Promoting Rigorous Career and Technical Education Programs of Study

Year 3 Quantitative Analysis Report

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Introduction

The 2012–13 academic year is the third year of project activities for the six states participating in the *Promoting Rigorous Career and Technical Education Programs of Study* project. The U.S. Department of Education, Office of Vocational and Adult Education (OVAE) created the four-year initiative to support the advancement of comprehensive, well-formulated career and technical education (CTE) programs of study within states and assess the contribution of such programs to secondary students' educational attainment and postsecondary success. The six project states—Arizona, Kansas, Maryland, Montana, Utah, and Wisconsin—are each working closely with three secondary local education agencies (LEAs) (including an urban, suburban, and rural site) and one or more partnering postsecondary institutions to develop a rigorous program of study (RPOS) in a targeted CTE program. The programs range from Advanced Manufacturing in Wisconsin and Kansas to Early Childhood Education and Education Professions in Arizona (see Appendix A for a description of state programs). Each LEA has assessed the 10 key RPOS components identified within OVAE's Program of Study Design Framework (*Framework)* in the target program and developed strategies to strengthen absent or weaker components.[1] These strategies vary by state and include teacher professional development and coaching to integrate literacy and math skills into CTE coursework, training for guidance and career counselors, and the adoption or development of new technical skill assessments.

States are required to submit data to support a quantitative assessment on the effect of their program improvement efforts on students' educational outcomes. These data are independently collected and analyzed by a team of researchers at RTI International (the research team). States submit data for the quantitative analysis in the spring of each project year. To assist in this effort, the research team conducted site visits and phone consultations with states to establish common definitions of RPOS, select appropriate comparison groups within local sites, and implement uniform methods for collecting data on RPOS students and comparison groups. The annual site visits to each of the six states and participating LEAs also provided information necessary to analyze and interpret the quantitative data, and offered the opportunity to review data records and work directly with a range of local and state staff members to improve data collection strategies. Following each visit, the research team analyzed and synthesized the information collected and wrote site visit reports that were shared with state project leads and OVAE staff. The reports describe state and local reporting capacity and offer recommendations for improving state and local administrative data systems.

States' data submissions build on the data submitted in previous years. In year 1 (2010–11), states submitted demographic and post-program outcome data for 12th-grade students enrolled in participating LEAs in the 2009–10 academic year (i.e., the year preceding project work). These data served as a baseline for comparison with information collected in subsequent years. The year 1 baseline report described 12th grade students in

[1] The *Framework* and related resources are available on the *Perkins* Collaborative Resource Network, which may be accessed at http://cte.ed.gov/nationalinitiatives/rpos.cfm. Information on state RPOS projects can be found in Appendix A of this report.

the states' participating LEAs, and compared the characteristics of those enrolled in the CTE programs selected for the RPOS project with that of other students. The report also identified gaps and inconsistencies in the states' data submissions and offered strategies for improving the quality and comprehensiveness of data in subsequent years. In year two (2011–12) and for the current project year (2012–13), states submitted student demographic and outcome data for 12th grade students in the participating districts for the 2010–11 and 2011–12 academic years, respectively.

Student outcomes for the RPOS project are affected by states' implementation timelines. First-year project activities—and in some states, second-year activities, as well—were directed towards improving the rigor of existing programs. Consequently, students often realized limited benefit, since states were still in the early stages of strengthening program components. By the 2012–13 academic year (corresponding to the third study year), all or most of the implementation work was nearing completion. Most graduating students also had experienced three years of RPOS services and as a result likely experienced them more project benefits than previous cohorts. The current report should be regarded as a further step in the tracking of RPOS student outcomes and will be followed by an assessment of the project's overall effects in the coming years.

The information presented in this report details the demographic characteristics and short-term education outcomes (six months following high school graduation) of 12th-grade students in the participating LEAs in the 2011–12 academic year. These data are compared with 2009–10 and 2010–11 academic year data. The analysis compares the characteristics of RPOS concentrators with students concentrating in other CTE programs, and all other students (i.e., those who were either CTE participants or who had not enrolled in any CTE course work). In addition to the information on 12th grade students, the report also includes grade 9–12 enrollment data for each participating district, overall and disaggregated by grade level and by RPOS and CTE program status.

Research Questions and Overview

The quantitative assessment is designed to track changes in the post-program educational experiences of RPOS students over the course of the project. In addition, the assessment examines how the demographic characteristics of RPOS concentrators differ from those of other CTE students, and how both of these groups differ from non-CTE concentrators. The demographic data also provide information that addresses whether and how the types of students that concentrate in the RPOS programs change over time. The assessment is guided by three primary research questions:

1. How do the *characteristics* of secondary RPOS concentrators differ from those of secondary students who either did not concentrate in a CTE program or who were CTE concentrators in other programs?
2. How do the performance *outcomes* of secondary RPOS concentrators compare with those of two groups of students:
   - Students within the LEA who were concentrators in other CTE programs, and
   - Students who did not concentrate in a CTE program (including CTE participants and non-participants)?
3. How do the outcomes that secondary RPOS concentrators achieve vary according to the presence or absence of RPOS *Framework* components within their LEA?

To address these questions, the research team collected district level data on the 12th-grade students enrolled in each participating LEA during the 2009–10, 2010–11, and 2011–12 academic years. Within each district, states were asked to report data separately for RPOS concentrators, and the two comparison groups: concentrators in other CTE programs and all other students.[2]

In addition, the research team collected data to inform the third study question. Although the necessity of collecting aggregate (as opposed to student-level) data limits the analysis to descriptive statistics and precludes a causal analysis, the discussions of the findings for each state highlight possible connections between the findings and local sites' project activities, where relevant.

[2] States were asked to use their state's definition of a *Perkins* concentrator for reporting on the three student groups. Table A-1 in the appendix tables summarizes the participating states' definitions of a CTE participant and concentrator.

Year 3 Data Collection

In February 2013, the research team sent a set of table shells and instructions to the project leads in each state (see Appendix B) with instructions for preparing and entering data on students enrolled in the participating LEAs during the 2011–12 academic year. These data collection materials were identical to those sent in the 2010–11 academic year, with the exception of one additional data element addressing *postsecondary credential, certificate, or diploma attainment*. This measure is defined as, "The percentage of secondary students participating in the RPOS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree within two years following enrollment in postsecondary education." Accordingly, the data request asked states to provide credential attainment information for 2009–10 graduates who completed their postsecondary education as of the 2011–12 academic year.

The research team conducted a webinar in March 2013 to review the data collection instructions, highlight reporting issues that complicated reporting in prior years, and address questions that emerged during states' initial review of materials. A total of eleven state representatives from five of the six project states attended the meeting. Participants' questions were directed at issues in collecting postsecondary education completion data for 2009–10 graduates and the reporting expectations around employment data.

Table 1. Summary of student data collected from the participating districts: Project Years 2 and 3

Data type	Grade levels	RPOS participants	RPOS concentrators	Concentrators in other CTE programs	All other students
Enrollment	9–12	X	X	X	X
Demographic and student background information	12		X	X	X
Performance outcome measures	12		X	X	X

For each participating LEA, states were asked to provide the following data:

1. **Enrollment data for students in grades 9–12**: To gauge the size of the RPOS and CTE programs relative to LEA total enrollments, each state was asked to provide the number of students enrolled in grades 9–12 in each site, and subtotals for the number of RPOS participants, RPOS concentrators, concentrators in other CTE programs, and other students (participants in CTE programs other than the RPOS and students who did not take any CTE courses). These categories are mutually exclusive.
2. **Demographic and background data**: States were asked to provide information on grade 12 RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the participating LEAs, disaggregated by gender, race, free- or reduced-price lunch status, English for speakers of other languages (ESOL) eligibility, and disability status. They also were asked to report

the average attendance ratios and average scores on the most recent ESEA-reported state assessments taken by the students (administered in the 10th or the 11th grade).

3. **Outcome data**: States were asked to provide student educational outcome data for the following seven performance indicators:

   i. *Secondary school completion*—12th-grade students who earned a regular high school diploma;

   ii. *Technical skill attainment*—12th-grade RPOS concentrators and CTE concentrators in other programs who attained technical skills;[3]

   iii. *Earned postsecondary credit*—12th-grade students who earned postsecondary credit while still enrolled in high school;

   iv. *Enrollment in postsecondary education*—12th-grade graduates who enrolled in postsecondary education by the fall following high school;

   v. *Enrollment in related postsecondary field or major*—12th-grade RPOS and CTE program of study graduates who enrolled in a postsecondary education field or major related to their high school program of study;

   vi. *Need for developmental education*—12th-grade graduates who took postsecondary education developmental courses in the fall following high school graduation;

   vii. *Postsecondary attainment*—2009–10 graduates who attain an industry-recognized credential, certificate, or associate's degree within two years following enrollment in postsecondary education.

The data request for 2009–10 academic year data in project year 1 also requested data on students' employment outcomes, including military status. None of the states, however, require students to disclose social security numbers (SSNs), which are necessary to match education data with employment and military records. As a result, SSNs for most students are unavailable, although some states do request the voluntary disclosure of these numbers. Response rates do not allow for reliable analyses of data. For example, while one state attempted to access unemployment insurance wage record data, information was available for less than 20 percent of students in the participating districts. The low match rate was largely due to inaccurate or missing student SSNs. Although the states conduct CTE graduate follow-up surveys, these surveys typically have low response rates (i.e., below 85 percent) and are collected only for CTE concentrators. In addition, the data are self-reported, which can compromise data accuracy. Given the lack of valid and reliable data for employment outcomes, this measure was dropped from subsequent requests and is not reflected in the data presented in this report.

[3] State approaches to measuring technical skills vary, and a description of the measures was not included in the request for proposals. For the purposes of this study, this measure is defined as the percentage of students for whom a technical skill assessment is available who pass the assessment.

The states' data submissions for year 3 did not include all of the data requested, though demographic data submissions were more complete that those for the performance outcome measures. A total of five states submitted all eight of the demographic elements requested, and just one all seven of the performance outcome measures. The quality and completeness of the outcome measure data varied by state. Although all six states submitted data for secondary school completion and earned postsecondary credit in high school, totals for the latter measure often were low and may underestimate the credits earned. Totals also were not available for all comparison groups. Despite these limitations, the data submitted by the RPOS states have improved each project year, and more data on more measures were submitted in year 3 than in years 1 and 2. For example, only three states submitted data for all eight demographic measures in year 2, compared to five for the current year. Only three states were able to submit data for five or more of the performance outcome measures in year 2, compared to six in year 3. See Appendix A Table A-2 for additional information.

Year 3 Data Analysis and Findings

The analyses that follow summarize the 2011–12 academic year data submitted during project year 3 by the states participating in the RPOS project. The report also compares student outcome data from 2011–12 to that of 2009–10 and 2010–11, but only for state-level outcomes for which multiple years of consistent data have been submitted. The first section addresses the number of RPOS program participants and concentrators in each state and overall, and how these numbers changed from 2010–11 to 2011–12. The six sections that follow describe the student demographic and outcome data submitted by each state. Within each section, the analysis compares the demographic characteristics and outcomes of RPOS concentrators and the two comparison groups, addresses outcome trends with reference to a series of outcome figures for each state, and describes outcomes for which limited or incomplete data were submitted. Some of the data discussed not shown in the outcome trend figures, but summarized in the Appendix A tables. Occasionally, however, the analysis also refers to district level-data that cannot be included in the report due to privacy concerns; those instances are indicated by the note, "Data not shown."

In accordance with state requirements and the need to maintain student confidentiality, all demographic and outcome data presented in the tables and figures in this report are aggregated at the state level. Although the states submit student data aggregated at the LEA level, many of the programs and districts are relatively small, resulting in small cell sizes for some measures that might enable readers to identify individual students.[4] The data presented in the tables are therefore aggregated at the state level and cells containing demographic data representing 10 or fewer students are suppressed to protect student confidentiality.

LEA RPOS, CTE, and Overall Enrollments

This section summarizes and compares the enrollment data submitted by the states. Data collection on RPOS participants and concentrators in grades 9–12 in the participating states began in year 2 with data for the 2010–11 academic year. The total number of high school students enrolled in the participating districts ranges from about 56,000 in Maryland to about 2,400 in Wisconsin. The largest district (urban Maryland) enrolled over 23,000 students and the smallest (rural Montana) some 51 students (Table 1).[5]

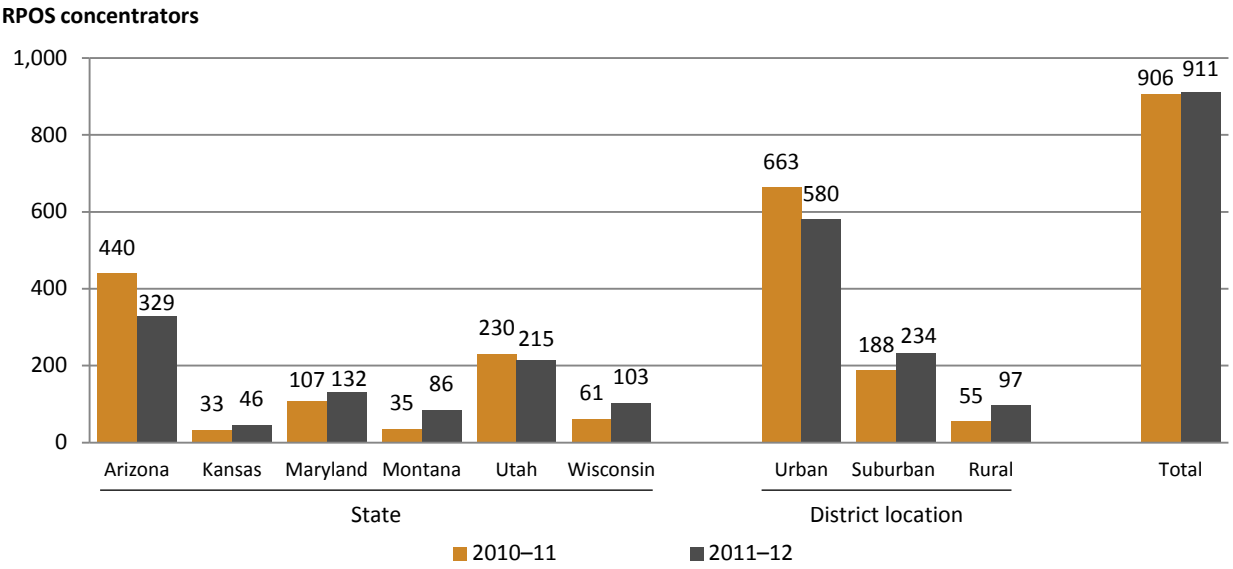
The number of RPOS concentrators varied by state in 2011–12, ranging from 46 in Kansas to 329 in Arizona. The number of concentrators in the RPOS programs increased in four states (Kansas, Maryland, Montana, and

[4] Data security requirements vary by state and sometimes by education agency within states. A general rule is that data must be suppressed for table cells that include small numbers of individuals (usually 6 to 10), since the reporting of small numbers of students might permit a reader to identify individual students. The research team chose to suppress cells presenting demographic data for 10 or fewer individuals to ensure that the data suppression rules of all the participating states are met.
[5] For an overview of district enrollments in RPOS and other programs in the participating districts, see Appendix Table A-3.

Wisconsin) from 2010–11 and 2011–12.[6] In Montana, the number of concentrators more than doubled (from 35 to 86), and in Wisconsin the number of concentrators nearly doubled (from 61 to 103).

The urban districts had the largest numbers of RPOS concentrators, followed by suburban, and then rural. In Maryland, however, the largest number of RPOS concentrators was found in the suburban district; and in both Maryland and Utah, the largest enrollment districts participating are the suburban districts (see Appendix A Table A-3). Enrollments in the suburban and rural district grew between 2010–11 and 2011–12, and declined slightly in the urban district (Figure 1). These totals, however, mask dramatic district-level changes across the three years (data not shown). For example, the number of concentrators in Utah's urban district grew from 59 in 2009–10, to 172 in 2010–11, and to 179 in 2011–12. In contrast, the suburban district has chosen to focus project efforts on a subset of their large health science program, which has reduced the number of RPOS students from more than 100 in 2009–10 to 29 and 25 in 2010–11 and 2011–12, respectively. This district has instituted an intensive cohort program to which students apply through a competitive application process. The students selected for the program have access to additional opportunities to earn postsecondary credits, and to obtain counseling and tutoring resources.

Figure 1. Number of RPOS concentrators by state and by district location: 2010–11 and 2011–12

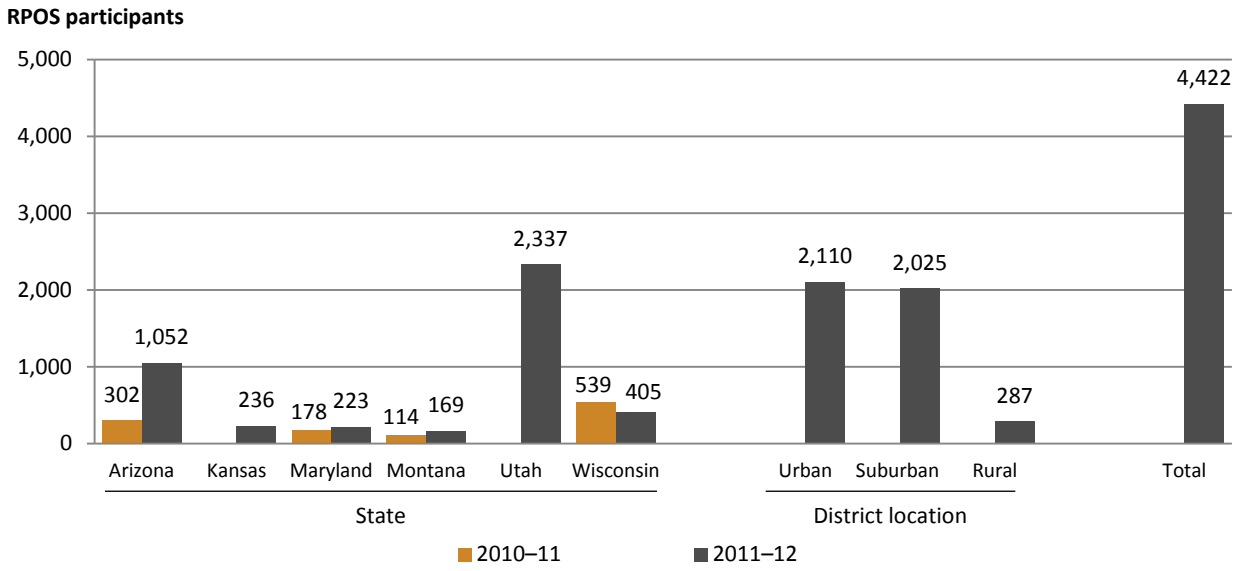


NOTE: The total number of RPOS concentrators in Kansas presented in this figure and in the demographic and outcome data tables for Kansas do not match. The Kansas data are from two sources: the Kansas Board of Regents (KBOR), which produces the demographic and outcome tables, and the Kansas State Department of Education (KSDE), which as submitted the enrollment data. The KSDE data are presented here for year-to-year consistency, but the demographic and outcome data tables show the KBOR data. The differences stemmed from differing concentrator definitions that have since been reconciled, but new data were not available in time for inclusion in this report.
SOURCE: Arizona Department of Education; Kansas State Department of Education; Maryland State Department of Education; Montana Office of Public Instruction; Utah State Office of Education; and Wisconsin Department of Public Instruction.

[6] The numbers of RPOS concentrators in Kansas in this figure and in the demographic and outcome data tables for Kansas differ by 79 concentrators. The Kansas data are from two sources: the Kansas Board of Regents (KBOR), which produces the demographic and outcome tables, and the Kansas State Department of Education (KSDE), which submitted the enrollment data. The KSDE data are presented here for year-to-year consistency, but the demographic and outcome data tables show the KBOR data. Kansas has since re-reviewed these data in light of these discrepancies, determined the source of the problem, and prepared a revised data submission. The new data were not, however, available in time to be incorporated into this report and will be included in the year 4 report.

The RPOS programs enrolled 4,422 total participants in 2011–12, with the largest participant counts in Arizona and Utah (Figure 2). In the four states that submitted participant data for multiple years, the number of concentrators rose in three and declined in one. More detailed in information on RPOS, CTE, and overall enrollments in the participating districts can be found in Appendix A Table A-3 at the end of this report.

Figure 2. Number of RPOS participants by state and by district location: 2010–11 and 2011–12



NOTE: Kansas did not submit data on participants for 2010–11, and the Utah data on participants in 2010–11 and 2011–12 are not comparable, so data by school location and a total for 2010–11 are not shown.
SOURCE: Arizona Department of Education; Kansas State Department of Education; Maryland State Department of Education; Montana Office of Public Instruction; Utah State Office of Education; and Wisconsin Department of Public Instruction.

Student Characteristics and Outcomes: State by State

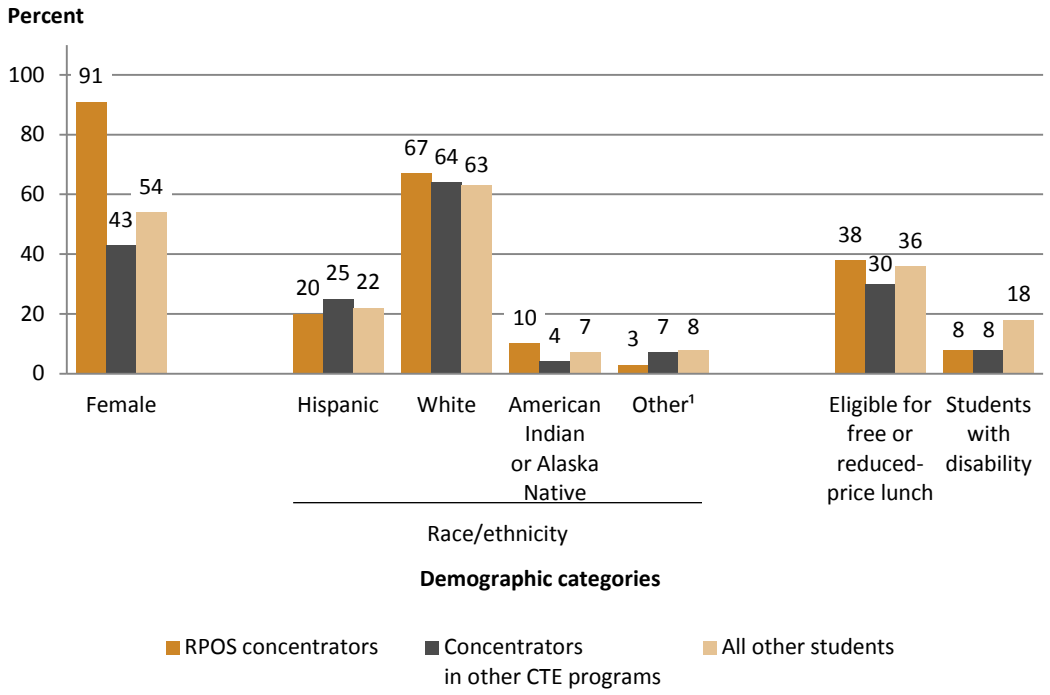
Arizona

Arizona reported on 198 12th-grade RPOS (Education Professions and Early Childhood Education) concentrators in 2011–12. This group, as in years past, was predominantly female (91 percent of 198 students) (Figure 3a).[7] In contrast, less than one-half of concentrators in other CTE programs were female. The demographic characteristics of RPOS students were similar to those of concentrators in other CTE programs, with the exception of the percentage of American Indian or Alaska Native students. These students account for 10 percent of RPOS concentrators and 4 percent of concentrators in other programs, largely reflective of the sizable RPOS program in the rural district, which is located in the Navajo Nation. The proportion of students eligible for free or reduced-price lunch was lowest among concentrators in other CTE

[7] Trend data for all three years for which Arizona submitted data are shown in Appendix Tables A-4a-c. The demographic patterns observed for 2011–12 are largely consistent across all three years.

programs (30 percent), and highest (about 38 percent) among RPOS concentrators. About 8 percent of RPOS and concentrators in other CTE programs had a disability, compared to around 18 percent of other students.

Figure 3a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Arizona: 2011–12



¹ Other includes Native Hawaiian/Pacific Islander, Black or African American, and Asian.
SOURCE: Arizona Department of Education.

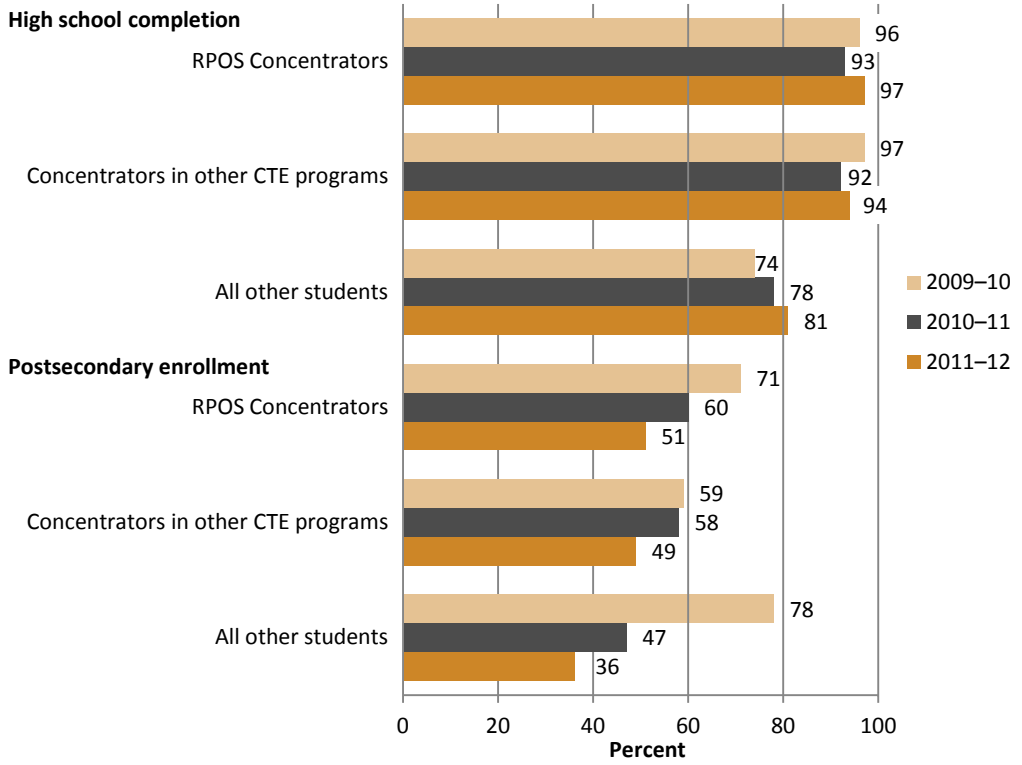
Attendance rates in 2011–12 were higher for CTE concentrators (including RPOS) than all other students. Reading assessment scores were similar across three groups, but RPOS concentrators had lower math scores than the other two groups.[8]

Student Outcome Trends-Highlighted Performance Measure Outcomes

In 2009–10 and 2010–11, RPOS and other CTE program concentrators graduated from high school at roughly the same rates (between 92 and 97 percent) (Figure 3b). In 2011–12, RPOS concentrators graduated at a higher rate (97 percent) than concentrators in other CTE programs (94 percent), and both of the CTE groups had higher graduation rates than students who did not concentrate in a CTE program, among whom 74 to 81 percent of students graduated across the three years examined.

[8] Because of the way data for prior academic achievement (assessment scores) and attendance are reported, it is not possible to aggregate the data across the districts. These data are therefore not included in Figure 3. Ranges of scores, however, are shown in appendix Figures 4b and 4c.

Figure 3b. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who graduated from high school and who enrolled in postsecondary education by the fall after graduation in the Arizona RPOS districts: 2009–10, 2010–11, and 2011–12



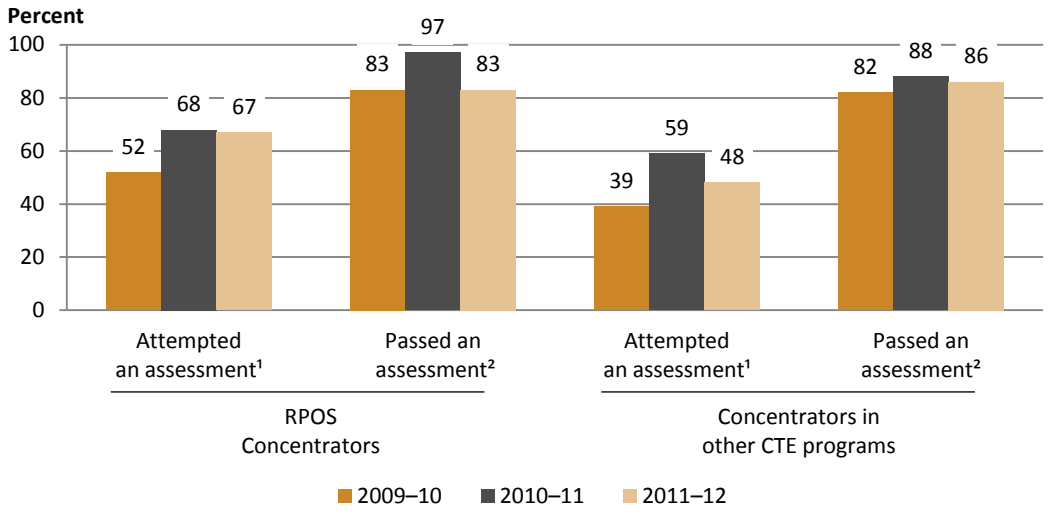
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Arizona Department of Education.

The postsecondary enrollment rate among RPOS concentrators dropped from about 71 percent in 2009–10, to 60 percent in 2010–11 and 51 percent in 2011–12.The comparison groups also experienced declines in postsecondary enrollments across the three years, which suggests that non-RPOS program factors such as changes in state policies or economic conditions might be a factor. Postsecondary enrollment rates were similar for RPOS and concentrators in other CTE programs in the last two years (about 60 percent of each group enrolled in 2010–11 and about 50 percent in 2011–12). Both of these groups were more likely to enroll than all other students in those years. In 2009–10, however, the all other students group had the highest postsecondary enrollment rate of 78 percent.

The Arizona Skill Standards Assessment System offers a state-developed, end-of-program technical assessment for most secondary CTE programs offered in the state. Students who pass the assessment receive a certificate and technical skill transcript from the Arizona Skill Standards Commission. The computer-based tests are not required for CTE concentrators, but districts strongly encourage students to take them, and assessment scores sometimes factor into CTE programs' final course grades. Project team members reported, however, that some students decline to take the test because they feel unprepared and expect to score poorly. Arizona's state-developed technical skill assessments are available to all CTE students, but in 2009–10, 2010–11, and

2011-12, only about two-thirds of RPOS and an even lower percentage of concentrators in other CTE programs took an assessment (Figure 3c). The attempted assessment rate for RPOS concentrators did, however increase to about 68 percent in 2010–11, and 2011–12, compared to 52 percent in 2009–10.

Figure 3c. Percentage of RPOS concentrators and concentrators in other CTE programs who attempted a technical skill assessment and, among those who attempted an assessment, the percentage who passed in the Arizona RPOS districts: 2009–10, 2010–11, and 2011–12



¹ Among those who had an assessment available.
² Among those who attempted an assessment.
SOURCE: Arizona Department of Education.

Among those who took an assessment, the pass rates among RPOS concentrators, which ranged from about 83 to 97 percent, were higher than those for concentrators in other CTE programs (82 to 88 percent) in each year examined. The highest pass rate of 97 percent was found among RPOS concentrators in 2010–11, but the rate dropped to 83 percent in 2011–12.

Other Student Outcomes

States' 2011–12 data submissions also included data on postsecondary credential attainment among the three groups for 2009–10 graduates. In Arizona, some 5 percent of RPOS concentrators from that year had earned a credential, compared to 12 percent of concentrators in other CTE programs, and 3 percent of all other students (Appendix A Table 4c).

Data for the remaining three performance outcome measures—the percentage who earned postsecondary credit in high school, need for developmental coursework, and the percentage of CTE concentrators who enroll in a related postsecondary program—have not been available from Arizona. The Arizona RPOS team has struggled to collect data on these outcomes in the absence of a centralized postsecondary data system in the state. Comprehensive data collection on these measures would require separate data collection from each of the 13 community colleges in the state, and even if all of the colleges were to agree to submit data,

capturing outcomes for students who enroll in 4-year institutions would require additional effort. Arizona is able to access college enrollment data that covers most of the state's colleges from the NSC, but no comprehensive data source exists for the other measures.

Finally, for 2009–10 graduates, some 5 percent of RPOS and 12 percent of concentrators in other CTE programs had completed a postsecondary degree within 2 years of enrollment, compared with 3 percent of all other students.

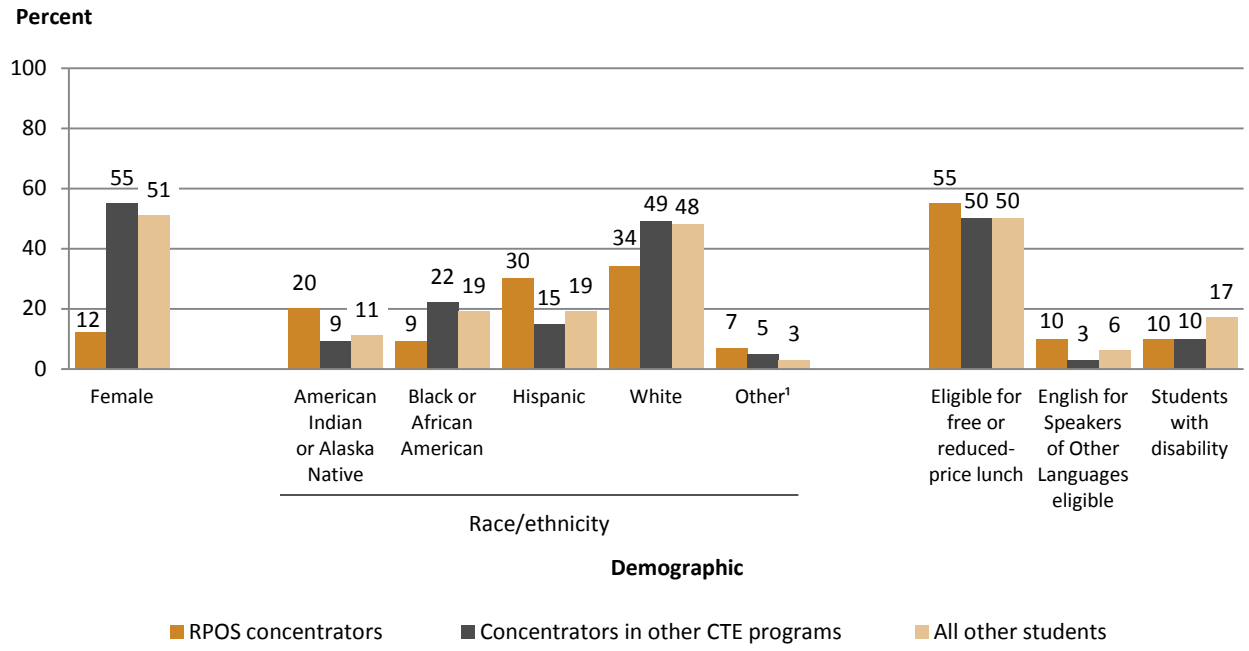
Kansas

Kansas reported demographic and outcome data for 125 12th-grade RPOS concentrators in 2011–12. The Kansas Board of Regents (KBOR) reported the enrollment and demographic data for 12th grade students and the Kansas State Department of Education (KSDE) reported enrollment data. The KBOR data included 125 12th-grade RPOS concentrators (Manufacturing Production), and the KSDE data, 46 grade 9–12 concentrators. When asked about the concentrator definition used), the KBOR data analyst explained that KBOR had received the data file with the concentrators already identified, and that the person who had prepared the file had left KSDE. That person was, however, the same person who had prepared the prior year's file. A member of the Kansas team also contacted the participating districts to check on the accuracy of the numbers reported by KSDE. The team member found that two of the districts were unable to identify 2011–12 RPOS concentrators due to data system glitches, and that Wichita continues to have difficulty reporting on students who graduate prior to reaching concentrator status. The research team will investigate the issue further during this year's site visit to ensure more consistent reporting for year 4. Once the issue is resolved, Kansas will also be asked to resubmit the 2011–12 data.

Tables 4a through 4c show the data as submitted, and should therefore be interpreted with caution (i.e., given that the information will be updated at a later date).[9] About 12 percent of the 125 12th-grade RPOS concentrators reported for the 2011–12 academic year were female (Figure 4a). RPOS concentrators were more likely to be American Indian or Alaska Native (20 percent) or Hispanic (30 percent) than concentrators in other CTE programs, among which these groups comprised 9 and 15 percent of concentrators, respectively.

[9] For example, as Appendix Table A-5b shows, the proportion of white students among RPOS concentrators dropped from 79 percent of RPOS concentrators in 2010–11 to 34 percent in 2011–12 a large change that may reflect differences in how concentrators were counted across the years rather than actual changes in the types of students engaged in the RPOS program. The gender composition of the RPOS concentrators was, however, similar across the two years.

Figure 4a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Kansas: 2011–12



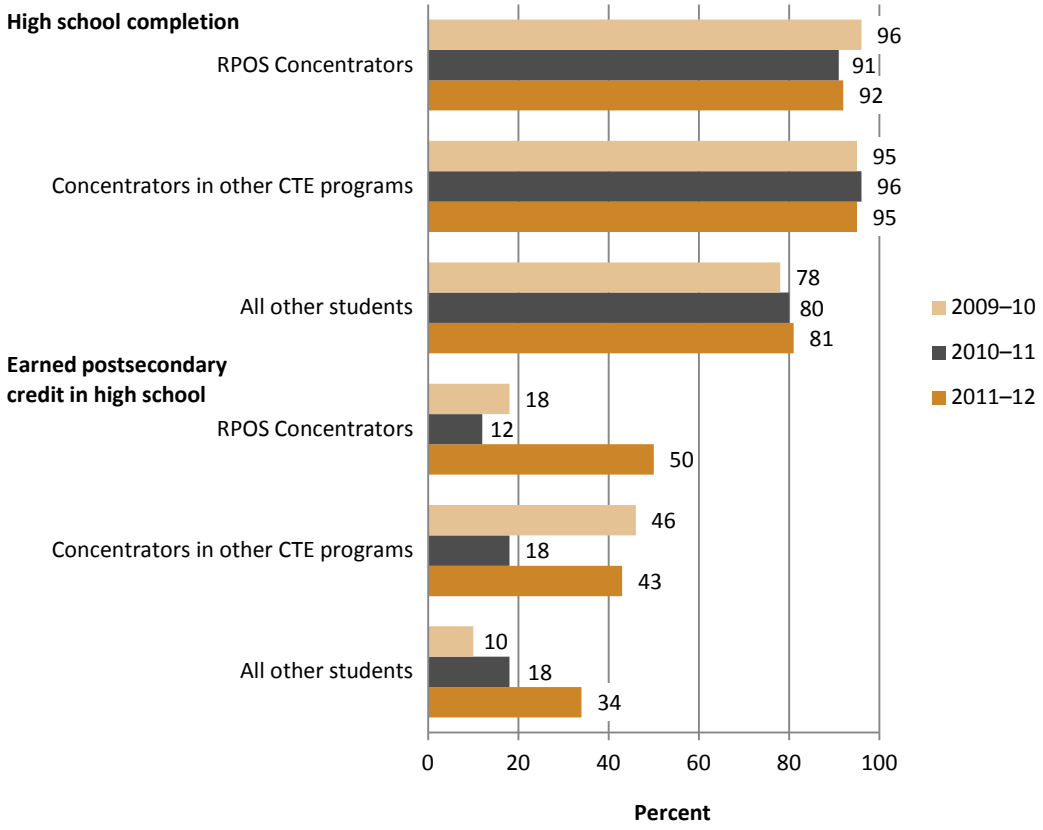
[1] Other includes Native Hawaiian/Pacific Islander and Asian.
SOURCE: Kansas Board of Regents.

About one-half (50 to 55 percent) of RPOS and other concentrators qualified for free- or reduced price lunch in 2011–12. About 10 percent of RPOS and 3 percent of other CTE program concentrators were ESOL eligible, and about 10 percent of each group had a disability. Students with disabilities comprised a higher percentage (about 17 percent) of the all other students group. Student characteristics not shown in the figures included attendance rates and test scores (see Appendix A Table A-5b). CTE concentrators—including RPOS concentrators—had similar average attendance rates (88 to about 97 percent), which were higher than those found for all other students (84 to 94 percent). Finally, although 10th grade reading score averages were almost identical across the three comparison groups, RPOS concentrators had higher average math score ranges (59 to 90) than concentrators in other CTE programs (53 to 75) or all other students (50 to 73).

Student Outcome Trends

Over 90 percent of CTE concentrators—including RPOS concentrators—graduated from high school with a regular high school diploma in all three years of data analyzed (Figure 4b). In contrast, the graduation rate among all other students ranged from 78 percent in 2009–10 to 81 percent in 2011–12.

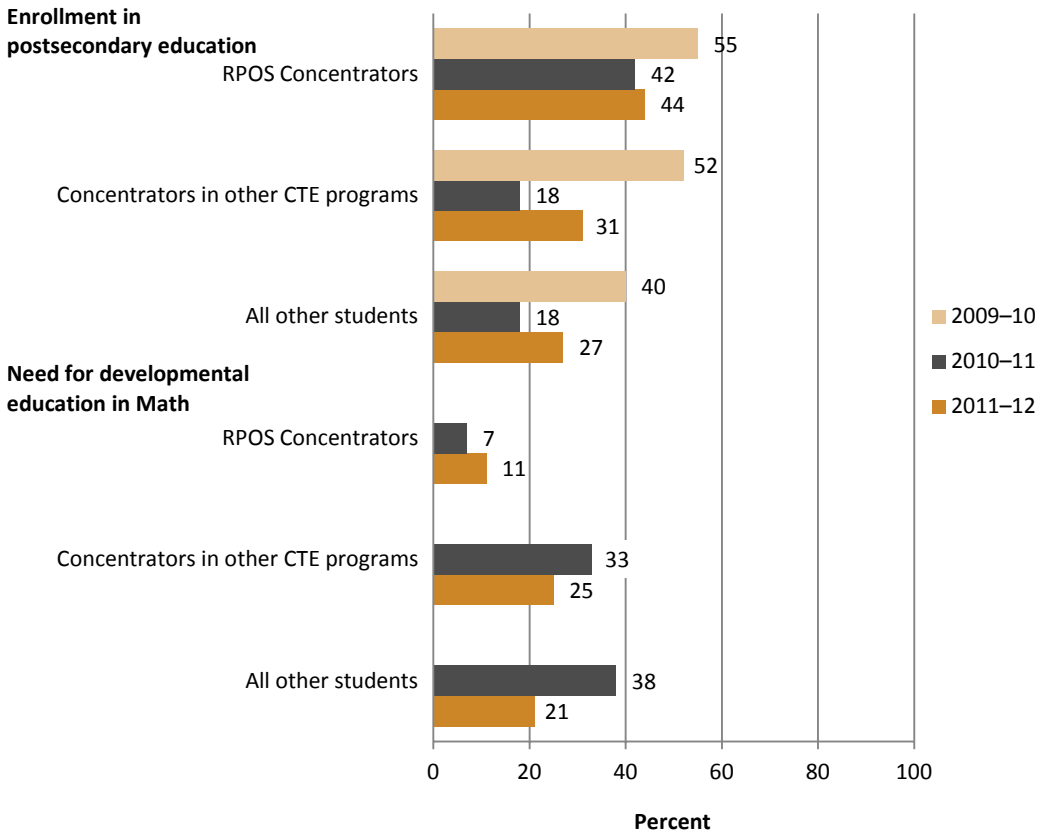
Figure 4b. Percentage of RPOS concentrators, concentrators in other programs, and all other students who graduated from high school and who earned postsecondary credits in high school in the Kansas RPOS districts: 2009–10, 2010–11, and 2011–12



NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Kansas Board of Regents.

The proportion of students who earned postsecondary credits in high school varied considerably by year and jumped for all three groups in 2011–12, and particularly among RPOS students. In that year, one-half of RPOS students earned credits, compared with 43 percent of concentrators in other CTE programs and 34 percent of all other students (Figure 4b). Postsecondary enrollments rates also increased for all three groups in 2011–12 (Figure 4c). The highest rate was found among CTE concentrators in 2009-10 (55 percent), followed by concentrators in other CTE programs (52 percent), and all other students (40 percent).

Figure 4c. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who enrolled in postsecondary education by the fall following high school graduation and, of those enrolled, needed developmental education in math in the Kansas RPOS districts: 2009–10 (postsecondary enrollment only), 2010–11, and 2011–12



[1] Among those who enrolled in postsecondary education. Data are limited to graduates who enrolled in a postsecondary program in a state institution. Data for 2009–10 not available.
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Kansas Board of Regents.

Among those who enrolled in postsecondary education, RPOS concentrators had lower rates of developmental education (7 to 11 percent) in math enrollment than concentrators in other CTE programs (25 to 33 percent) and all other students (21 to 38 percent) in 2010–11 to 2011–12.[10]

[10] Site visit data indicate that students who score below a developmental education placement test are required to complete the courses before enrolling in their postsecondary program coursework. Not all colleges include developmental education in students' transcript data, however, so the rates shown are likely lower than the true rate of developmental coursetaking for all three groups.

Other Student Outcomes

Kansas currently uses local end-of-course CTE technical skill assessments, and the results of these assessments are not reported to the state. The state is currently instituting a new system of technical skill assessments through the Career Pathways Assessment System (cPass), a multi-state technical skill assessment consortium led by the University of Kansas, Center for Education Testing and Evaluation. The Manufacturing Production Pathway is included in the first cohort of nine pathway assessments being developed that are slated for implementation in 2013–14. The assessments include an online general and pathway knowledge test, a field-based performance skill assessment that incorporates relevant academic skills, and a 21st-century skills assessment. TSA student outcomes will be reported electronically through the KSDE Pathways data reporting system.

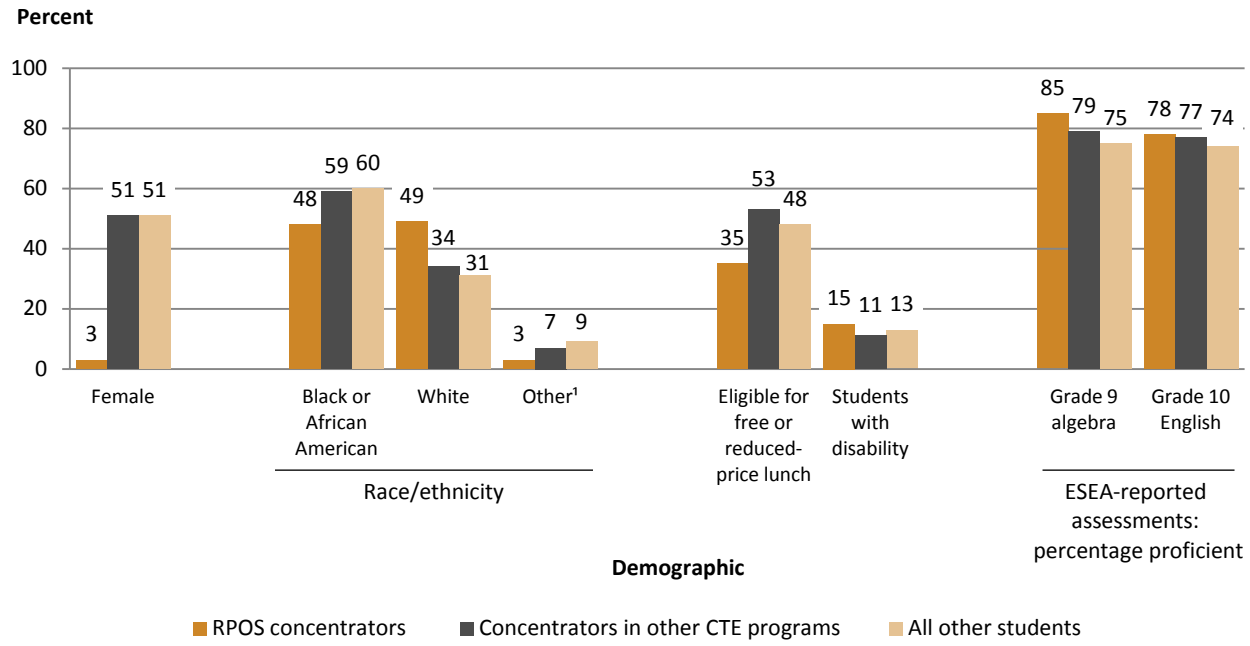
Data for enrollment in related postsecondary programs have only been submitted for 2011–12, and are therefore not shown in a figure (see Appendix A Table A-5c). To calculate the rates, KBOR analysts had to devise an approach to match secondary and postsecondary coursework patterns, since postsecondary students do not declare a program upon enrollment. Kansas submitted data on the numbers of CTE graduates who enroll in a postsecondary education program related to their secondary CTE coursework in their year 3 data submission, the first year they have done so. In 2011–12, about 30 percent of RPOS students who enrolled in postsecondary education enrolled in a related program, compared to about just over one-half (56 percent) of students in other CTE programs.

In terms of postsecondary completion, some 7 percent of RPOS and 11 percent of concentrators in other CTE programs who graduated in 2009–10 had completed a postsecondary degree within 2 years of enrollment, compared with 8 percent of all other students.

Maryland

Maryland reported student demographic and outcome data for 65 12th-grade concentrators (the Facility and Mobile Equipment Maintenance Pathway within the Transportation, Distribution, and Logistics Career Cluster) for 2011–12. A small proportion (3 percent) were female, compared to roughly one-half of the student comparison groups.

Figure 5a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Maryland: 2011–12



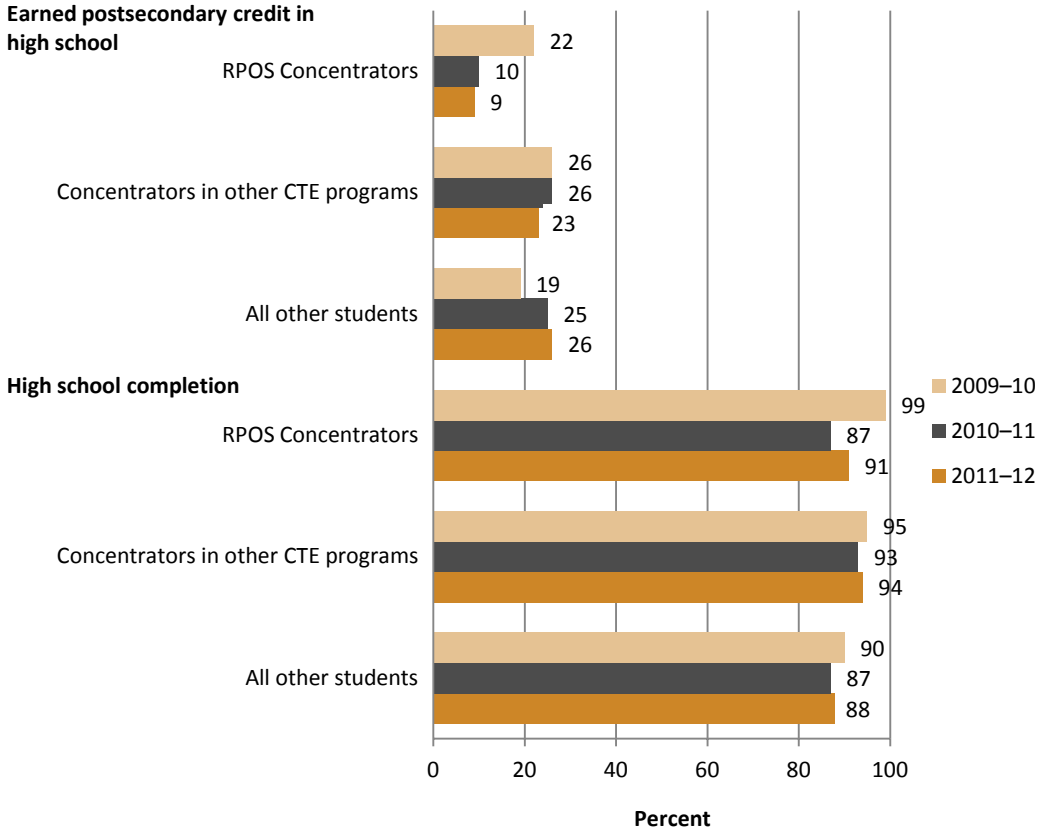
[1] Other includes Native Hawaiian/Pacific Islander, Hispanic, Asian, American Indian or Alaska Native, and multi-race.
SOURCE: Maryland State Department of Education.

About one half of RPOS concentrators were Black or African American and about one-half white. White students comprised a larger proportion of the RPOS concentrators than the comparison groups (31 to 34 percent). Some 35 percent of RPOS concentrators were eligible for free or reduced-price lunch, compared to about one-half or more of the other two groups. Disability rates were similar (11 to 15 percent) across all three groups. Finally, average *ESEA*-reported grade 9 algebra and grade 10 English assessments for RPOS concentrators (85 and 78 percent, respectively), were higher than those for other students, although all three groups had proficiency rates of 74 percent or higher. The demographic patterns observed for 2011–12 were largely the same in 2010–11, with the exception of a rise in the number of concentrators in other CTE programs and other students eligible for free and reduced-price lunch. The increase was from about 40 percent for each group in 2010–11 to 53 percent (concentrators in other CTE programs) and 48 percent (all other students) in 2011–12.

Student Outcome Trends

RPOS concentrators earned postsecondary credits at a lower rate (9 percent) in 2011–12 (and in prior years) than concentrators in other CTE programs (Figure 5b). The credit-earning rate among RPOS concentrators has also declined over the course of the project, from 22 percent of students in 2009–10. During the 2013 site visit, local staff noted that opportunities for students in the RPOS program to earn postsecondary credits are fairly new, and that faculty and guidance staff are only beginning to make the connection between this program and college opportunities in what one staff member called a needed "cultural shift." The novelty of the program might contribute to the volatility in rates over time, and the overall low participation rates.

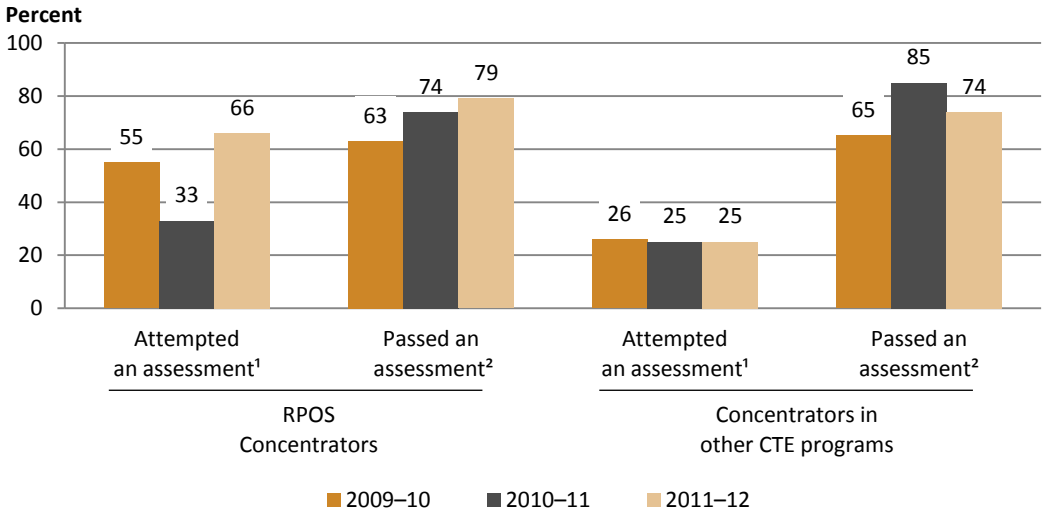
Figure 5b. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who graduated from high school and who earned postsecondary credits in high school in the Maryland RPOS districts: 2009–10, 2010–11, and 2011–12



NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Maryland State Department of Education.

Graduation rates for all three groups are 87 percent or higher, and increased from 87 percent for RPOS concentrators in 2010–11 to 91 percent in 2011–12. Maryland also reported data for technical skill attainment among RPOS and concentrators in other CTE programs (Figure 5c). RPOS concentrators are more likely than those concentrating in other CTE programs to attempt an assessment in all three years examined (33 to 66 percent vs. about 25 percent).

Figure 5c. Percentage of RPOS concentrators and concentrators in other CTE programs, and all other students who attempted a technical skill assessment and, among those who attempted an assessment, the percentage who passed in the Maryland RPOS districts: 2009–10, 2010–11, and 2011–12



¹ Among those who had an assessment available.
² Among those who attempted an assessment.
SOURCE: Maryland State Department of Education.

For RPOS concentrators, the percent attempting an assessment and, among those who attempted an assessment, passed, was higher in 2011–12 than in the two prior years.

Other Student Outcomes

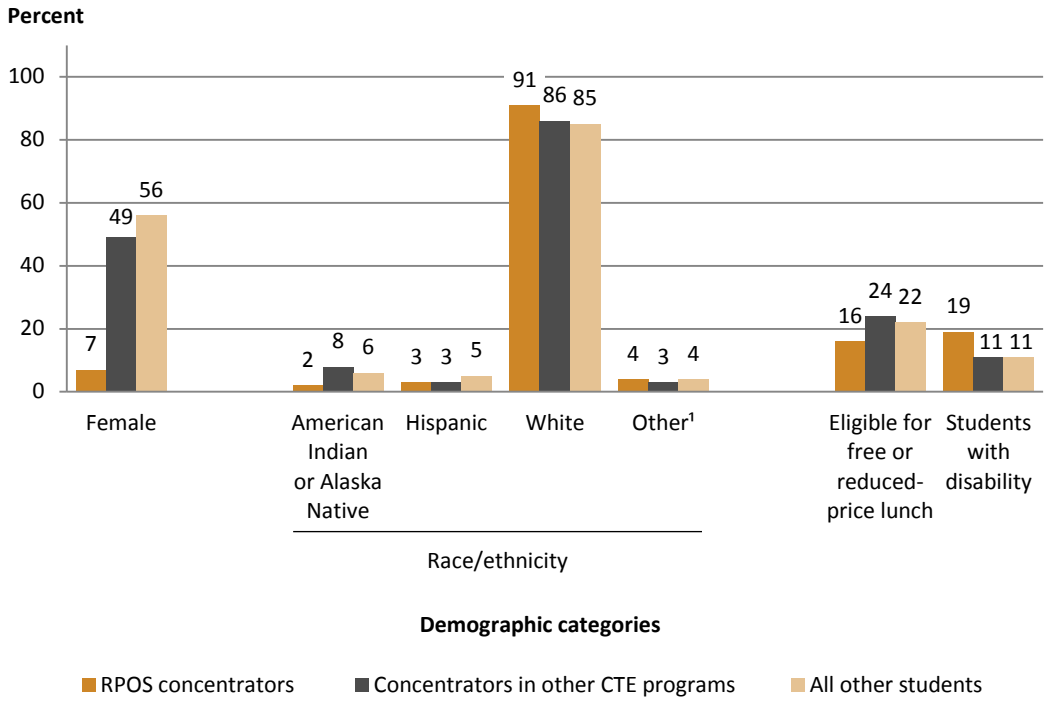
Unlike other states, data on student enrollments in higher education or enrollments in related programs are not available at the time of the RPOS data request. Instead, these data become available the following December in accordance with the postsecondary system's reporting cycle. The research team received the 2010–11 graduation data too late for incorporation into the current year's report, but will include them in the year 4 report. Finally, the Maryland State Department of Education does not currently collect data on developmental education; collection of this information is planned for the future, but no schedule has been set.

In terms of postsecondary completion, some 3 percent of RPOS and 1 percent each of concentrators in other CTE programs and all other students 2009–10 graduates had completed a postsecondary degree within 2 years of enrolling in postsecondary education (Appendix A Table A-6c).

Montana

Montana reported student demographic and outcome data on 86 12th-grade RPOS concentrators (the Construction Big Sky Pathway) in 2011–12. Montana's RPOS concentrators had a low proportion of females (7 percent) and were more likely to be white (about 91 percent) than other CTE concentrators (86 percent) and other students (85 percent) (Figure 6a).

Figure 6a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Montana: 2011–12



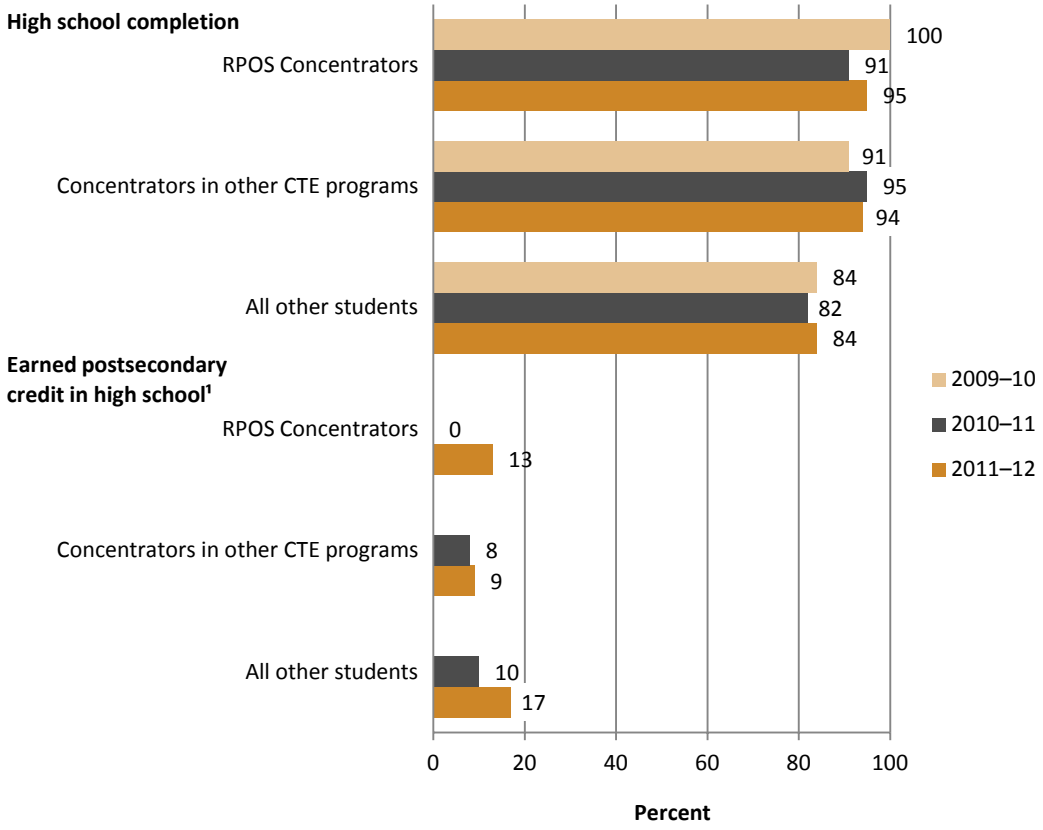
[1] Other includes Asian, Black or African American, and Native Hawaiian/Pacific Islander.
SOURCE: Montana Office of Public Instruction.

A lower percentage of RPOS than comparison group students qualified for free or reduced-price lunch (16 percent vs. 22 to 24 percent) and a higher percentage had a disability (19 percent vs. 11 percent each for the other groups). As in the previous academic year, the 2011–12 10th-grade assessment score ranges in both math and English were lower for RPOS concentrators than for the comparison groups, but the attendance rate range somewhat higher (90 to 94 percent for RPOS concentrators, vs. 87 to 94 percent for concentrators in other CTE programs, and 83 to 92 percent for all other students) (Appendix A Table A-7b).

Student Outcome Trends

RPOS and CTE concentrators in the three districts graduated at a higher rate (91 to 100 percent) than their peers who did not concentrate in a CTE program (82 to 84 percent) in all three of the years compared (Figure 6b).

Figure 6b. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who graduated from high school and who earned postsecondary credits in high school in the Montana RPOS districts: 2009–10 (high school completion only), 2010–11, and 2011–12

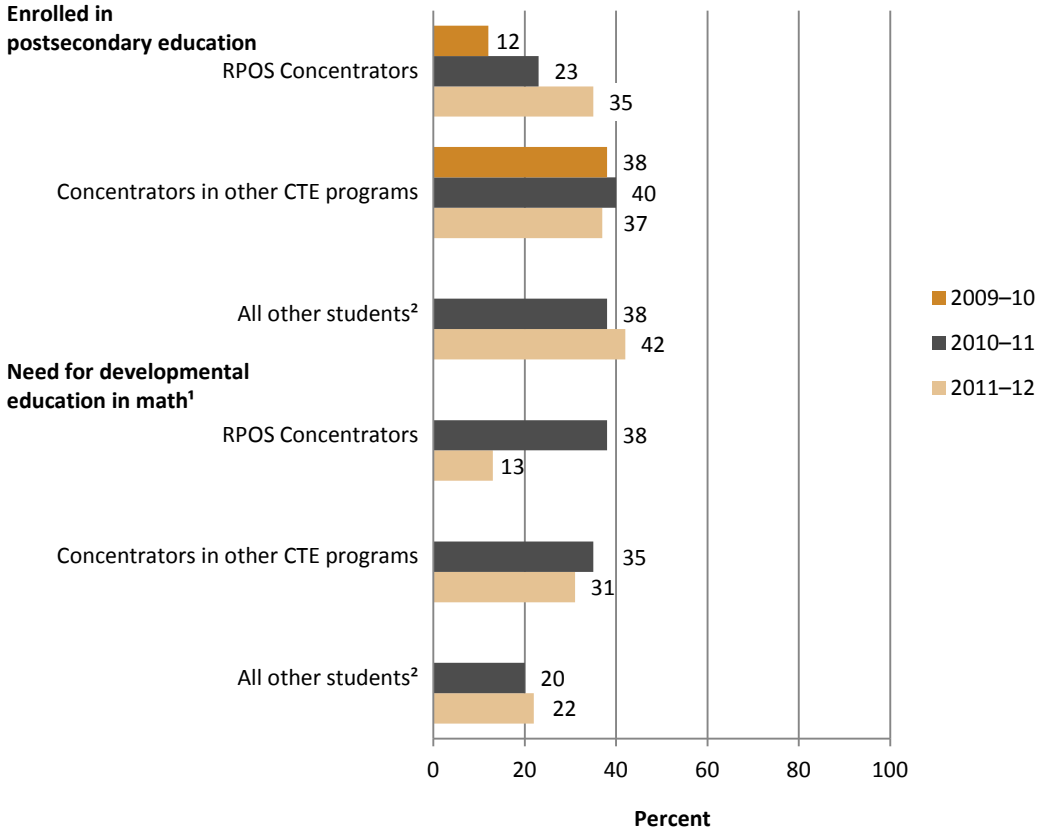


[1] Data on postsecondary credits earned in high school not submitted for 2009–10.
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Montana Office of Public Instruction.

About 13 percent of RPOS concentrators earned postsecondary credits in high school in 2011–12, compared with none in the prior year. In 2011–12, RPOS concentrators earned credits at a higher rate than concentrators in other CTE programs (9 percent) but at a lower rate than all other students (17 percent).

The percentage of RPOS concentrators who enrolled in postsecondary education rose from 12 percent in 2009–10 to 23 percent in 2010–11 and 35 percent in 2011–12 (Figure 6c).

Figure 6c. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who enrolled in postsecondary education by the fall following high school graduation and, among those who enrolled, the percentage who needed developmental education in math in the Montana RPOS districts: 2009–10, 2010–11, and 2011–12



¹ Among those who enrolled in postsecondary education.

² Data on postsecondary enrollment not submitted for all other students in 2009–10. The 2009–10 data were from the CTE graduate exit survey. The 2010–11 and 2011–12, the postsecondary enrollment data are from the National Student Clearinghouse.

NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.

SOURCE: Montana Office of Public Instruction.

The 2011–12 postsecondary enrollment rate for RPOS concentrators was similar to that found for concentrators in other CTE programs (37 percent) and 4 points under that found for all other students (42 percent). Once enrolled, about 13 percent of RPOS concentrators in 2011-12 needed developmental coursework in math, compared to 31 percent of concentrators in other CTE programs and 22 percent of all other students. However, the rate for RPOS concentrators has risen and fallen dramatically over the three years examined, so the low rate for 2011–12 does not appear to be a consistent trend.

Other Student Outcomes

In 2009–10, about 9 percent of the 45 percent of RPOS students who had access to a technical skill assessment took and passed an assessment (Appendix A Table A-7c). Montana subsequently discontinued the use of what had become an outdated and little-used technical skill assessment for construction and is working with NOCTI to develop a new technical skills assessment for the Construction Big Sky Pathway that will be piloted in spring 2014. As a result, technical skills assessments data were not available for RPOS concentrators in 2010–11 and 2011–12. The RPOS team anticipates that most of the students taking the assessment will be construction program concentrators, but it will be open to other students as well.

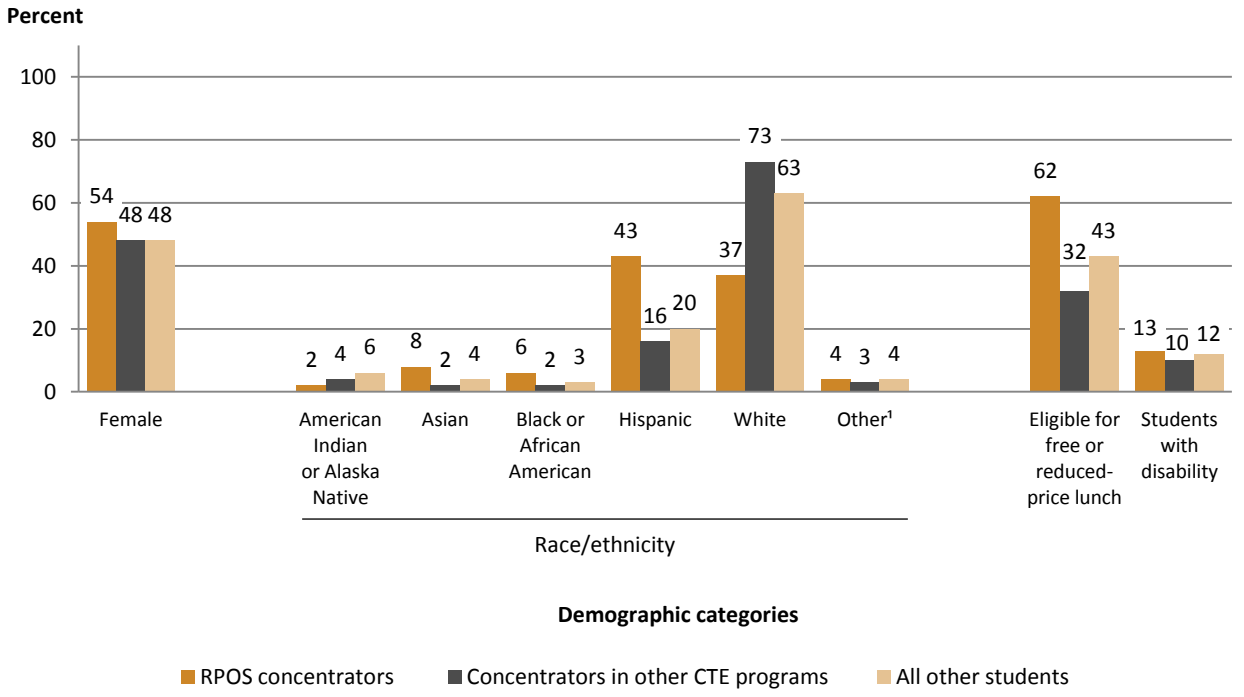
Sixty percent of the RPOS concentrators and 53 percent of the CTE concentrators who enrolled in a postsecondary program also enrolled in a program related to their secondary POS in 2011–12. Even higher percentages were found for 2010–11(Appendix A Table A-7c). These high percentages of related program enrollments reflect Montana's unique definition of a related program, which encompasses a wide range of programs in technical fields and also includes the most common undergraduate major, business. In contrast, other states use a stricter 2-digit CIP code match that requires related programs to be in the same field.[11] Finally, for postsecondary completion among 2009–10 graduates, none of the RPOS concentrators had earned a postsecondary credential within 2 years of enrolling, but 4 percent of concentrators in other CTE programs and 2 percent of all other students had.

[11] Although the research team suggested the 2-digit CIP matching approach to the Montana team, the Montana analysts felt that this approach did not accurately reflect the range of postsecondary programs related to secondary CTE programs.

Utah

Utah reported student demographic and outcome data for 215 12th-grade RPOS concentrators (health sciences) in 2011–12. Females were slightly better represented among RPOS concentrators (54 percent) than among concentrators in other CTE programs and all other students (48 percent each) in 2010–11 (Figure 7a).

Figure 7a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Utah: 2011–12



¹ Other includes Native Hawaiian/Pacific Islander and Two or more races.
SOURCE: Utah State Office of Education.

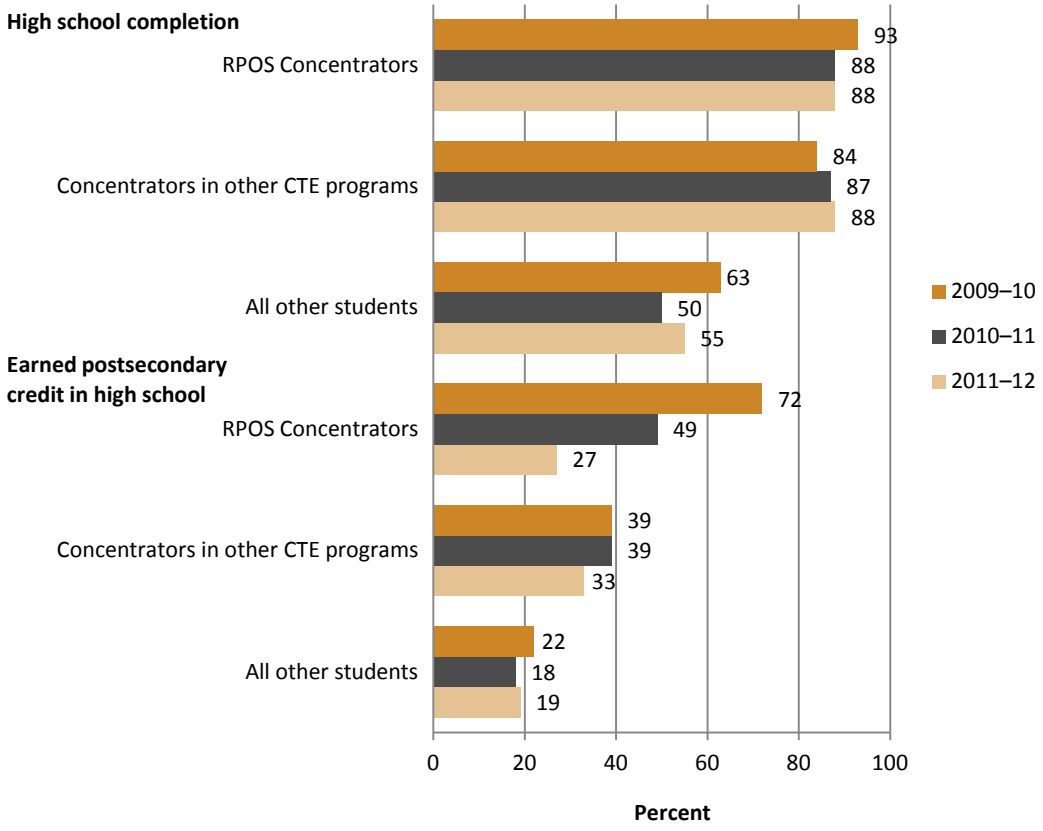
A relatively high proportion of RPOS concentrators were Hispanic (43 percent) in comparison to the other two groups (16 and 20 percent for concentrators in other CTE programs and all other students, respectively). Disability rates were similar across the three groups (10 to 13 percent), but a higher proportion of RPOS concentrators (62 percent) than concentrators in other CTE programs (32 percent) and all other students (43 percent) were free or reduced-price lunch eligible.

The remaining student demographic and outcome variables are summarized in Appendix A Table A-8b. English for speakers of other languages (ESOL) eligibility was identical across the three groups (3 percent each). The overall average attendance rate range was highest among RPOS students (95 to 100 percent, vs. 59 to 100 percent for concentrators in other CTE programs and 61 to 100 percent all other students, and *ESEA*-reported assessment scores were not reported.

Student Outcome Trends

The percentage of RPOS concentrators who earned postsecondary credits during high school declined from about 72 percent in 2009–10, to 49 percent in 2010–11, and 27 percent in 2011–12 (Figure 7b).

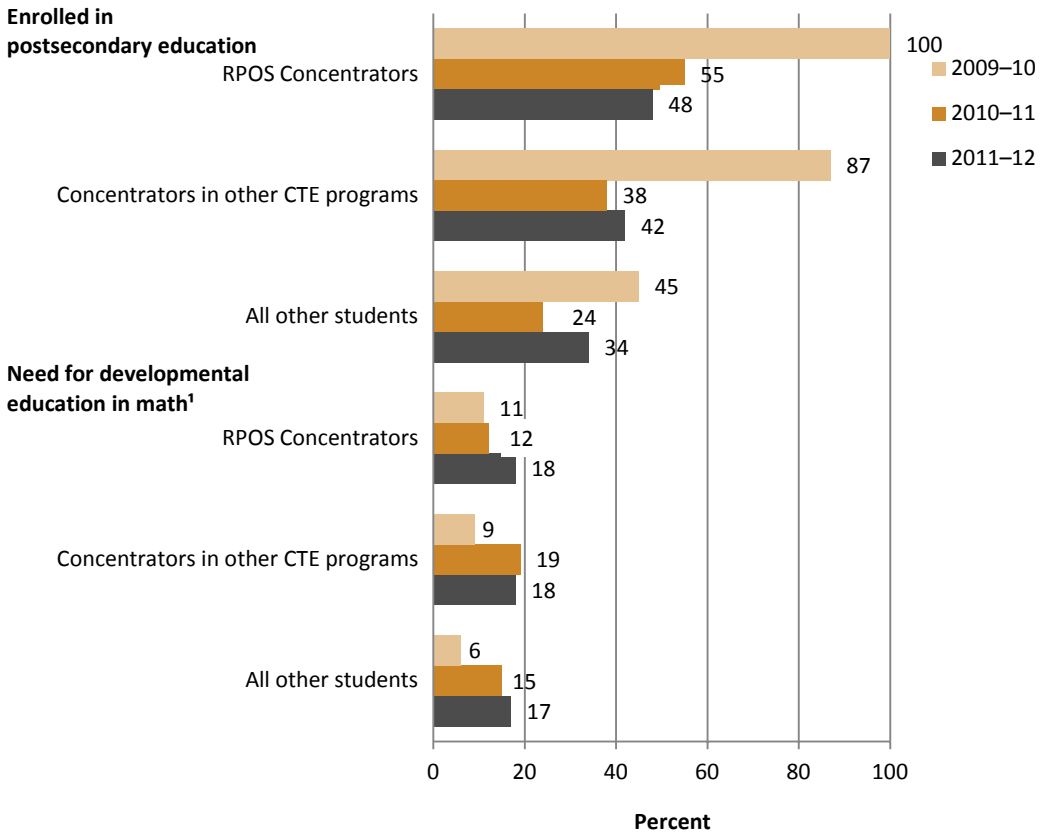
Figure 7b. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who graduated from high school and who earned postsecondary credits in high school in the Utah RPOS districts: 2009–10, 2010–11, and 2011–12



NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Utah State Office of Education.

Despite the drop in rate, RPOS concentrators in 2011–12 earned these credits at a higher rate than students who did not concentrate in a CTE program (19 percent), but at a lower rate than concentrators in other CTE programs (33 percent). RPOS and concentrators in other CTE programs had identical high school graduation rates in 2011–12 (about 88 percent each), and graduated at higher rates than all other students (55 percent). Postsecondary enrollment rates have dropped dramatically from 2009–10 rates for all three groups, and from 100 to 48 percent among RPOS concentrators in 2011–12 (Figure 7c). RPOS concentrators enrolled in higher education at a rate higher than that found for the other two groups in all three years.

Figure 7c. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who enrolled in postsecondary education by the fall following high school graduation and, among those who enrolled, percentage who needed developmental education in math in the Utah RPOS districts: 2009–10, 2010–11, and 2011–12

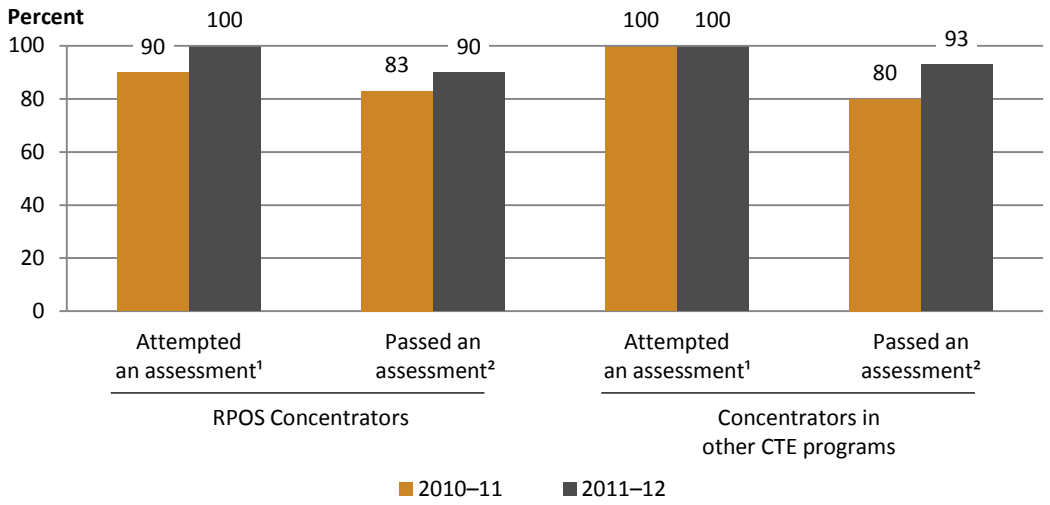


[1] Among those who enrolled in postsecondary education and enrolled in a public institution in Utah.
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Utah State Office of Education.

Once enrolled, some 18 percent of RPOS concentrators needed developmental coursework in math in 2011–12, as did similar proportions (17–18 percent) of the comparison groups. Developmental coursetaking rates have risen for all three groups since 2009–10. The 2013 site visit interviews did not suggest any changes in developmental coursetaking policies in the state, but the changes shown in Appendix A Table A-7c will be investigated during the next visit.

Finally, virtually all concentrators in the reporting districts had access to a technical skill assessment (Figure 7d). Among those who attempted an assessment, about 90 percent of RPOS concentrators and 93 percent of concentrators in other CTE programs passed. Pass rates went up for both groups from 2010–11 to 2011–12.

Figure 7d. Percentage of RPOS concentrators and concentrators in other CTE programs who attempted technical skill assessments and among those who attempted an assessment, percentage who passed in the Utah RPOS districts: 2010–11 and 2011–12



¹ Among those who had an assessment available.
² Among those who attempted an assessment.
SOURCE: Utah State Office of Education.

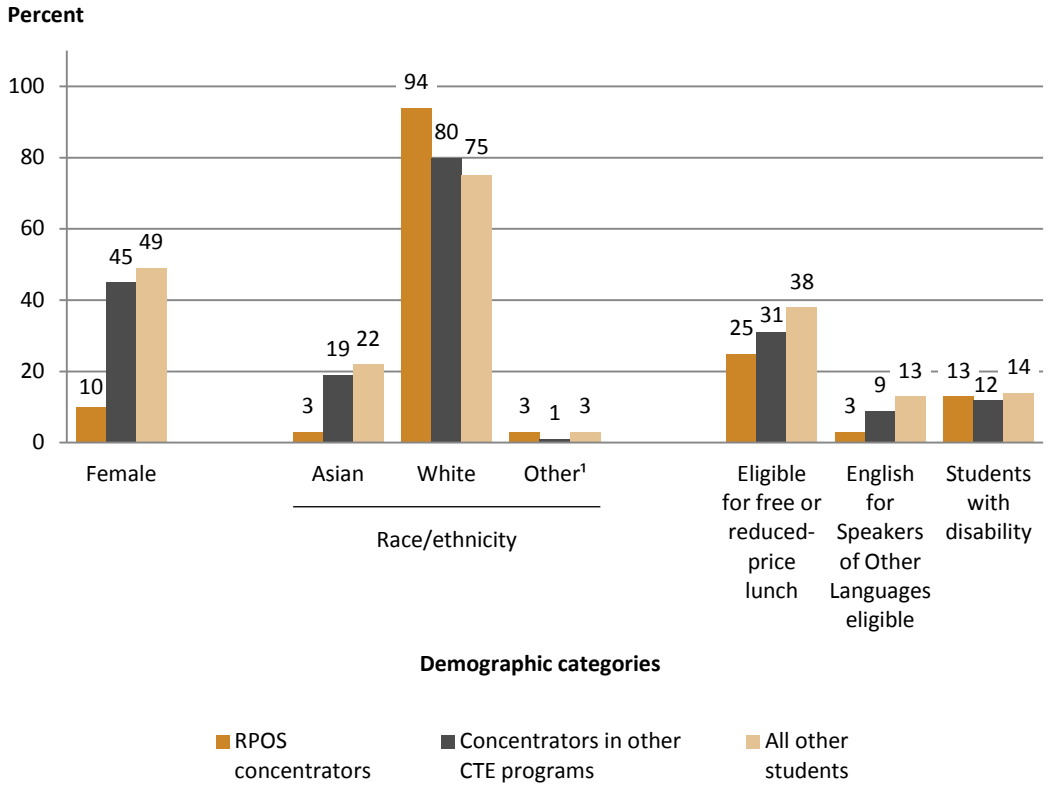
Other Student Outcomes

Data on students who enroll in postsecondary programs related to their secondary CTE programs were available for only a small proportion of students in 2009–10 and 2010–11, but the situation improved in the 2011–12 data submission. In 2011–12, of those who enrolled in postsecondary education, some 22 percent of RPOS concentrators and 18 percent of concentrators in other CTE programs were in postsecondary programs related to their secondary programs (Appendix A Table A-8c). In terms of postsecondary completion, some 15 percent of RPOS and 1 percent of concentrators in other CTE programs who graduated in 2009–10 had completed a postsecondary degree within 2 years of enrollment, compared with 12 percent of all other students.

Wisconsin

Wisconsin submitted student demographic and outcome data on 69 12th-grade RPOS concentrators (advanced manufacturing) in 2011–12. Some 10 percent of RPOS concentrators were female, compared with about 45 percent of concentrators in other CTE programs and 49 percent of all other students (Figure 8a).

Figure 8a. Summary of selected demographic data for RPOS concentrators, concentrators in other CTE programs, and all other students in RPOS participating districts in Wisconsin: 2011–12



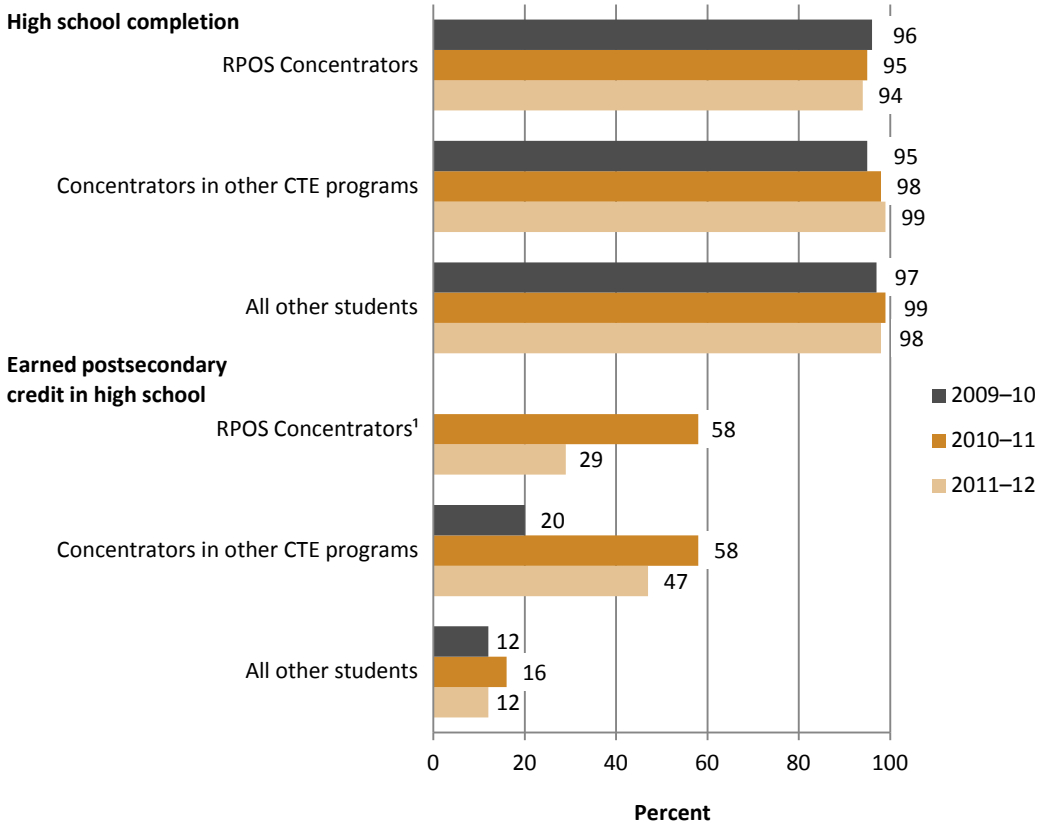
[1] Other includes American Indian or Alaska Native, Black or African American, Hispanic, Native Hawaiian/Pacific Islander.
SOURCE: Wisconsin Department of Public Instruction.

The majority of students in all three groups were white, with the highest proportion (94 percent) of white students found among RPOS concentrators. Asian students comprised about 3 percent of RPOS concentrators and 19 and 22 percent of concentrators in other CTE programs and all other students, respectively. A lower percentage of RPOS concentrators were free or reduced-price lunch (25 percent) or ESOL (3 percent) eligible than found among the comparison groups. Disability rates were similar across the groups compared (12 to 14 percent). Attendance rate ranges were also similar across the three groups (Appendix A Table A-9b) and in the mid- to high-90 percentage range, and test score ranges for *ESEA*-reported 10th grade math and English assessments largely overlapped.

Student Outcome Trends

High school graduation rates are very high (94 percent or higher) among all three groups in all three years (Figure 8b).

Figure 8b. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who graduated from high school and who earned postsecondary credits in high school in the Wisconsin RPOS districts: 2009–10, 2010–11, and 2011–12

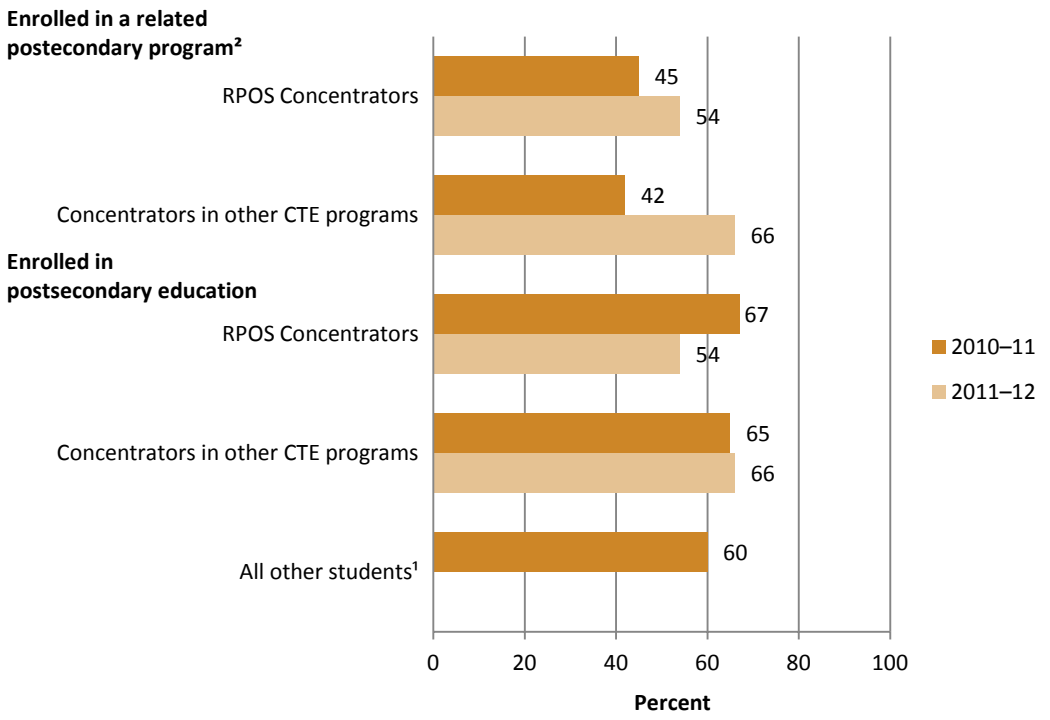


[1] Data for this measure was not submitted for RPOS concentrators in 2009–10.
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Wisconsin Department of Public Instruction.

The lowest rate in 2011–12 was found among RPOS concentrators (94 percent); completion rates for the other two groups were 98 to 99 percent. Twenty-nine percent of RPOS concentrators earned postsecondary credits in high school compared to about 47 percent of concentrators in other CTE programs, and 12 percent of all other students. Credit earning rates for all three groups dropped between 2010–11 and 2011–12, when 58 percent of both RPOS and other program concentrators earned postsecondary credits.

The postsecondary enrollment rate for RPOS concentrators was 54 percent in 2011–12, a drop of more than ten percentage points from the prior year (67 percent) (Figure 8c).

Figure 8c. Percentage of RPOS concentrators, concentrators in other CTE programs, and all other students who enrolled in postsecondary education by the fall following high school graduation in the Wisconsin RPOS districts: 2010–11, and 2011–12



¹ Because the source of these data changed from the National Student Clearinghouse to the CTE graduate follow-up survey, data for all other students was not available for 2011–12.
² Related to secondary CTE program; among students who enrolled in postsecondary education.
NOTE: Graduation rates reflect the U.S. Department of Education 2008 graduate rate regulations used for *Elementary and Secondary Education Act* reporting.
SOURCE: Wisconsin Department of Public Instruction.

This rate is also lower than that found for concentrators in other CTE programs, which was 66 percent in 2011–12. It should be noted, however, that the postsecondary enrollment data source changed from the NSC to the CTE graduate follow-up survey between these two years, which may have biased the results. Finally, about 54 percent of RPOS concentrators in 2011–12 who enrolled in a postsecondary program selected a program related to their secondary CTE program, a decline of 13 percentage points from the year before. In contrast, about 65 percent of concentrators in other CTE programs who enrolled in postsecondary education chose a related program in both years.

Other Student Outcomes

As part of their project activities, the Wisconsin team has developed a technical skill assessment app that was piloted in the 2012–13 year. Accordingly, accurate data on technical skill attainment are not yet available. Finally, the Wisconsin data systems do not collect information on developmental education coursetaking, and no alternative means of accessing this information have been instituted. In terms of postsecondary completion, Wisconsin submitted completion data for 2009–10 RPOS concentrators only, and some three

percent of these had earned a credential within two years of enrolling in postsecondary education (Appendix A Table A-9c).

Year 3 Quantitative Analysis Summary

Identifying year-to-year trends in student outcomes across the participating districts in each state is challenging given the diversity of districts involved. Districts participating in the project enroll from more than 50,000 enrollees to fewer than one hundred, and the range of student numbers means large differences in the number of faculty and other resources available. In addition, the site visits have revealed that rural districts face particular challenges in connecting with postsecondary partners, which may be located a considerable distance away (as is case in Wisconsin and Utah) or have just one or two CTE faculty members who teach all of the RPOS courses and courses for other CTE programs besides.

Despite these differences, the three-year trends identified in this report suggest some ways in which the RPOS programs are changing. For example, the percentage of secondary students earning postsecondary credits in high school rose dramatically among all three groups in Kansas from 2010–11 to 2011–12, and especially among RPOS concentrators (from 12 to 50 percent). Postsecondary enrollments, however, have declined and enrollment rates were lowest among RPOS concentrators. In Maryland, the proportion of RPOS concentrators taking and passing a technical skill assessment rose from 2010–11 to 2011–12 among RPOS students, but not among concentrators in other CTE programs. Finally, Montana saw the share of RPOS concentrators who earned postsecondary credits in high school increase from zero percent in 2010–11 to 13 percent in 2011–12. Although the changes observed cannot be linked to project activities using the available aggregate data, these findings are important topics for further exploration in future communications with the states and districts during the site visits, and should be addressed in the coming year's report.

This report is the first that has compared data across years for multiple program indicators, and the analysis reflects the efforts that states have made to improve their data submissions over the course of the project. The data submitted for the 2011–12 academic year in 2013 included more data, and more complete data, than the data submissions from the two prior years. This improvement reflects the states' success in securing expert help in accessing and compiling data, and the data analysts' efforts to develop and institute new strategies for collecting data that were initially thought to be inaccessible. For example, Kansas submitted data on the proportion of CTE graduates who enrolled in a postsecondary program related to their secondary program for the first time with the 2011–12 academic year data submission. These new data were the result of a secondary-postsecondary course matching strategy devised to account for the many postsecondary enrollees who do not declare a program or major until late in their postsecondary careers.

The states are, however, yet at various stages in developing their state longitudinal data systems (SLDSs), and as a result, data gaps and inconsistencies remain and several new issues have appeared. In terms of gaps, Arizona's lack of a postsecondary data system continues to stymie their team's data expert's efforts to collect comprehensive data on postsecondary student outcomes. In Maryland, the collection of data on

developmental education is still in the planning stages, and no viable alternative source for data on this outcome has been identified. In addition to these persistent challenges, several new issues appeared in the data submitted during project year 3. In Kansas, for example, student enrollment data submitted separately by the two agencies participating in the RPOS project, Kansas State Department of Education and Kansas Board of Regents, exhibited significant discrepancies in student counts that took considerable time and effort to resolve. In Wisconsin, the Wisconsin Technical College System ended their subscription to the National Student Clearinghouse (NSC). As a result, the team's data specialist reported student self-reported data on postsecondary enrollments collected through an exit survey and data for the all other students group was not available. These persistent and new data issues will continue to be a focus of the research team's work with the RPOS states in the coming year.

Next Steps

The 2013–14 site visits will provide an opportunity for the research team to investigate some of the patterns and trends highlighted in the data analyzed for this report. The site visits will offer the opportunity for researchers and local site visit participants to review the trend data tables together, and will be used to identify the potential reasons for the changes observed since the project began. Site visits will also continue to include consultations with data experts to check in on persistent data challenges, as well as any new data issues that emerged during the past year. Discussions with state data specialists may also help distinguish between year-to-year changes in student outcomes that reflect project effects versus those resulting from issues in how the data are collected. Accordingly, next year's report will strive to connect the quantitative results with state project activities and activities unique to particular districts, to the extent feasible.

In addition to these investigations, the analysis of 2012–13 data in year 4 will consider how project activities might have impacted student outcomes. The research team anticipates that the data submitted for 2012–13 will begin to reflect the full effects of states' considerable efforts in this project. Although the states' RPOS programs had many of the components identified in the RPOS framework[12] in place when the project started, none had all of the components in place. The years since have seen states initiate and develop a range of strategies for ensuring that the RPOS programs strengthen any weak or absent components. In addition, the coming year marks the first in which several key aspects of states' RPOS project work will be piloted or implemented, such as the technical skill app developed in Wisconsin and the new technical skill assessments selected for use in the Montana and Utah RPOS programs. Moreover, even if begun in year 1, project activities, such as professional development for teachers in math and literacy, take time to reach the classroom. RPOS instructors in Wisconsin and Maryland, for example, were initially trained and then coached on instituting new classroom practices, and likely will be ready to use those skills during the coming academic year (2012–13). Both the year 4 site visits and data collection will assist the research team in exploring how these changes will impact the RPOS programs and students.

Data Collection and Analysis in Year 4

A rigorous analysis of RPOS outcomes would require the use of quasi-experimental statistical techniques that would allow the research team to control for differences between the student groups and explore the causes of the patterns observed. While the aggregate state data that the team has been able to collect offer some insight into how student outcomes have changed over time, the analysis is limited to descriptive statistics that cannot attribute the changes to RPOS project activities. In addition, even if the research team were to collect student-level data, only a few of the states have the data reporting capacity to submit all of the data that would be

[12] http://cte.ed.gov/file/POS_Framework_Unpacking_1-20-10.pdf

required to conduct a more rigorous analysis. Given these limitations, the research team has worked closely with the participating states to collect the best quality data available and work with each district and state to consider how their work might link to the patterns observed. In this way, the analysis can suggest how the project and student outcomes are linked, and also enhance the states' data reporting capacity and abilities to access, understand, and use data for program improvement.

During the coming academic year, the research team will conduct site visits to each of the six states and collect student demographic and outcome data for the 2012–13 academic year. To facilitate the analysis of trends in student outcomes in year 4, the research team will send prior years' data along with the data request, and ask data analysts to ensure that the 2012–13 data are consistent with those reported in prior years. Should large and unexplained differences emerge, the research team will work with the data analysts to see if a reason for the difference can be found and, if needed, corrected.

In addition to the site visits and quantitative data work, the research team will continue to develop the web-based technical assistance materials that for the project. These materials are designed to assist states engaged in instituting programs of study with the program planning process, and also with using their state data systems for tracking program of study student outcomes. The research team also anticipates that these materials may help states with SLDS planning; a number of states are seeking to integrate CTE into their data systems, and the technical assistance materials will assist those states' efforts by suggesting key indicators.

Appendix A

Arizona

The Arizona RPOS initiative works with two pathways within the Education Career Cluster: Education Professions and Early Childhood Education (ECE) pathways in the Education Careers Cluster. These pathways prepare students for further education and careers in early childhood (pre-K to grade 8), elementary, and secondary education and related fields, and offer college credit through partnering postsecondary institutions. Activities have moved forward in the urban Peoria Unified School District, a suburban district near Phoenix with six high schools, all of which are participating in RPOS activities; and in the rural Tuba City High School that serves Navajo and Hopi communities in the northern part of the state. Activities at Lake Havasu Unified School District, a suburban district in a small city in western Arizona, have been slower to gain traction, largely due to staff changes at their postsecondary partner (Mohave Community College) and recent staff changes. In addition, the urban site changed its postsecondary partner from Estrella Mountain to Glendale Community College in compliance with a new Maricopa Community College District policy that reconfigured the colleges' service areas.

Project activities have focused on strengthening each program's curriculum, integrating academic and technical course content, offering professional development to local instructors and guidance counselors, and strengthening secondary and postsecondary linkages and dual credit opportunities. Changes in staff and policies have limited project activities at the urban and suburban sites, but both are working to enhance RPOS instructors' teaching and learning strategies and also to connect the RPOS curriculum with the Common Core State Standards.

Kansas

Kansas' RPOS project works with the Manufacturing Production Pathway within the Manufacturing Career Cluster in four secondary school districts: Nemaha Valley School District, located in a rural area; Emporia School District, located in a large rural area; Derby Public Schools, located in a suburban area; and Wichita Public Schools, located in an urban area. The six postsecondary participants—Butler Community College, Flint Hills Technical College, Hutchinson Community College, Manhattan Area Technical College, Wichita Area Technical College, and Fort Hays State University—are either partnering with an individual secondary RPOS site or are involved in the project through consultations with state project staff.

The Kansas team has addressed each of the 10 RPOS framework components to some extent, but professional development and career guidance have received the most emphasis during the past year. The team has also worked to integrate rigorous academic and technical content through math-in-manufacturing professional

development activities. Project activities have developed in the context of considerable statewide interest and support for CTE in Kansas, including a state-level CTE taskforce that is currently developing recommendations for strengthening K–12 CTE programs statewide. Counseling has been another point of emphasis in Kansas, with some sites extending RPOS outreach to the middle grades.

Maryland

Maryland's RPOS is the Facility and Mobile Equipment Maintenance Pathway within the Transportation, Distribution, and Logistics Career Cluster. Three initiative's three local sites are: Queen Anne's County, located in a rural area; Baltimore County, situated in a suburban setting; and Baltimore City, serving urban Baltimore. The Community College of Baltimore County and the Pennsylvania College of Technology serve as the project's postsecondary partners.

Maryland's team has worked to implement a rigorous and consistent automotive technology curriculum across the three districts participating in the initiative. This effort has included working with a consultant to incorporate reading for information and mathematics skills in the curriculum. To implement the new curriculum, the consultant has offered professional development workshops and coaching to RPOS faculty. The project team has also enhanced career guidance and counseling services for RPOS students, who have traditionally received little guidance support, through visits to postsecondary institutions and local industry partners. Ultimately, the RPOS team in Maryland hopes to introduce the curriculum state wide and has worked to introduce other districts to the project and encourage their participation.

Montana

Montana has chosen the Construction Pathway within the Architecture and Construction Career Cluster for its RPOS development and four LEAs: Billings Public Schools, located in an urban area; Great Falls Public Schools and Helena Public Schools, both located in suburban areas; and Townsend School District, located in a rural area. Within urban and suburban sites, multiple high schools are participating in the project. The postsecondary partner is the University of Montana, Helena College of Technology.

Montana's project activities have focused on teacher professional development addressing college and career readiness standards and teaching and learning strategies, and technical skill assessments. Participating high schools have adopted the Geometry in Construction model, which requires CTE and math teachers to co-teach geometry and building skills, for teaching mathematics skills in CTE. In addition, the project has worked closely with the Billings Career Center, which offers CTE courses and programs to all three high schools in the district, to work with high school sophomores and encourage career-pathway exploration. The RPOS project team is also finalizing a common technical skill assessment for the RPOS construction program with their assessment partner, NOCTI. Helena College has been an active partner in the project and is modifying its construction course sequence to facilitate transitions to 4-year programs.

Utah

Utah's RPOS initiative focuses on health sciences, which includes four state-approved pathways that include Biotech Research and Development, Diagnostics, Health Informatics, and Therapeutic Services in three districts: Weber School District in a suburban area near Ogden; Salt Lake City School District in an urban area; and San Juan School District in a rural area in the southeastern part of the state about three-hundred miles from Salt Lake City. Each of the local sites works with a postsecondary partner: Weber works with Weber State University, Salt Lake works with Salt Lake Community College, and San Juan works with the Utah State University, College of Eastern Utah-San Juan Campus.

As has been the case in other states, the participating districts have taken different approaches to the project. The suburban district has instituted a competitive health sciences program for a small cohort of 12th-grade students that offers enhanced dual credit opportunities. The district plans to extend the program to a second high school in the coming year. The urban district has emphasized guidance and secondary-postsecondary transitions and has instituted a number of events encouraging health sciences career and postsecondary education exploration. The rural district's program has experience staff changes which have slowed progress, but is currently developing a postsecondary partnership to expand students' dual credit opportunities.

Wisconsin

The Wisconsin RPOS initiative focuses on the Manufacturing Production Process Development Pathway within the Manufacturing Career Cluster, also known as the Advanced Manufacturing Pathway. The three LEAs participating in the project are D.C. Everest Area School District (suburban), East and West High Schools in the Wausau School District (urban), and Spencer School District (rural). Northcentral Technical College in Wausau is the primary postsecondary partner for all three districts for RPOS project activities.

The three districts have collaborated with local manufacturers to develop a rigorous technical skills assessment based on local manufacturers' need for employees with strong workplace readiness skills. Accordingly, the assessment emphasizes soft skills, such as communication, attitude, teamwork, and problem solving, rather than a set of technical skills associated with manufacturing work. The assessment is administered by instructors through a tablet computer application that allows real-time and cumulative data collection on students' progress throughout their program. In conjunction with their technical skill assessment activities, the Wisconsin team has also worked to ensure that advance manufacturing students learn a consistent set of workplace ready skills across the districts. Activities have also included professional development for instructors on teaching math and literacy skills in the manufacturing curriculum, developed new high school courses combing basic math and CTE skills, and adjusted course sequences and created new dual credit opportunities to support students' secondary-postsecondary transitions.

Table A-1. Definition of secondary participants and concentrators in each RPOS state

State	Participant	Concentrator
Arizona	Students who have earned one or more Carnegie units in any CTE program area.	Students who have earned two or more Carnegie units in any CTE program area.
Kansas	Students who have earned one or more CTE credits in any one CTE program area.	Students who have earned three or more credits in a single CTE program area.
Maryland	Any student enrolling in at least one course which is part of an identified CTE completer program.	Any student enrolling in a course at the concentrator course level for the CTE completer program (post 50 percent of a program sequence).
Montana	Students who have earned one or more CTE credits in any one CTE program area. For RPOS, a secondary 12th-grade student who has earned one (1) or more credits in a construction course.	Students who have earned three or more credits in a single CTE program area.
Utah	Students who have earned one or more CTE credits in any one CTE program area.	Students who have earned three or more credits in a single CTE program area.
Wisconsin	Students who enrolled in one or more CTE courses in any CTE program area in the reporting year.	Students who have completed two CTE courses within a single CTE program and enrolled in a third.

SOURCE: Arizona Department of Education; Kansas State Department of Education; Maryland State Department of Education; Montana Office of Public Instruction; Utah State Office of Education; and Wisconsin Department of Public Instruction.

Table A-2. 2010–11 demographic and background and outcome data submitted by states participating in the promoting rigorous programs of study project

Data elements	Number of states submitting complete data	Arizona	Kansas	Maryland[2]	Montana	Utah	Wisconsin
Demographic and background data							
Gender	6	✓	✓	✓	✓	✓	✓
Race/ethnicity	6	✓	✓	✓	✓	✓	✓
English for Speakers of Other Languages eligibility	6	✓	✓	✓	✓	✓	✓
Free or reduced-price lunch eligible	6	✓	✓	✓	✓	✓	✓
Disability status	6	✓	✓	✓	✓	✓	✓
Attendance	6	✓	✓	✓	✓	✓	✓
Average ESEA-reported state assessment scores							
Math	5	✓	✓	✓	✓	—	✓
English	5	✓	✓	✓	✓	—	✓
Total number of demographic and background measures for which complete data were submitted	**5**	**8**	**8**	**8**	**8**	**6**	**8**
Outcome data							
Secondary school completion	6	✓	✓	✓	✓	✓	✓
Technical skills attainment	4	✓	—	✓	—	✓	✓
Earned postsecondary credit during high school	6	✓	✓	✓	✓	✓	✓
Enrollment in postsecondary education	6	✓	✓	—	✓	✓	✓
Major related to secondary POS	5	—	✓	✓	✓	✓	✓
Need for developmental course work in postsecondary education	3	—	✓	—	✓	✓	—
Postsecondary completion	6	✓	✓	✓	✓	✓	✓
Total number of outcomes for which data were submitted		**5**	**6**	**5**	**6**	**7**	**6**

✓= baseline data submitted.

— Data not available or available for less than 85 percent of students.

[1] Postsecondary enrollment data for 2011–12 for Maryland will be available in January 2014 and submitted with the year 4 data submission.

SOURCE: Calculations by the authors.

Table A-3. Total enrollments in grades 9–12, and the number of 9th–12th-grade students who were RPOS participants and concentrators and CTE concentrators across the RPOS project districts in each state: 2011–12

	Arizona				Kansas[1]					Maryland			
Student group	**Rural**	**Suburban**	**Urban**	**Total**	**Rural**	**Rural-Suburban**	**Suburban**	**Urban**	**Total**	**Rural**	**Suburban**	**Urban**	**Total**
Total students in grades 9–12	834	1,984	13,260	16,078	173	1,276	2,010	3,235	6,694	2,409	30,899	23,316	56,624
RPOS participants	95	87	870	1,052	9	69	12	146	236	35	115	73	223
RPOS concentrators	41	31	257	329	2	0	0	44	46	17	69	46	132
Concentrators in other CTE programs	120	270	3,877	4,267	6	0	56	99	161	487	4,490	3,553	8,530
All other students	578	1,596	8,256	10,430	156	1,207	1,942	2,946	6,251	1,870	26,225	19,644	47,739
All concentrators as percent of total students grades 9-12	19.3%	15.2%	31.2%	28.6%	4.6%	0.0%	2.8%	4.4%	3.1%	20.9%	14.8%	15.4%	15.3%
RPOS concentrators as percent of all concentrators	25.5%	10.3%	6.2%	7.2%	25.0%	n/a	0.0%	30.8%	22.2%	3.4%	1.5%	1.3%	1.5%
RPOS concentrators as percent of total students grades 9-12	4.9%	1.6%	1.9%	2.0%	1.2%	0.0%	0.0%	1.4%	0.7%	0.7%	0.2%	0.2%	0.2%

See notes at end of table.

Table A-3. Total enrollments in grades 9–12, and the number of 9th–12th-grade students who were RPOS participants and concentrators and CTE concentrators across the RPOS project districts in each state: 2011–12—continued

	Montana					Utah				Wisconsin[2]			
Student group	**Rural**	**Suburban[1]**	**Suburban[2]**	**Urban**	**Total**	**Rural**	**Suburban[1]**	**Urban**	**Total**	**Rural**	**Suburban**	**Urban**	**Total**
Total students in grades 9–12	51	825	710	1,229	2,815	614	5,774	3,762	10,150	112	906	1,376	2,394
RPOS participants	8	36	112	13	169	108	1,453	776	2,337	32	141	232	405
RPOS concentrators	2	16	40	28	86	11	25	179	215	24	53	26	103
Concentrators in other CTE programs	12	400	131	475	1,018	154	1,363	663	2,180	22	137	243	402
All other students	29	373	427	713	1,542	341	2,933	2,144	5,418	80	765	1,144	1,989
All concentrators as percent of total students grades 9-12	27.5%	50.4%	24.1%	40.9%	39.2%	26.9%	24.0%	22.4%	23.6%	41.1%	21.0%	19.5%	21.1%
RPOS concentrators as percent of all concentrators	14.3%	3.8%	23.4%	5.6%	7.8%	6.7%	1.8%	21.3%	9.0%	52.2%	27.9%	9.7%	20.4%
RPOS concentrators as percent of total students grades 9-12	3.9%	1.9%	5.6%	2.3%	3.1%	1.8%	0.4%	4.8%	2.1%	21.4%	5.8%	1.9%	4.3%

n/a Not applicable.

[1] The total number of RPOS concentrators presented in this table and in the student outcome data table do not match. The Kansas data are from two sources: the Kansas Board of Regents (KBOR), which produces the demographic and outcome tables, and the Kansas State Department of Education (KSDE), which as submitted the enrollment data. The KSDE data are presented here for year-to-year consistency, but the demographic and outcome data tables show the KBOR data. The differences likely result from the two data systems using different definitions of concentrators, but the research team's effort to resolve the discrepancy have not yet been successful.

[2] Utah's suburban district is focusing project efforts on a subset of RPOS concentrators. Therefore, the number of RPOS concentrators is lower than the total number of health sciences concentrators in the district.

[3] All CTE concentrators in Wisconsin are also counted as p articipants, so the totals in each column equal RPOS participants plus all other students.

SOURCE: Arizona Department of Education; Kansas State Department of Education; Maryland State Department of Education; Montana Office of Public Instruction; Utah State Office of Education; and Wisconsin Department of Public Instruction.

Table A-4a. Arizona: Student characteristics for 11th- and 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100.0%	454	100.0%	3,343	100.0%	3,793
Gender						
Male	8.6%	39	56.4%	1,884	50.8%	1,928
Female	91.4%	415	43.6%	1,459	49.2%	1,865
Race/ethnicity						
White	63.2%	287	65.7%	2,195	61.7%	2,339
Native Hawaiian/Pacific Islander[1]		^	0.0%	0	0.0%	0
Black or African American	2.6%	12	4.8%	161	5.9%	224
Asian		^	4.0%	135	3.1%	119
American Indian or Alaska Native	11.5%	52	5.3%	178	6.1%	230
Hispanic	21.1%	96	20.2%	674	23.2%	881
Eligible for free or reduced-price lunch[2]	35.0%	159	27.1%	906	34.4%	1,306
English for speakers of other languages (ESOL) eligible	2.4%	11	0.7%	25	2.3%	86
Students with a disability	7.7%	35	8.4%	282	14.6%	555
Attendance (percent days attended)[3]		86–97%		85–97%		85–94%
Average ESEA-reported state assessment scores[3, 4]						
10th-grade math		673–714		684–729		697–702
10th-grade English		689–719		693–719		688–711

[1] 2009–10 data were reported using the Office of Management and Budget's 1977 standard that did not include this category. The 2010–11 data will use the 1997 Office of Management and Budget Revisions.

[2] Data on free and reduced-price lunch submitted for suburban and urban districts only.

[3] Ranges of averages across districts.

[4] Because of the way the submitted data were aggregated, attendance and test score averages exclude RPOS participants.

SOURCE: Arizona Department of Education.

Table A-4b. Arizona: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2011–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100%	145	100%	1150	100%	2,331	100%	198	100%	1,887	100%	1,310
Gender												
Male	10%	15	58%	662	50%	1,156	9%	18	57%	1,084	46%	607
Female	90%	130	42%	488	50%	1,175	91%	180	43%	803	54%	703
Race[1]												
White	65%	94	71%	816	61%	1,411	67%	133	64%	1,216	63%	823
Native Hawaiian/Pacific Islander	0%	0	0%	0	0%	0	0%	0	0%	4	1%	8
Black or African American	3%	4	5%	58	6%	133	3%	6	3%	66	5%	66
Asian	1%	2	3%	40	3%	78	1%	1	3%	66	3%	35
American Indian or Alaska Native	6%	9	1%	13	10%	228	10%	19	4%	71	7%	91
Hispanic	25%	36	19%	223	21%	481	20%	39	25%	464	22%	287
Eligible for reduce-priced or free lunch	30%	43	22%	257	55%	1,286	38%	76	30%	568	36%	471
English for Speakers of Other Languages (ESOL) eligible	2%	3	0%	1	1%	28	0%	0	0%	3	1%	14
Students with a disability	10%	14	9%	108	13%	301	8%	15	8%	160	18%	238
Attendance (percent days attended)[1]		92–95%		88–96%		82–85%		91-96%		92-95%		86-94%
Average ESEA-reported state assessment scores[1,2]												
10th-grade math		630–699		650–721		578–700		487-519		505-526		506-524
10th-grade reading		705–719		665–724		602–719		692-729		685-733		701-729

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Ranges of averages across districts.

[2] Test scores available for 85 percent or more of students, with the exception of the rural district in 2010-11, where scores for each test were available for about 80 percent of students.

SOURCE: Arizona Department of Education

Table A-4c. Arizona: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	238	100%	1,766	100%	1,746	100%	145	100%	1,150	100%	2,331	100%	198	100%	1,887	100%	1,310
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma[1]	96%	229	97%	1,711	74%	1,297	93%	135	92%	1,063	78%	1,820	97%	192	94%	1,767	81%	1,063
Technical skills attainment																		
Technical skills assessment available	100%	238	72%	1,276		†	100%	145	100%	1,150		†	100%	198	99%	1,877		†
Attempted a technical skills assessment (among those for whom an assessment was available)	52%	124	39%	504		†	68%	99	59%	684		†	67%	132	48%	908		†
Passed an assessment/ certification and/or received a certificate (among those who attempted an assessment)	83%	103	82%	413		†	97%	96	88%	599		†	83%	110	86%	781		†
Earned postsecondary credit in high school		—		—		—		—		—		—		—		—		—
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education	71%	170	59%	1,047	78%	1,355	60%	87	58%	670	47%	1,098	51%	100	49%	918	36%	469
Enrolled in postsecondary education program related to their secondary POS		—		—		—		—		—		†		—		—		†
Need for developmental course work in postsecondary education																		
Enrolled in developmental course for math		—		—		—		—		—		—		—		—		—
Enrolled in developmental course for reading		—		—		—		—		—		—		—		—		—

See notes at end of table.

Table A-4c. Arizona: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12—continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Postsecondary credential attainment[1]																		
Certificate awarded by a postsecondary institution	3%	6	5%	95	1%	18	†	†	†	†	†	†	†	†	†	†	†	†
Third-party issued industry recognized certification	0%	0	0%	0	0%	0	—	—	—	—	—	—	—	—	—	—	—	—
Associate's degree	3%	7	6%	101	1%	26	†	†	†	†	†	†	†	†	†	†	†	†
Other credential	0%	0	0%	8	0%	2	†	†	†	†	†	†	†	†	†	†	†	†
Total credentials earned	5%	13	12%	204	3%	46	†	†	†	†	†	†	†	†	†	†	†	†

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

[1] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

SOURCE: Arizona Department of Education.

Table A-5a. Kansas: Student characteristics for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100%	55	100%	286	100%	2,598
Gender						
Male		^	45%	130	54%	1,411
Female		^	55%	156	46%	1,187
Race/ethnicity						
White	80%	44	54%	154	60%	1,564
Native Hawaiian/Pacific Islander	0%	0		^		^
Black or African American		^	18%	52	14%	358
Asian		^		^	3%	82
American Indian or Alaska Native	0%	0		^		^
Hispanic		^	17%	49	18%	460
Multi-racial		^	7%	19	3%	83
Eligible for reduced-price or free lunch	36%	20	52%	149	44%	1,138
English for speakers of other languages (ESOL) eligible		^		^	5%	140
Students with a disability	20%	11	10%	29	15%	402
Attendance (percent days attended)[1]		92–95%		92–95%		92–94%
Average ESEA-reported state assessment scores[1, 2]						
8th-grade math		61–74%		62–74%		52–64%
8th-grade reading		64–74%		71–82%		64–85%
High school math		58–71%		48–70%		46–67%
High school reading		57–81%		70–84%		70–93%

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Ranges of averages across districts. Because of the way the submitted data were aggregated, data exclude RPOS participants.

[2] The percentage of students for which test scores were available are 82.4 percent for 8th-grade math; 82.3 percent for 8th-grade reading; 86.4 percent for high school math; and 89.0 percent for high school reading.

SOURCE: Kansas State Department of Education.

Table A-5b. Kansas: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2011–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100%	33	100%	228	100%	1,132	100%	125	100%	192	100%	1,199
Gender												
Male		^	43%	98	52%	592	88%	110	45%	86	49%	586
Female		^	55%	125	48%	545	12%	15	55%	106	51%	613
Race[1]												
White	79%	26	69%	157	71%	800	34%	43	49%	94	48%	571
Native Hawaiian/Pacific Islander	0%	0		^		^	0%	0	1%	2	0%	5
Black or African American		^	26%	60	16%	186	9%	11	22%	43	19%	223
Asian	0%	0		^		^	7%	9	3%	6	3%	39
American Indian or Alaska Native		^		^	13%	148	20%	25	9%	18	11%	134
Hispanic		^	19%	44	17%	194	30%	37	15%	29	19%	227
Eligible for reduce-priced or free lunch	58%	19	53%	121	40%	448	55%	69	50%	96	50%	604
English for Speakers of Other Languages (ESOL) eligible		^		^	14%	157	10%	12	3%	5	6%	77
Students with a disability		^		^	13%	148	10%	12	10%	19	17%	207
Attendance (percent days attended)[2]		88–94%		93–96%		86–92%		89–98%		88–97%		84–94%
Average ESEA-reported state assessment scores[2,3]												
10th-grade math		46–72		51–71		51–69		59–90		53–75		50–73
10th-grade reading		71–81		72–86		71–79		71–87		71–86		71–88

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Students may have more than one race/ethnicity category.

[2] Ranges of averages across districts.

[3] Test scores available for 85 percent or more of students, with the exception of the urban district. In the urban district, English test scores were available for 82 percent of students and math scores for 84 percent in 2010-11 and 81 percent of studnets for both reading and math in 2011-12.

NOTE: The total number of RPOS concentrators presented in this table and in the enrollment data table do not match. The Kansas data are from two sources: the Kansas Board of Regents (KBOR), which produces the demographic and outcome tables, and the Kansas State Department of Education (KSDE), which as submitted the enrollment data. The KSDE data are presented here for year-to-year consistency, but the demographic and outcome data tables show the KBOR data. The differences likely result from the two data systems using different definitions of concentrators, but the research team's effort to resolve the discrepancy have not yet been successful.

SOURCE: Kansas State Department of Education.

Table A-5c. Kansas: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011-12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	55	100%	285	100%	1,235	100%	33	100%	228	100%	1,132	100%	125	100%	192	100%	1,199
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma	96%	53	95%	271	78%	961	91%	30	96%	219	80%	900	92%	115	95%	182	81%	976
Technical skills attainment																		
Technical skills assessment available		—		—		†		—		—		†		—		—		†
Attempted a technical skills assessment		—		—		†		—		—		†		—		—		†
Passed an assessment/certification and/or received a certificate		—		—		†		—		—		†		—		—		†
Earned postsecondary credit in high school[1]	18%	10	46%	130	10%	127	12%	4	18%	42	18%	208	50%	62	43%	83	34%	407
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education[1]	55%	30	52%	148	40%	495	42%	14	18%	42	18%	208	44%	55	31%	59	27%	328
Enrolled in postsecondary education program related to their secondary POS[2]		—		—		†		0		—		†	31%	17	56%	33		†
Need for developmental course work in postsecondary education																		
Enrolled in a developmental course for math[2]		—		—		—	7%	1	33%	14	38%	78	11%	6	25%	15	21%	69
Enrolled in a developmental course for reading[2]		—		—		—	7%	1	24%	10	14%	30	4%	2	3%	2	4%	14

See notes at end of table.

Table A-5c. Kansas: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011-12—continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Postsecondary credential attainment[3]																		
Certificate awarded by a postsecondary institution	0%	0	0%	0	0%	0	†		†		†		†		†		†	
Third-party issued industry recognized certification	5%	3	6%	18	6%	69	—		—		—		—		—		—	
Associate's degree	2%	1	4%	12	2%	30	†		†		†		†		†		†	
Other credential	0%	0	0%	0	0%	0	†		†		†		†		†		†	
Total credentials earned	7%	4	11%	30	8%	99	†		†		†		†		†		†	

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

[1] Data for the number of students who earned postsecondary credits in high school or enrolled in postsecondary education are available for 45 to 65 percent of students, depending on the district. See text for more information.

[2] Percentages are among those who enrolled in postsecondary education. Available only for students who enrolled in a public postsecondary institution in Kansas.

[3] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

NOTE: The total number of RPOS concentrators presented in this table and in the enrollment data table do not match. The Kansas data are from two sources: the Kansas Board of Regents (KBOR), which produces the demographic and outcome tables, and the Kansas State Department of Education (KSDE), which as submitted the enrollment data. The KSDE data are presented here for year-to-year consistency, but the demographic and outcome data tables show the KBOR data. The differences likely result from the two data systems using different definitions of concentrators, but the research team's effort to resolve the discrepancy have not yet been successful.

SOURCE: Kansas State Department of Education.

Table A-6a. Maryland: Student characteristics for 11th- and 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100%	130	100%	7,162	100%	19,293
Gender						
Male	90%	117	47%	3,341	50%	9,636
Female	10%	13	53%	3,821	50%	9,657
Race/ethnicity						
White	52%	67	41%	2,933	37%	7,076
Native Hawaiian or other Pacific Islander		^	0%	0		^
Black or African American	45%	58	56%	3,988	59%	11,367
Hispanic		^	2%	178	3%	561
Asian		^	3%	181	4%	710
American Indian or Alaska Native	^	^		34		^
Multi-race	0%	0	0%	26	0%	79
Eligible for free lunch	40%	52	47%	3,373	48%	9,194
English for speakers of other languages (ESOL) eligible		^	1%	36	1%	267
Students with a disability	12%	15	11%	788	14%	2,759
Attendance (percent days attended)[1]		83–94%		87–93%		87–93%
ESEA-reported state assessment outcomes[2]						
Grade 9 algebra						
Failed	9%	12	18%	1,279	23%	4,181
Passed (scored at the proficient level or higher)	91%	118	82%	5,862	77%	14,186
Grade 10 English						
Failed	17%	22	22%	1,593	25%	4,641
Passed (scored at the proficient level or higher)	83%	108	78%	5,543	75%	13,610

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Ranges of averages across districts. Because of the way the submitted data were aggregated, attendance data for all other students exclude RPOS participants.

[2] Test scores were available for more than 90 percent of students for both assessments.

SOURCE: Maryland State Department of Education.

Table A-6b. Maryland: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2011–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	61	100%	4,375	100%	9,448	100%	65	100%	4,703	100%	9,099
Gender												
Male	100%	61	48%	2,099	48%	4,537	97%	63	49%	2,321	49%	4,438
Female	0%	0	52%	2,276	52%	4,911	3%	2	51%	2,382	51%	4,661
Race/ethnicity												
White	36%	22	37%	1,618	31%	2,923	49%	32	34%	1,622	31%	2,854
Native Hawaiian or other Pacific Islander		^	0%	0		^	0%	0	0%	2	0%	5
Black or African American	61%	37	57%	2,484	61%	5,809	48%	31	59%	2,782	60%	5,501
Hispanic	0%	0	3%	118	3%	271	2%	1	3%	127	3%	283
Asian		^	3%	113	4%	366	2%	1	2%	116	4%	380
American Indian or Alaska Native		^	0%	19		^	0%	0	0%	23	0%	24
Multi-race	0%	0	1%	23	1%	48	0%	0	1%	31	1%	52
Eligible for free lunch	36%	22	39%	1,728	39%	3,711	35%	23	53%	2,483	48%	4,395
English for Speakers of Other Languages (ESOL) eligible	0%	0	1%	27	1%	97	0%	0	0%	21	1%	119
Students with a disability		^	12%	512	14%	1,343	15%	10	11%	503	13%	1,204
Attendance (percent days attended)[1]		83–94%		87–93%		87–93%		67–94%		86–93%		86–94%
ESEA-reported state assessment outcomes[2]												
Grade 9 algebra												
Failed	13%	8	17%	749	21%	1,893	15%	10	21%	1,007	25%	2,302
Passed (scored at the proficient level or higher)	87%	53	83%	3,598	79%	7,070	85%	55	79%	3,696	75%	6,797
Grade 10 English												
Failed	13%	8	20%	857	23%	2,050	22%	14	23%	1,096	26%	2,363
Passed (scored at the proficient level or higher)	87%	53	80%	3,487	77%	6,883	78%	51	77%	3,607	74%	6,736

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Ranges of averages across districts.

[2] Test scores were available for more than 90 percent of students for both assessments.

SOURCE: Maryland State Department of Education.

Table A-6c. Maryland: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, 2011–12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	72	100%	4,115	100%	9,474	100%	61	100%	4,375	100%	9,448	100%	65	100%	4703	100%	9,099
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma	99%	71	95%	3,926	90%	8,493	87%	53	93%	4,089	87%	8,181	91%	59	94%	4,405	88%	7,992
Technical skills attainment																		
Technical skills assessment available	96%	69	62%	2,559		†	95%	58	42%	1,855		†	100%	65	87%	4,098		†
Among those for whom an assessment was available, attempted a technical skills assessment	55%	38	26%	666		†	33%	19	25%	471		†	66%	43	25%	1,031		†
Among those who attempted an assessment, passed an assessment/certification and/or received a certificate	63%	24	65%	435		†	74%	14	85%	400		†	79%	34	74%	767		†
Earned postsecondary credit in high school[1]	22%	16	26%	1,077	19%	1,836	10%	6	26%	1,153	25%	2,359	9%	6	23%	1,087	26%	2,354
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education	43%	31	52%	2,136	51%	4,860		—		—		—		—		—		—
Enrolled in a postsecondary education program related to their secondary POS[2]	3%	1	3%	64		†		—		—		—		—		—		—

See notes at end of table.

Table A-6c. Maryland: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, 2011–12—continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Need for developmental course work in postsecondary education																		
Enrolled in a developmental course for English		—		—		—	—	—	—	—	—	—	—	—	—	—	—	—
Enrolled in a developmental course for math		—		—		—	—	—	—	—	—	—	—	—	—	—	—	—
Postsecondary credential attainment[3]																		
Certificate awarded by a postsecondary institution	0%	0	0%	6	0%	4	†	†	†	†	†	†	†	†	†	†	†	†
Third-party issued industry recognized certification	3%	2	0%	15	0%	15	†	†	†	†	†	†	†	†	†	†	†	†
Associate's degree	0%	0	0%	19	0%	40	†	†	†	†	†	†	†	†	†	†	†	†
Other credential	0%	0	0%	0	0%	0	†	†	†	†	†	†	†	†	†	†	†	†
Total credentials earned	3%	2	1%	40	1%	59	†	†	†	†	†	†	†	†	†	†	†	†

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

[1] Data on postsecondary credits earned in high school were available for less than 85 percent of students in 2009–10, 2010–11, and 2011-12.

[2] Percentages are among those who enrolled in postsecondary education. Available only for those who enrolled in a public postsecondary institution in Maryland.

[3] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

SOURCE: Maryland State Department of Education.

Table A-7a. Montana: Student characteristics for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students[1]	
Student characteristic	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	33	100%	779	100%	1,003
Gender						
Male		^	50%	393	46%	457
Female		^	50%	386	54%	546
Race/ethnicity						
White	97%	32	88%	688	88%	879
Native Hawaiian/Pacific Islander	0%	0		^		^
Black or African American	0%	0		^		^
Asian		^	2%	13	1%	13
American Indian or Alaska Native		^	5%	40	5%	52
Data not submitted	0%	0	3%	27	4%	38
Eligible for free or reduced-price lunch		^	18%	131	16%	161
English for speakers of other languages (ESOL) eligible	0%	0	2%	12		^
Students with a disability	18%	6	9%	67	11%	115
Attendance (percent days attended)		—		—		—
Average ESEA-reported state assessment scores[1]						
10th-grade math		245–251		254–260		256–265
10th-grade English		265–269		271–282		275–280

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Average score ranges across districts; 10th-grade assessment scores are available for 94 percent of students.

NOTE: Data limited to 12th-grade students only because Montana collects data on CTE concentrators in that grade only.

SOURCE: Montana Office of Public Instruction.

Table A-7b. Montana: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2011–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students[1]		RPOS concentrators		Concentrators in other CTE programs		All other students[1]	
Student characteristic	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	35	100%	1,188	100%	1,549	100%	86	100%	1,018	100%	1,542
Gender												
Male		^	55%	650	45%	703	93%	80	51%	518	44%	684
Female		^	45%	538	55%	846	7%	6	49%	500	56%	858
Race												
White	94%	33	87%	1,035	86%	1,334	91%	78	86%	872	85%	1,307
Native Hawaiian/Pacific Islander	0%	0		^		^	0%	0	0%	5	0%	5
Black or African American	0%	0	2%	21	2%	26	2%	2	1%	14	1%	21
Hispanic	0%	0	3%	41	4%	62	3%	3	3%	34	5%	73
Asian	0%	0	1%	13	1%	15	1%	1	1%	11	2%	24
American Indian or Alaska Native		^	6%	73	7%	104	2%	2	8%	77	6%	98
Two or more races		^		^		^	0%	0	0%	5	1%	14
Data not submitted	0%	0	0%	0	0%	0	0%	0	0%	0	0%	0
Eligible for free or reduced-priced lunch		^	19%	231	19%	294	16%	14	24%	240	22%	345
English for Speakers of Other Languages (ESOL) eligible		^	1%	17	1%	15	0%	0	1%	11	2%	25
Students with a disability		^	1%	11	10%	157	19%	16	11%	115	11%	173
Attendance (percent days attended)		—		—		—		90–94%		87–94%		83–92%
Average ESEA-reported state assessment scores[2]												
10th-grade math		254–264		254–271		257–268		238–258		246–257		257–271
10th-grade English		204–272		269–277		274–285		231–257		260–274		273–284

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Does not include RPOS participants.

[2] Average score ranges across districts; 10th-grade assessment scores were not available for concentrators in the rural district in 2009–10. For the remaining districts, data were available for 79 percent of students.

NOTE: Data for 2010–11 and 2011-13 include an additional suburban district that joined the project in 2010–11; data for this district were not submitted in 2009–10.

SOURCE: Montana Office of Public Instruction.

Table A-7c. Montana: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		Other students		RPOS concentrators		Concentrators in other CTE programs		Other students		RPOS concentrators		Concentrators in other CTE programs		Other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	33	100%	732	100%	964	100%	35	100%	1,188	100%	1,549	100%	86	100%	1,018	100%	1,542
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma	100%	33	91%	663	84%	812	91%	32	95%	1,126	82%	1,271	95%	82	94%	959	84%	1,301
Left the district	0%	0	6%	41	7%	69	3%	1	2%	24	9%	132	2%	2	3%	31	7%	110
Technical skills attainment																		
Technical skills assessment available	45%	15	66%	483		†		—	5%	56		†		—	1%	10		†
Among those for whom an assessment was available, attempted a technical skills assessment	9%	3	7%	33		†		—	100%	56		†		—	100%	10		†
Among those who attempted an assessment, passed an assessment/certification and/or received a certificate	9%	3	73%	24		†		—	68%	38		†		—	100%	10		†
Earned postsecondary credit in high school		—		—		—	0%	0	8%	98	10%	159	13%	11	9%	92	17%	259
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education	12%	4	38%	275		—	23%	8	40%	475	38%	592	35%	30	37%	380	42%	647
Enrolled in a postsecondary education program related to their secondary POS[1]	75%	3	67%	185		—	100%	8	73%	348		†	60%	18	53%	200		†

See notes at end of table.

Table A-7c. Montana: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12—Continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		Other students		RPOS concentrators		Concentrators in other CTE programs		Other students[1]		RPOS concentrators		Concentrators in other CTE programs		Other students[1]	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Need for developmental course work																		
Enrolled in developmental course for math[1]	0%	0	45%	123		119	38%	3	35%	164	20%	121	13%	4	31%	118	22%	141
Enrolled in developmental course for English[1]	0%	0	26%	72		71	13%	1	10%	46	7%	41	10%	3	13%	48	6%	42
Postsecondary credential attainment[2]																		
Certificate awarded by a postsecondary institution	0%	0	2%	11	0%	4		†		†		†		†		†		†
Third-party issued industry recognized certification		—		—		—		—		—		—		—		—		—
Associate's degree	0%	0	1%	10	1%	14		†		†		†		†		†		†
Other credential	0%	0	1%	10	0%	3		†		†		†		†		†		†
Total credentials earned	0%	0	4%	31	2%	21		†		†		†		†		†		†

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

[1] Percentages are among those who enrolled in postsecondary education and who enrolled in a public postsecondary institution in Montana.

[2] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

NOTE: Data for 2009–10 reflects a second set of data that includes information for RPOS concentrators submitted in January 2012. Data for 2010–11 and 2011-12 includes an additional suburban district that joined the project in 2010–11; data for this district were not submitted in 2009–10.

SOURCE: Montana Office of Public Instruction.

Table A-8a. Utah: Student characteristics for 11th- and 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	**Percent**	**Number**	**Percent**	**Number**	**Percent**	**Number**
Number of students	100%	252	100%	4,296	100%	3,987
Gender						
Male	24%	61	54%	2,313	51%	2,044
Female	76%	191	46%	1,983	49%	1,943
Race						
White	81%	205	69%	2,979	63%	2,527
Native Hawaiian or other Pacific Islander		^	2%	89	3%	125
Black or African American		^	2%	107	3%	121
Asian	4%	10	3%	131	3%	120
American Indian or Alaska Native		^	3%	150	7%	299
Hispanic	10%	24	19%	824	19%	758
Unknown/ data not available		^	0%	16	1%	37
Eligible for free or reduced-price lunch	23%	59	35%	1,483	42%	1,670
English for speakers of other languages (ESOL) eligible	7%	17	16%	698	18%	722
Students with a disability		^	2%	73	2%	87
Attendance (percent days attended)[1]		96–99%		97–99%		95–98%
Number scoring at proficiency or higher[2]						
11th-grade pre-algebra		4		193		194
11th-grade algebra I		22		621		510
11th-grade algebra II		4		332		300
11th-grade English score		96		1,718		1,750

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Ranges of averages across districts. Because of the way submitted data were aggregated, attendance data excludes RPOS participants.

[2] The percentages of students for which test scores were available were low, with math scores available for 26 percent of students and English scores available for 53 percent. The data specialist working with Utah's RPOS team attributes the low percentages to poor database match rates and gaps in the data collected, and is investigating strategies to improve future data quality. Since the percentage of students with test score data are so low, the percentages scoring at or above proficiency are not shown.

SOURCE: Utah State Office of Education.

Table A-8b. Utah: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2010–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	210	100%	2,386	100%	1,842	100%	215	100%	1,357	100%	2,401
Gender												
Male	46%	96	55%	1,316	54%	1,001	46%	99	52%	703	52%	1,239
Female	54%	114	45%	1,070	46%	841	54%	116	48%	654	48%	1,162
Race												
White	48%	101	72%	1,715	59%	1,092	37%	80	73%	984	63%	1,524
Native Hawaiian or other Pacific Islander	6%	12	2%	46	2%	45	2%	5	1%	16	3%	62
Black or African American	5%	10	3%	70	3%	54	6%	12	2%	32	3%	74
Hispanic	31%	65	17%	396	24%	447	43%	93	16%	222	20%	484
Asian	9%	18	2%	55	3%	51	8%	18	2%	31	4%	87
American Indian or Alaska Native		^	4%	84	7%	136	2%	5	4%	59	6%	145
Two or more		^	1%	20	1%	17	1%	2	1%	13	1%	25
Eligible for free or reduce-priced lunch	49%	103	34%	803	47%	863	62%	134	32%	436	43%	1,024
English for Speakers of Other Languages (ESOL) eligible	55%	116	87%	2,078	70%	1,295	3%	6	3%	37	3%	70
Students with a disability		^	11%	253	18%	336	13%	27	10%	137	12%	281
Attendance ratio		99–99%		97–100%		96–99%		95–100%		59–100%		61–100%
Number scoring at proficiency or higher												
11th-grade pre-algebra	—		—		—		—		—		—	
11th-grade algebra I	—		—		—		—		—		—	
11th-grade algebra II	—		—		—		—		—		—	
11th-grade English score	—		—		—		—		—		—	

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

SOURCE: Utah State Office of Education.

Table A-8c. Utah: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	123	100%	2,652	100%	1,445	100%	210	100%	2,386	100%	1,842	100%	215	100%	1,357	100%	2,401
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma	93%	115	84%	2,234	63%	911	88%	184	87%	2,077	50%	930	88%	190	88%	1,193	55%	1,314
Technical skills attainment																		
Technical skills assessment available		—		—		†	100%	210	100%	2,386		†	100%	215	100%	1,357		†
Among those who had an assessment available, attempted a technical skills assessment		—		—		†	90%	190	100%	2,384		†	100%	215	100%	1,357		†
Among those who attempted the assessment, number who passed and/or received a certificate		—		—		†	83%	157	90%	2,141		†	80%	173	93%	1,268		†
Earned postsecondary credit in high school (dual enrollment)	72%	88	39%	1,041	22%	317	49%	102	39%	928	18%	333	27%	57	33%	445	19%	457
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education	100%	123	87%	2,319	45%	656	55%	116	38%	917	24%	433	48%	103	42%	568	34%	817
Among those who enrolled, number who enrolled in a postsecondary education program related to their secondary POS[1]		—		—		—		—		—		—	22%	23	18%	104		†

See notes at end of table.

Table A-8c. Utah: Outcome data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12—continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Among those enrolled in higher education, the number who…																		
Enrolled in developmental course for math	11%	14	9%	203	6%	38	12%	14	19%	172	15%	66	18%	19	18%	105	17%	137
Enrolled in developmental course for reading	3%	4	4%	85	3%	18	17%	20	13%	115	20%	87	16%	16	6%	36	7%	61
Postsecondary credential attainment[2]																		
Certificate awarded by a postsecondary institution	2%	3	0%	5	4%	56		†		†		†		†		†		†
Third-party issued industry recognized certification	1%	1	0%	0	3%	39		—		—		—		—		—		—
Associate's degree	11%	13	0%	10	5%	73		†		†		†		†		†		†
Other credential	1%	1	0%	0	0%	2		†		†		†		†		†		†
Total credentials earned	15%	18	1%	15	12%	170		†		†		†		†		†		†

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

† Not applicable.

[1] Calculated by matching secondary and postsecondary POS and major 2-digit CIP codes; available only for students who enrolled in public postsecondary institutions in Utah.

[2] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

SOURCE: Utah State Office of Education.

Table A-9a. Wisconsin: Student characteristics for 9th- through 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10

	RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	642	100%	1,095	100%	2,040
Gender						
Male	93%	600	53%	582	38%	773
Female	7%	42	47%	513	62%	1,267
Race						
White	94%	605	82%	902	80%	1,631
Native Hawaiian or other Pacific Islander		^	0%	0		^
Black or African American		^		^	1%	22
Asian	5%	30	16%	177	18%	358
American Indian or Alaska Native	10%	4		^	1%	16
Hispanic	0%	0	0%	0		^
Eligible for reduced-price or free lunch	14%	93	14%	153	13%	271
English for speakers of other languages (ESOL) eligible	2%	14	15%	160	12%	251
Students with a disability	12%	75	9%	104	8%	156
Attendance (percent days attended)		—		—		—
ESEA-reported grade 10 state assessments						
Average math score		—		—		—
Average English score		—		—		—

— Not available.

^ Data suppressed because of small cell size (representing 10 or fewer students).

SOURCE: Wisconsin Department of Public Instruction.

Table A-9b. Wisconsin: Student characteristics for 12th-grade RPOS concentrators, concentrators in other CTE programs, and all other students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2010–11 and 2011–12

	2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Student characteristics	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	43	100%	356	100%	838	100%	69	100%	301	100%	874
Gender												
Male		^	55%	195	52%	432	90%	62	55%	165	51%	448
Female		^	45%	161	48%	406	10%	7	45%	136	49%	426
Race												
White	91%	39	78%	276	76%	641	94%	65	80%	242	75%	659
Native Hawaiian or other Pacific Islander	0%	0	0%	0		^	0%	0	0%	0		^
Black or African American		^		^	2%	20		^		^	3%	28
Hispanic	0%	0		^	2%	18	0%	0		^	3%	29
Asian		^	21%	76	18%	149		^	19%	56	22%	189
American Indian or Alaska Native	0%	0		^		^	0%	0		^		^
Eligible for reduced-price or free lunch[1]		^	33%	116	33%	277	25%	17	31%	93	38%	330
English for Speakers of Other Languages (ESOL) eligible	0%	0	15%	53	9%	76	3%	2	9%	26	13%	117
Students with a disability		^	9%	33	15%	127	13%	9	12%	36	14%	123
Attendance (percent days attended)[2]		95–99%		96–97%		96–99%		94–99%		94–96%		95–96%
ESEA-reported grade 10 state assessments[2,3]												
Average math score		3.0–3.5		2.6–3.0		2.7–2.9		2.6–3.7		2.8–2.9		2.7–3.1
Average English score		3.0–3.7		2.6–3.3		2.7–3.3		2.9–3.9		3.0–3.5		3.0–3.3

^ Data suppressed because of small cell size (representing 10 or fewer students).

[1] Data for reduced-price and free lunch available for the suburban and urban districts only.

[2] Ranges of averages across districts.

[3] Test scores were available for 96 percent of students overall and 63 percent of RPOS concentrators in 2010-11 and 93 percent of students overall and 100 percent of RPOS concentrators in 2011-12.

SOURCE: Wisconsin Department of Public Instruction.

Table A-9c. Wisconsin: Outcomes data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Number of students	100%	197	100%	316	100%	635	100%	43	100%	356	100%	838	100%	69	100%	301	100%	874
Secondary outcomes																		
Secondary school completion																		
Graduated with a regular high school diploma	96%	190	95%	301	97%	616	95%	41	98%	348	99%	829	94%	65	99%	297	98%	856
Technical skills attainment																		
Number of students for whom a technical skills assessment was available		—		—		†		—	100%	356		†	100%	69	100%	301		†
Number of students who attempted a technical skill assessment	7%	14	4%	14		†		—	34%	122		†	3%	2	34%	102		†
Among those who attempted a certificate, the number of students who passed and/or received a certificate	71%	10	71%	10		†		—	90%	110		†	50%	1	85%	87		†
Earned postsecondary credit in high school[1,2]																		
Number who earned postsecondary credits		—	20%	62	12%	74	58%	25	58%	205	16%	135	29%	20	47%	142	12%	106
Postsecondary outcomes																		
Enrollment																		
Enrolled in postsecondary education[3]		—		—		†	67%	29	65%	233	60%	506	54%	37	66%	199		†
Among those who enrolled in a postsecondary education program, percentage who enrolled in a program related to their secondary POS		—		—		†	45%	13	42%	97		†	68%	25	57%	113		†

See notes at end of table.

Table A-9c. Wisconsin: Outcomes data for 12th-grade students enrolled in the rural, suburban, and urban districts participating in the RPOS project: 2009–10, 2010–11, and 2011–12—continued

	2009–10						2010–11						2011–12					
	RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students		RPOS concentrators		Concentrators in other CTE programs		All other students	
Outcome	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number
Among those who enrolled in postsecondary education, need for developmental course work in postsecondary education																		
Enrolled in a developmental course for math		—		—		—		—		—		—		—		—		—
Enrolled in a developmental course for reading		—		—		—		—		—		—		—		—		—
Postsecondary credential attainment[4]																		
Certificate awarded by a postsecondary institution	1%	1		—		—		†		†		†		†		†		†
Third-party issued industry recognized certification	0%	0		—		—		†		†		†		†		†		†
Associate's degree	1%	2		—		—		†		†		†		†		†		†
Other credential	2%	3		—		—		†		†		†		†		†		†
Total credentials earned	3%	6																

— Not available.

† Not applicable.

[1] In 2010–11, data on postsecondary credits earned in high school was available for 93 percent of students.

[2] Among those for whom data were available in each category. Data were available for 75 percent of the RPOS and CTE concentrators in the suburban and rural districts and 94 percent of RPOS and CTE concentrators in the urban district.

[3] Postsecondary enrollment data from 2009–10 and 2010−11 are from the National Student Clearinghouse (NSC). The Wisconsin Department of Public instruction ended its subscription to the NSC in 2012-13, so the postsecondary enrollment data for 201112 are from the CTEERS Concentrator Completer Graduate Follow-up survey.

[4] The measure for this outcome is, "Postsecondary credential, certificate, or diploma attainment. The percentage of secodnary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree, within two years following enrollment in postsecondary education." (Federal Register, Vol. 75., No. 151, Friday, August 6, 2010.) The percentages shown represented the percentage of 2009–10 concentrators who earned a credential within the time specified.

SOURCE: Wisconsin Department of Public Instruction.

Appendix B

Data Collection Letter

Thank you for your continued help with the RPOS quantitative assessment and for your hospitality during our recent site visits. This letter and the attached table shells are the first steps in our data collection process for project year 3 to collect data on academic year 2011–12. We look forward to working with you in the coming weeks to collect the data we will need to continue our evaluation of the project's success.

The year 3 table shells are attached. One shell should be completed for each site participating in the RPOS project. As in prior years, the shells are customized to match the data available in your state, but please let us know about any discrepancies you find. After you have reviewed the shells and the data request, we invite you to participate in a **webinar on March 5 at 11am PT/12pm MT/1pm CT/2pm ET**. During the webinar, we will review the shells and answer any questions. If you are unable to attend the webinar, or have questions that you would like to address separately, we would be happy to communicate by e-mail or phone to discuss the request.

We also anticipate that you may not be able to provide all of the information requested in the shells within the data collection timeline. Please note elements that are not available by the submission deadline and enter the date when the data will be ready in the relevant cell. You may also enter "unknown" if the date is not available. This information will assist us in understanding any project support you may need and in planning the evaluation work going forward.

We ask you to submit the completed shells by **Friday, April 12, 2013**. We are available to answer questions and to provide assistance as you prepare your submission. Please contact Sandra Staklis by e-mail (sstaklis@rti.org) or telephone (503-222-5467 x406).

Changes to this Year's Shells

This year's table shells are identical to the ones from last year, with one addition to the outcomes tabs. One of the indicators of performance included in the RFP is *Postsecondary credential, certificate, or diploma attainment*, which the RFP defined as:

> *The percentage of secondary students participating in the POS supported by the grant award who attain an industry-recognized credential, certificate, or associate's degree within two years following enrollment in postsecondary education.*

To assess this outcome, we will need postsecondary completion information for students who graduated in 2009–10 (the first year of data collection). The data reported for this indicator should include all of the credentials earned through fall 2012.

Please note the following guidelines as you complete the tables:

- Demographic and outcome data are requested for grade 12 students only. To collect information on the numbers of students in grades 9–12 overall, and those participating in CTE and the RPOS program(s) in particular, we added a tab called "Enrollments."
- The outcome "Enrollment in postsecondary education" is for students who were enrolled at any time during the fall 2012 semester.
- Enter data only for shaded cells in each table.
- Enter '0' for any cell in which you do not have any students; enter 'n/a' if data are unavailable.
- Adjust worksheet rows if those included do not reflect the available data categories.
- We have included your state's definitions for secondary CTE participants and concentrators in the enrollment table. Please update as needed on this table or in a separate document.

Data Submissions

Data should be submitted using the same process followed last year. For most states, this means providing us with password protected access to your state's secure FTP site. Alternatively, data can be encrypted using a recent version of Excel. To use this option, first encrypt the file by clicking on the round button in the upper left hand corner (the "Microsoft office button"), choose the option "prepare," and then the option "encrypt document." Use at least an 8-digit password with at least one number, symbol, and capital letter. If you need help with this process, let us know. Please call Sandra at 503-222-5467 x406 to tell us the password.

Thanks in advance for your work on this project!

All the best,
The RPOS Quantitative Assessment Team