results in 4-year degree		
	Yes	No	N/A	Yes	No	N/A	Institution(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Organization(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
Agriculture, Food & Natural Resources																														
Horticulture																														
Architecture & Construction																														
Building Construction																														
Electricity																														
Arts, AV Technology, & Communication																														
English																														
Commercial Graphics																														
Performing Arts																														

Checklist Example School Clusters & Majors/Programs of Study/Completer Programs 2008-2009	Alignment with 2- and 4- year postsecondary education programs								Alignment with industry standards						Alignment with postsecondary apprenticeships, internships, training					Credential											
	Major-specific curriculum is linked between secondary & postsecondary levels			Has a major-specific written articulation agreement spelling out alignment			Institution agreement is with (Please list the institution(s))	Specific partner/ contact person that worked with on alignment	Major-specific required courses aligned with industry standards			Program completion prepares student to pass industry exam			Has written articulation agreement spelling out alignment			Business/ organization agreement is with	Specific partner/ contact person that worked with on alignment	Results in industry-recognized or sponsored credential -- at secondary level			Results in industry-recognized or sponsored credential -- at postsecondary level			Results in 2-year degree			Results in 4-year degree		
	Yes	No	N/A	Yes	No	N/A	Institution(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Organization(s)	Contact(s)	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
Business, Mgmt & Admin																														
Administration & Info Support																														
Financial Management & Accounting																														
Education & Training																														
Teaching & Training																														
Foreign Languages																														
Government & Public Administration																														
Social Studies																														
Health Science																														
Health Technology																														
Sports Medicine																														

Steps and Measures Used to Determine
Study-Defined Perkins IV POS (POS4)

First step: Determine which of the majors/programs at each school are <u>eligible</u> to be CTE POS, based on whether they are eligible for CATE/Perkins funding by the South Carolina State Department of Education (SDE):

Conditions necessary for major/program to be considered to be eligible to be a CTE POS – must meet at least one of these:

Options	Yes/No
1. The SDE CATE office reported "Yes" that this major or program was eligible for state funding on a chart provided to the CATE office by Personal Pathways staff of majors/programs available at the 8 sample schools, **OR**	
2. The reported school major CIP Code (from e-IGPs) matches a CATE program CIP Code, even though what the school and CATE call the major/program may differ. The major/program name to be used in study reports will be the one used by CATE, **OR**	
3. The program is listed in the career center's registration guide, in the career section of the school's registration guide, or is an e-IGP major with enrollment and has a name the same as or very similar to one in the SDE CATE office state approved program list for the designated school year but not same CIP Code, **OR**	
4. Is included in the 2008-2009 or 2010-2011 SDE CATE report for this school as a funded CATE program with concentrators **OR**	
5. Was reported in the SDE CATE report (2008-2009 or 2010-2011) as this school's district's one required "official" POS for Perkins IV funding purposes	
AND Additional Requirement:	
6. The major/program may not necessarily be listed in the school's registration guide for the designated year but it <u>will</u> be identified in the career center guide, in the course listings as a major or program, or as a header/course grouping/program area of a narrow subject area outlined in the CTE section with more than one course listed under the header/area. [Coded only for those that had a "YES" in one of the option columns]	
Meets at Least One Option (1-5) and Item #6?	

Notes:

- Item #6 was added to make sure that the school or career center was treating the major/concentrator program as a program of study/career pathway and was promoting/advertising it as available through school materials. Because EEDA is supposed

to be having a school-wide impact on POS, we felt that it was important that the entire school was aware of and treating this as a major/program and not just information limited to CTE staff or students.

- In the case of a CATE major CIP Code matching more than one school e-IGP CIP Code (like business majors for SB2.8), any of these e-IGP majors that have an IGP (or there is an IGP for a major very similar in name to that reported through the e-IGP) or are identified as programs with specific courses in the school catalog will be considered together as one CATE major and eligible to be considered to be one POS, using the CATE major name and cluster.
- A school major will be considered a potential CATE POS even if the matching CIP Codes are in different clusters. The cluster designation used by CATE is the one that will be used for study reporting.
- There may not be any students reported by the school to the SDE or reported by CATE as enrolled in this major/program for the designated school year.

Coding: Major/program meets at least one condition from items 1-5 and meets item #6 and is therefore eligible to be further reviewed as a potential POS.

Major/program DOES NOT meet at least one of the above items 1-5 and/or DOES NOT meet condition for item #6 and is therefore NOT eligible for further consideration.

FOR ALL POS ELIGIBLE PROGRAMS:

Second Step: Do these programs meet criteria for 4 elements?

Look at each of the identified eligible/potential POS and use the *following criteria, based on their responses to the chart we sent out* and the additional information gleaned from our site visit interviews.

Note. The language used below on the four elements came from the *Career and Technical Programs of Study: A Design Framework* document that outlines the core elements of a POS and the 10 additional components.

Element 1: Incorporate and align secondary and postsecondary education elements

1.1 The school or career center reported that there is an active, major/program-specific written articulation agreement with a 2- or 4-year postsecondary institution for one or more courses in the program. OR

1.2 At least one postsecondary course for dual credit or dual enrollment, or other training or apprenticeship is offered specifically for this program/major that was included on the chart filled out by schools or described during our POS site visit. This could be a TAP course with no automatic college credit. This would NOT include core curriculum courses required for all students for graduation, such as math or English, unless they are specified as one of the "required courses" for a specific major/program on the major/program's IGP template.

School Major/Program	Option 1.1	Option 1.2	Meets 1 option

Responses will be coded "Yes" or "No."

Element 2: Include academic and CTE content in a coordinated, non-duplicative progression of courses

A. Coordinated progression of courses

A.1 The major/program and the progressive sequence of 4 CATE courses outlined in the CATE annual report for the district-claimed CTE POS used for Perkins funding purposes are offered at that school during the designated school year. If the courses listed in the IGP template for the major in the school's registration materials don't match the list of courses in the district's list, then the school doesn't meet this element. OR

A.2 The IGP template in the school catalog outlines a distinct sequence of at least 4 courses to complete that major and courses are offered at that school, career center or at another school in the district. OR

A.3 There is a distinct sequence of at least four courses listed in the course listings in the school's catalog under this major/program.

RULE: (1) Must offer at least 4 courses in the major/program; and (2) must have some type of logical sequence of courses – such as offering an introductory course and then higher level courses

School Major/Program	Option A.1	Option A.2	Option A.3	Meets 1 option

Responses for A will be coded "Yes" or "No."

B. Measure of academic rigor

B.1 School does not offer any level of courses below college prep. All academic core courses are automatically considered to be college prep courses and meet state standards unless alternative core courses are still offered in the catalog such as "applied" or "tech prep" courses (with the exception of core courses for some Spec Ed student groups) OR

B.2 School may still offer "Tech Prep" math and English or "applied" courses, but these are NOT included in the IGP template for this major as a core or required course.

- SD11.19 offers Applied Biology and Physics for the Technologies, Math for the Technologies. But these are not mentioned in the IGP template for any of the CATE majors (or any other majors).
- SB19.22 has three tracks (illustrated on a chart about science courses) and these are included in the IGP major templates but all IGP major templates include the same list of courses that have lower to higher level courses listed but different required courses

for majors. So, for example, the school reported an articulation agreement for their Therapeutic and Diagnostic Medical Services major, and the CIP Code of the major matches a CATE code, but the catalog includes low level and higher level courses in the IGP template for this major.

B.3 Regardless of what is in catalog, during site visit, staff consistently mentioned that they did away with Tech Prep and that ALL students, regardless of major, are taking at least college prep core courses and there are no longer Tech Prep courses available.

RULE: If the "applied" or "Tech Prep" course(s) is not included on the IGP template for that major/program, whether as core courses or courses required for the major, even if available at the school, we will still assume that all courses for this major/program are "college prep." If the IGP template includes these, whether as core or required for major, then this program/major does not meet the requirements for this measure.

School Major/Program	Option B.1	Option B.2	Option B.3	Meets 1 option

Responses for B will be coded "Yes" or "No."

C. Measure of technical rigor/meets industry standards

C.1 Staff reported on chart or during site visit interviews that "Major specific required courses aligned with industry standards" for this major/program. In addition, may state in catalog that course(s) prepare students for professional certification (or apprenticeship) in some skill area.

School Major/Program	Option C.1	Meets Option C.1

Responses for C will be coded "Yes" or "No."

Total Score for Element 2: Must receive "Yes" on A, B, and C to receive a "Yes" for Element 2

School Major/Program	Element 2 Aspects			Meets All 3?
	A: Progressive course sequence	B: Academic rigor	C: Technical rigor/meets industry standards	

Element 3: May include dual or concurrent enrollment programs or other ways to acquire postsecondary education credits

3.1 There must be at least one option for receiving college credit specified for this major/program, whether TAP, dual enrollment, or dual credit, based on a mention in the registration guide or mention in the Fall 09 interview with school personnel OR

3.2 We would count any applicable AP courses if they are listed under the "required courses" on the IGP template for this major/program (e.g., for SC2.8 – one major requires AP Biology and AP Chemistry)

School Major/Program	Option 3.1	Option 3.2	Meets 1 option

RULE: If there are courses available to all students at the school that offer just general college credit, but are not specified on the IGP template in the "required courses" section for a specific major/program, such as college-level psychology, math or English, they do not meet this requirement.

Responses will be coded "Yes" or "No."

Element 4: Leads to credential after postsecondary training/education and/or leads to a 2- or 4-year degree

4.1 Checked on chart that major/program can lead to postsecondary degree or postsecondary certificate in this subject area OR

4.2 School contacts told us during the interview in Fall 2009 that this major/program could lead to a postsecondary certificate or degree

School Major/Program	Option 4.1	Option 4.2	Meets 1 option

Responses will be coded "Yes" or "No."

Overall Perkins IV POS score (see scoring sheet, Table L2):

Element 1: Incorporate and align secondary and postsecondary education elements

Yes (1) or No (0)

Element 2: Include academic and CTE content in a coordinated, non-duplicative progression of courses

A. Coordinated progression of courses
Yes (1) or No (0)

B. Measure of academic rigor
Yes (1) or No (0)

C. Measure of technical rigor/meets industry standards
Yes (1) or No (0)

Must meet all three to receive Yes (1) for this element

Element 3: Includes dual or concurrent enrollment programs or other ways to acquire postsecondary education credits

Yes (1) or No (0)

Element 4: Leads to credential after postsecondary training/education and/or leads to a 2- or 4-year degree

Yes (1) or No (0)

Fully developed Perkins IV POS (POS4), based on this definition: major/programs scores all 4 points ("yes")

Number of Eligible CTE Majors/Programs that Meet Requirements for 4 Core Perkins IV POS Elements (POS4) in 2008-2009

	Element 1	Element 2				Element 3	Element 4				TOTAL
SCHOOL **2008-2009 CTE Clusters & Majors/Programs of Study/Completer Programs**	**Incorporate and align sec and postsec**	**Include academic and CTE content in coordinated, non-duplicative progression of courses elements**				**Include dual credit or concurrent enrollment or other options to receive college credit**	**Leads to credential after postsec training/education or leads to 2- or 4-year degree**				**# Elements Met**
	Has an active/current major-specific written articulation agreement spelling out alignment **OR** **Offers at least one dual credit/enroll or TAP course in major**	**Coordinated progression of courses: at least 4 course sequence to complete major**	**All core and major-required courses are "college prep"**	**Major-specific required courses aligned with industry standards**	**Met all 3?**	**At least one dual credit/enroll or TAP course offered in major** **OR** **AP courses if listed under required courses for major**	**Results in industry-recognized or sponsored credential -- at post-secondary level**	**Results in 2-year degree**	**Results in 4-year degree**	**Met at least one?**	
TOTAL											

Total number of POS:

Steps and Measures Used to Determine District Identified Perkins IV POS (POS5)

First step: Determine from the state CATE report for the applicable school year (2008-2009 and 2010-2011?) which major/program in the district was selected to be the CATE POS for Perkins IV funding purposes.

1. Is listed as the district CATE POS for Perkins IV funding purposes: Yes or No

Second step: Determine if the district reported CATE POS is available to students at the sample school during the designated school year, based on available materials we received from schools and career centers.

2. Review the school or career center's catalog/registration materials for the designated school year to discern whether the district-identified CATE major/program:

   (a) Is listed in the catalog/registration materials of the school or career center as a major/program (as a major with an IGP template or CTE program, or as a header/course grouping/program area with more than one course listed under the header/area)

AND

   (b) The four core courses outlined in the district's report for that POS are listed as required for that major/program at that school in the IGP template, in the career center catalog/registration materials or in the catalog course listings. The district courses need to be listed as either the only four courses specifically required for the major/program or if the district courses are listed in a list with one or more additional courses, then the district courses needed to be clearly listed as the primary courses or the first in a sequence of courses.

AND

3. Review the course listings for that school and determine if all 4 courses listed for the district POS are available/offered (according to the course catalog at the school or career center) to students at the sample school, at their career center, and/or through another high school during the designated school year. Courses with very similar but not the exact same names as those outlined by the district were considered to be a match to the district.

District identified School Major/Program	1(a) listed in materials	1(b) required courses listed in school materials	2 courses offered	Meets 1(a), 1(b), and 2

Responses will be coded "Yes" or "No." Both (a) and (b) must be coded as "Yes."

Responses will be coded "Yes" if all 4 courses are available or "No" if less than 4 of the courses are available during that school year.

If 1, 2(a), 2(b), and 3 above are all coded "Yes," then this major/program will be considered a POS by this definition at that school.

Appendix L: Analyses of Graduation Rates by Key Definitions of POS

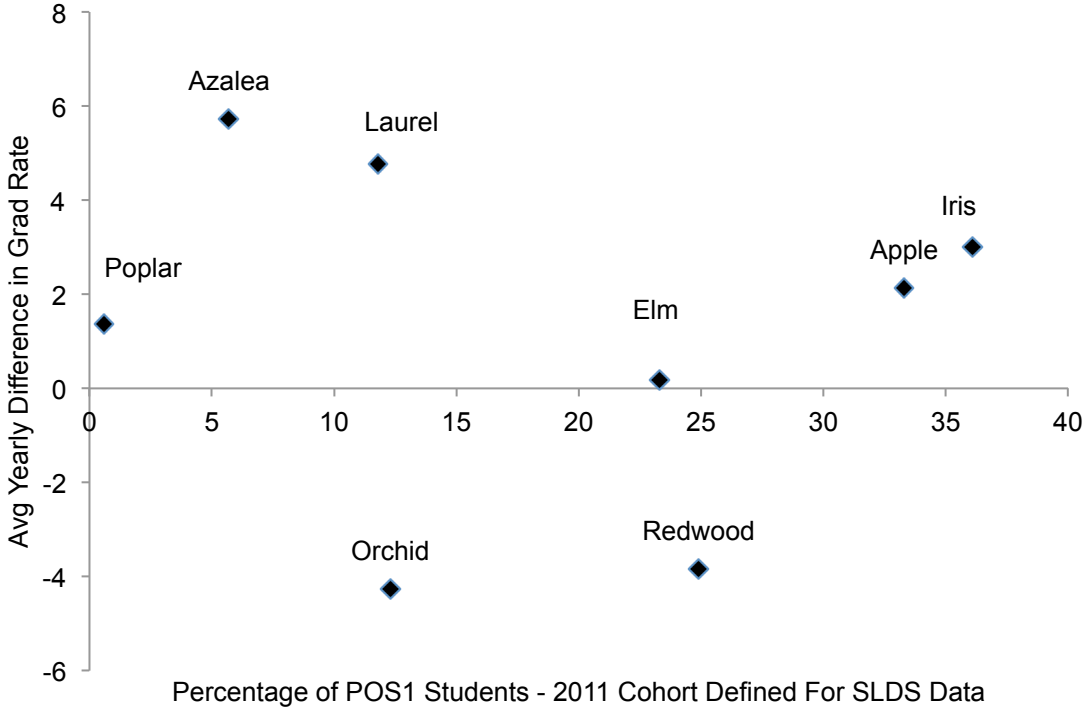

FIGURE L.1. Average yearly difference in graduation rates 2009-2011 compared to percentage POS1 students in SLDS 2011 cohort.

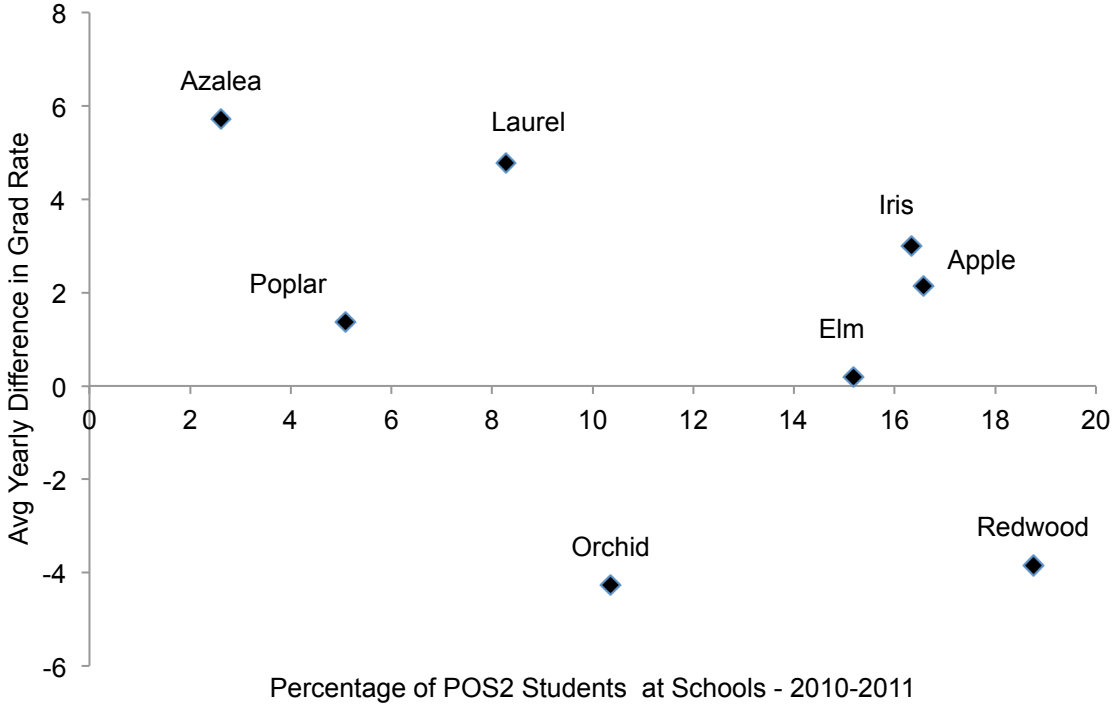

FIGURE L.2. Average yearly difference in graduation rates 2009-2011 compared to percentage POS2 students, school year 2010-2011.

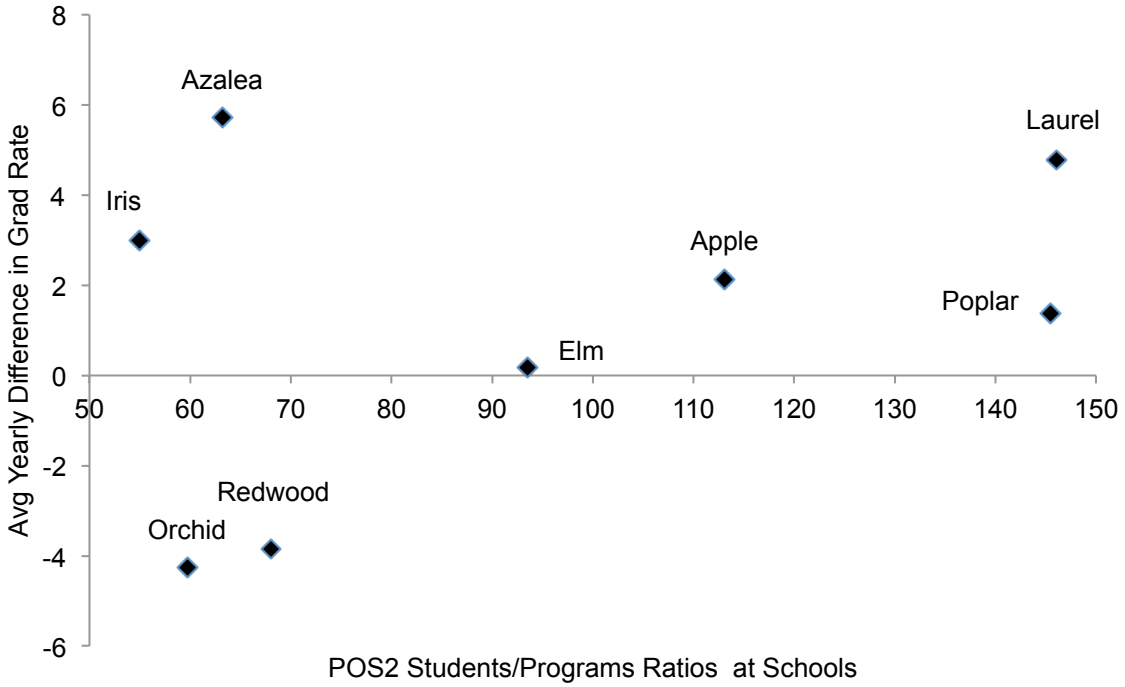

FIGURE L.3. Average yearly difference in graduation rates 2009-2011 compared to POS2 students/programs ratios 2009-2011.

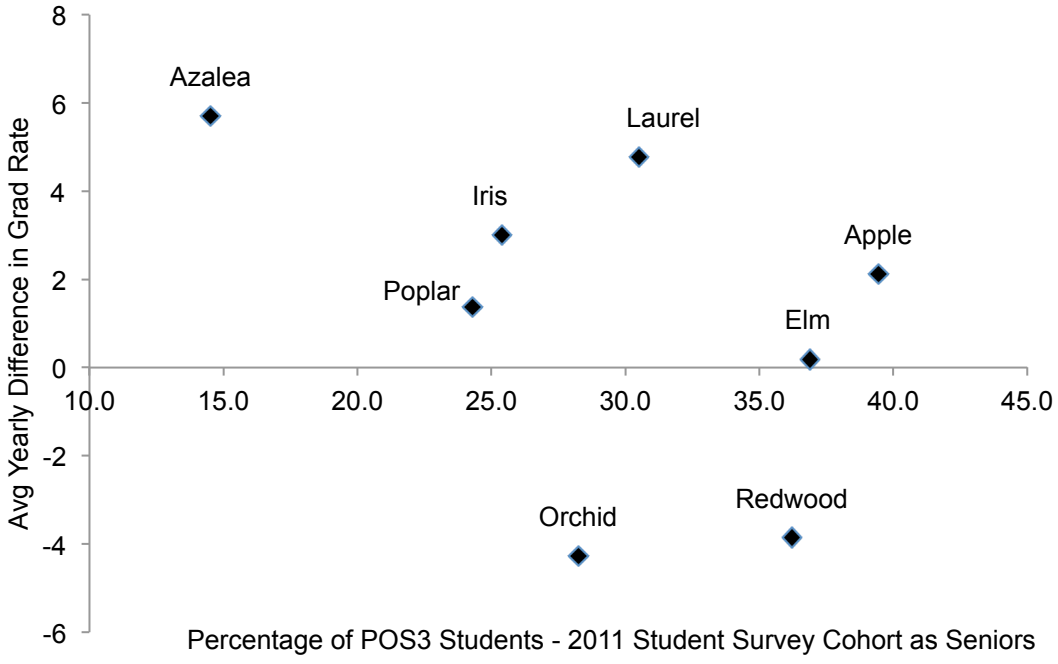

FIGURE L.4. Average yearly difference in graduation rates 2009-2011 compared to POS3 students in the class of 2011 as seniors survey cohort.

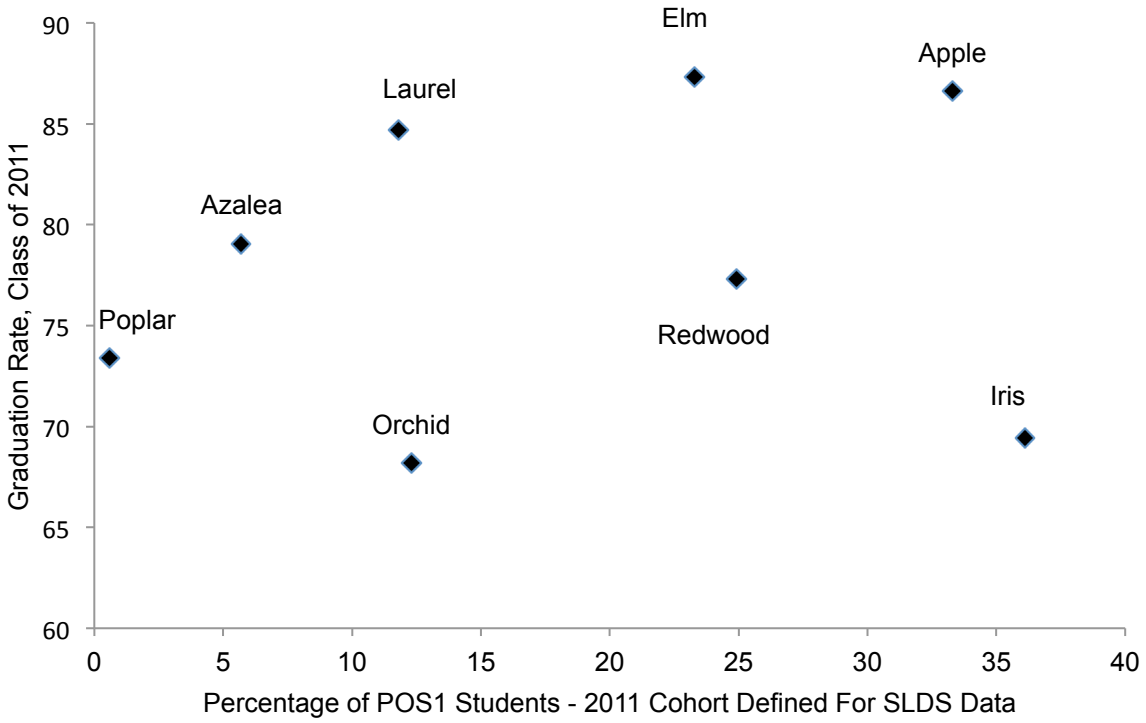

FIGURE L.5. Four-year graduation rates, Class of 2011, compared to percentage POS1 students in SLDS cohort 2011.

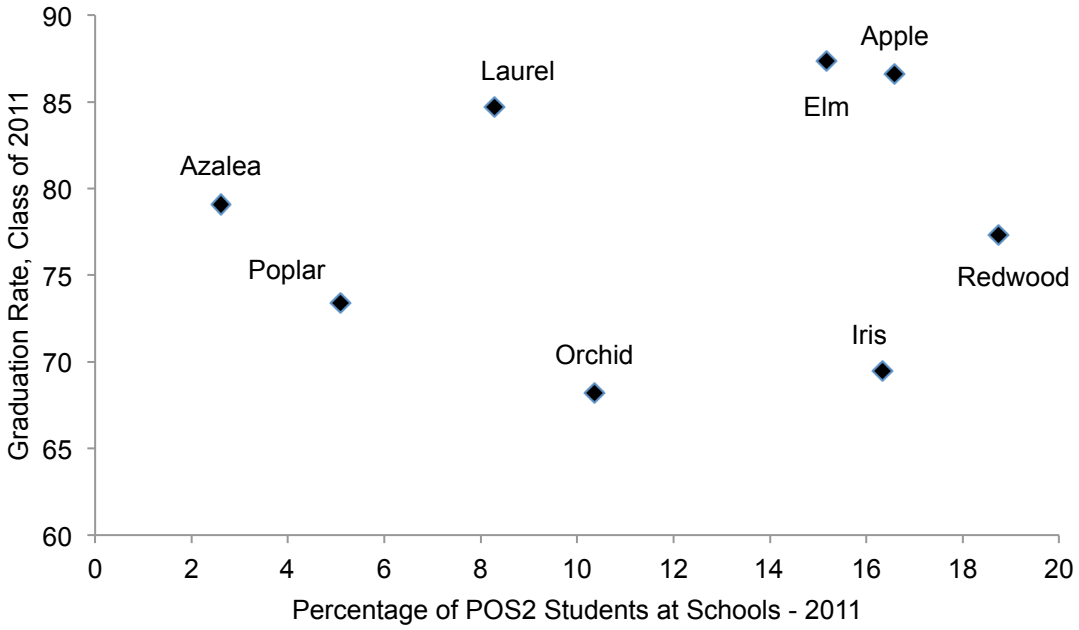

FIGURE L.6. Four-year graduation rates, Class of 2011, compared to percentage of POS2 students.

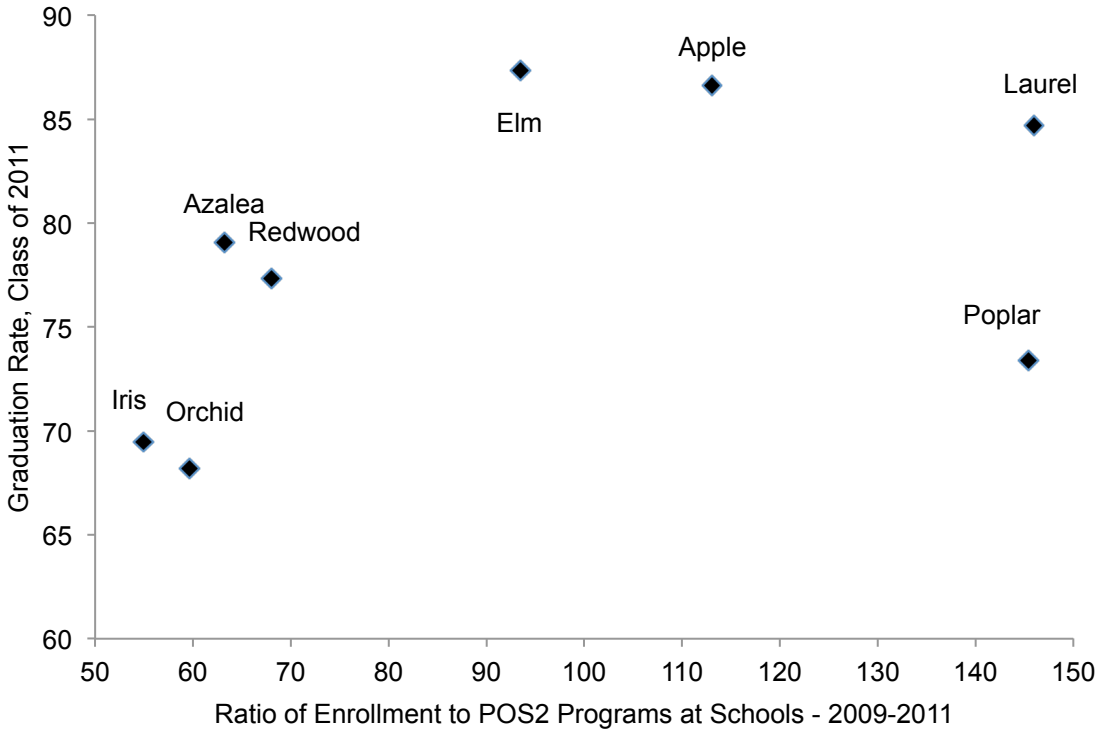

FIGURE L.7. Four-year graduation rates, Class of 2011, compared to the ratio of enrollment to POS2 programs, 2011.

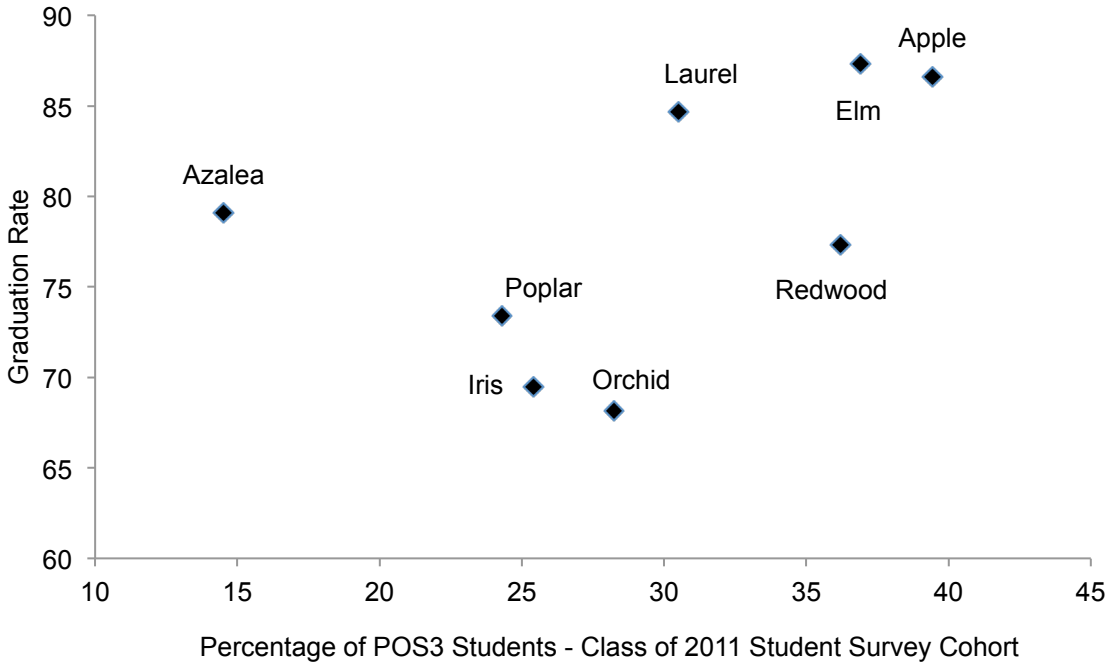

FIGURE L.8. Four-year graduation rates, Class of 2011, compared to percentage of POS3 students.