

EXECUTIVE SUMMARY

Dual credit is an opportunity for high school students to participate in courses to grow, explore and gain experience for college.

One form of advanced high school coursework, dual credit, offers a bridge between K-12 and higher education that provides students a strong start in their first year of college. These programs expose students to college including coursework, study habits, college culture, course content and expectations.

This analysis examined Washington dual credit student and school characteristics data. Data used in this analysis came from the dual credit data set developed and maintained by the Education Research and Data Center (ERDC) housed in the Forecasting and Research division of the Washington Office of Financial Management.

This analysis focused on data from the ERDC dual credit data set in response to the following questions:

- What are the characteristics of students participating in a dual credit course?
- What is the relationship between dual credit participation and school characteristics?
- What are the relationships between student characteristics, school characteristics and dual credit programs and courses?
 - Within each dual credit program, which courses are taken most often in high school?
 - What is the average and median number of dual credit courses high school students take statewide? What is the average and median number of dual credit courses by dual credit program?
 - What is the average and median outcome score for the most common courses?
 - Of the total exam completers, how many students score a 3 or higher on Advanced Placement (AP), a 4 or higher on International Baccalaureate (IB) Higher Level (HL) and Standard Level (SL) exams and earn a grade of E (e) or higher on Cambridge International (CI)?
- What is the relationship between participation in dual credit in K-12 and direct enrollment in postsecondary?
- Are students who enroll in dual credit more likely to directly enroll in postsecondary than students who do not enroll in dual credit? What does this look like when broken down by dual credit program and by school type?
- What percent of students who enroll in dual credit courses in K-12 earn college credit for their dual credit course(s) by type of dual credit?
- What were the postsecondary outcomes for each type of dual credit participant/non-participant by type of credential(s) completed and by type of dual credit?
- What was the time to degree for dual credit participants?
- Which demographic subgroups are over-represented/under-represented in dual credit programs?

Summary of Findings

Among other things, this analysis provided evidence of gaps in Washington dual credit participation across student demographics and school characteristics. A recent analysis by the Washington Student Achievement Council¹ suggested that these gaps may extend beyond short-term participation in dual credit to long-term postsecondary credential attainment across student demographics and school characteristics.

- Students in the 2017 Cohort who participated in dual credit showed slight disparity by student demographic sub-group. Further analysis by dual credit program, however, showed greater disparity by student demographic sub-group.
- Participation in dual credit in Washington varied across student demographics. Students in the 2017 Cohort associated with demographics of under-represented student populations in education generally participated at a lower rate in dual credit.
- Participation by students in the 2017 Cohort varied across school characteristics by dual credit program. In general, students in the 2017 Cohort attending schools with lower percentages of students eligible for free or reduced-price meals, larger schools and urban schools experienced higher rates of participation in dual credit programs.
- The most popular dual credit courses are similar across dual credit programs except Dual Credit for Career Technical Education (CTE).
- While data was limited for AP/IB/CI, College in the High School (CiHS) and Dual Credit for CTE, data for Running Start courses suggested student demographics associated with under-represented student populations in education both participated at a lower level as measured by the number of courses taken and experienced lower completion rates.
- Participation in Running Start and College in the High School is associated with higher levels of direct postsecondary enrollment after high school graduation across student demographics.

¹ WSAC, *Leveraging Dual Credit to Meet Attainment Goals: Framing Questions for Council meeting*, January 29, 2020: <https://wsac.wa.gov/sites/default/files/2020.01.29.0321.Dual.Credit.pdf>

INTRODUCTION

Dual credit is an opportunity for high school students to participate in courses to grow, explore and gain experience for college.

One form of advanced high school coursework, dual credit offers a bridge between K-12 and higher education that provides students a strong start in their first year of college. These programs expose students to college including coursework, study habits, college culture, course content and expectations.

Washington has two types of dual credit programs: (1) Concurrent enrollment programs which provide high school students the opportunity to simultaneously enroll both in high school and college courses and earn both college and high school credit. This includes Running Start, College in the High School and Dual Credit for CTE and (2) College preparatory programs with exams which provide high school students the opportunity to enroll in high school courses for which a student may earn college credit through scores on standardized exams. This includes Advanced Placement, International Baccalaureate, and Cambridge International.

Over the last five years, a focus on communication and implementation of dual credit policies and practices in Washington dominated the work of the public baccalaureate sector. Through this work, institutions recognized the lack of state-level data to inform institutional and state policy decision-making.

Led by the Office of Financial Management's Education Research and Data Center, Washington's public four-year sector, represented by the Council of Presidents (COP), in partnership with the State Board for Community and Technical Colleges (SBCTC), the Office of the Superintendent of Public Instruction (OSPI), and the Washington Student Achievement Council (WSAC) convened a work group to collaborate on state-level dual credit data collection and analysis.

In January 2020, the Interinstitutional Committee on Undergraduate Studies (ICUS), through the Council of Presidents, submitted a data request (Appendix A) to ERDC with the purpose of responding to state-level dual credit policy recommendations and informing institutional dual credit policies and practices. In May 2020, the Washington Student Achievement Council submitted a data request (Appendix B) to ERDC with the purpose of responding to state-level policy questions, understanding outcomes of dual credit programs and the populations of students that participate in the various dual credit programs and inform state policies and practices.

This analysis focused on data from the ERDC dual credit dataset and in response to the following questions:

- What are the characteristics of students participating in a dual credit course?
- What is the relationship between dual credit participation and school characteristics?
- What are the relationships between student characteristics, school characteristics and dual credit programs and courses?
 - Within each dual credit program, which courses are taken most often in high school?
 - What is the average and median number of dual credit courses high school students take statewide? What is the average and median number of dual credit courses by dual credit program?
 - What is the average and median outcome score for the most common courses?

- Of the total exam completers, how many students score a 3 or higher on Advanced Placement (AP), a 4 or higher on International Baccalaureate (IB) Higher Level (HL) and Standard Level (SL) exams and earn a grade of E (e) or higher on Cambridge International (CI)?
- What is the relationship between participation in dual credit in K-12 and direct enrollment in postsecondary?
- Are students who enroll in dual credit more likely to directly enroll in postsecondary than students who do not enroll in dual credit? What does this look like when broken down by dual credit program and by school type?
- What percent of students who enroll in dual credit courses in K-12 earn college credit for their dual credit course(s) by type of dual credit?
- What were the postsecondary outcomes for each type of dual credit participant/non-participant by type of credential(s) completed and by type of dual credit?
- What was the time to degree for dual credit participants?
- Which demographic subgroups are over-represented/under-represented in dual credit programs?

METHOD

This analysis examined Washington dual credit student and school characteristics data resulting from data requests by COP and WSAC.

Data used in this analysis came from the dual credit data set developed and maintained by the Education Research and Data Center housed in the Forecasting and Research division of the Washington Office of Financial Management. The ERDC dual credit data set is a result of efforts by a work group consisting of Washington's public, four-year college and universities, represented by the Council of Presidents, the State Board for Community and Technical Colleges, the Washington Student Achievement Council and the Office of the Superintendent of Public Instruction. Led by ERDC, the cross-sector work group collaborated to develop a list of critical dual credit data questions and to identify data variables and structure that informed the dual credit data set development.

Data Methodology

Historically, most analyses of dual credit data in Washington focused on all students taking dual credit courses during a school year(s). The data used in this analysis differed in that it examined a cohort of students who progressed through high school as a group--the class of 2017, defined as--all students with a Graduation Requirement Year of 2017. OSPI defines this as "the year to be assigned is four years after the year the student enters 9th grade". The Graduation Requirement Year does not change from year to year and defines the graduation cohorts for OSPI's annual calculation of graduation rates. Conceptually this is the same as an expected graduation year.

Data Notes

Direct enrollment is defined as a student enrolled in a public postsecondary institution in the fall of the year during which they graduate from high school. Participation is defined in Tables 1-5 as a student who is enrolled in at least one dual credit course. Postsecondary enrollments exclude those in where the student was a non-credential-seeking student for all terms during the year after high school graduation.

Completion in Table 8 is defined as credits earned are greater than or equal to credits attempted. The unit of analysis is a course. The course completion rate is, of all courses taken by students in each sub-group what proportion were completed.

Students in the cohort took dual credit courses during the following school years: 2013-14 through 2017-18.² Participation in dual credit programs covered all high school years of enrollment, not just grades 11 and 12.

Race/ethnicity was missing for 10 students. Gender and Race/ethnicity data are from the student's final high school enrollment record.³

A "yes" for program participation, homeless and disability statuses means that the student participated in the program or experienced disability or homelessness at any time during high school. Cells with less than 10 are masked to protect privacy.

In OSPI's Comprehensive Education Data and Research System (CEDARS) course data, AP, IB, CiHS and Dual Credit for CTE courses are sometimes labeled as more than one dual credit type (e.g., AP and CiHS). Students enrolled in these courses were counted in each category. For this analysis, AP,

² See [CEDARS](#) documentation for more information.

³ All K-12 student characteristic data were extracted from the annual Adjusted Cohort P210 file for the 2017-18 School Year, provided to ERDC by OSPI.

IB, and CI course participants were combined to have large enough counts for the subgroup breakouts.^{4,5,6}

A note about the Dual Credit for CTE data in this analysis. Historically, Dual Credit for CTE data, including postsecondary credits earned, was required to be collected and reported by K-12 districts or schools to receive federal Perkins funding. In recent years, the requirement to collect and report Dual Credit for CTE data was removed as Perkins funding for the program was dropped. While all school districts still report the courses as Dual Credit for CTE and the high school credits earned in the OSPI course data, without the requirement under Perkins funding Washington has incomplete data for postsecondary credits earned from taking the high school Dual Credit for CTE courses.

In addition, it is unclear if schools and districts have maintained accurate course designation codes for Dual Credit for CTE. In other words, a record of the current and accurate coding for a course whether it remains a Dual Credit for CTE course or not, from one school year to the next. As a result, some Dual Credit for CTE courses may be over-reported or under-reported in the data collection.

⁴ Course data for AP, IB, Cambridge, College in the High School and Dual Credit for CTE came from OSPI's Comprehensive Education Data and Research System ([CEDARS](#)) Grade History data provided to ERDC by OSPI, for the 2011-12 through 2017-18 school years.

⁵ Course data for Running Start was extracted from the ERDC P20W Data Warehouse.

⁶ School level data are from OSPI's annual Oct 1 enrollment data, downloaded from the OSPI website, and [NCES EDGE](#), as compiled by ERDC staff.

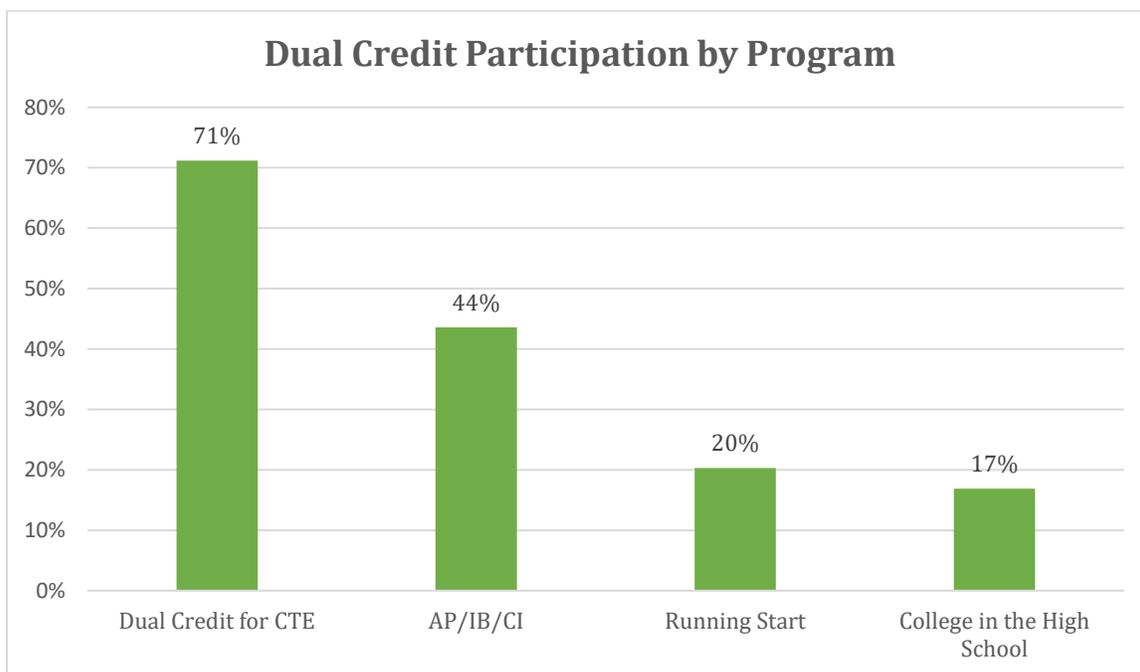
FINDINGS

Finding 1: Students in the 2017 Cohort who participated in dual credit showed slight disparity by student demographic sub-group. Further analysis by dual credit course, however, showed greater disparity by student demographic sub-group.

The Class of 2017 Cohort (the 2017 Cohort) included 81,828 students. The 2017 Cohort included all students with a graduation requirement year of 2017 who began four-years after a student entered 9th grade (fall 2013).

Eighty-six percent of the 2017 Cohort participated in a dual credit course. Of the students in the 2017 Cohort that participated in a dual credit course, 71% of students participated in a Dual Credit for CTE course followed by AP/IB/CI (44%), Running Start (20%) and College in the High School (17%) (Table 1^{7,8}).

As noted in the *Methods* section, caution should be given to the data presented for Dual Credit for CTE due to incomplete state level data for postsecondary credits earned from taking the high school Dual Credit for CTE courses and accurate coding of these courses.



Gender

⁷ Table 1 refers to the makeup of dual credit participants relative to demographics (e.g., race/ethnicity, gender, etc.) compared to the makeup of the Cohort.

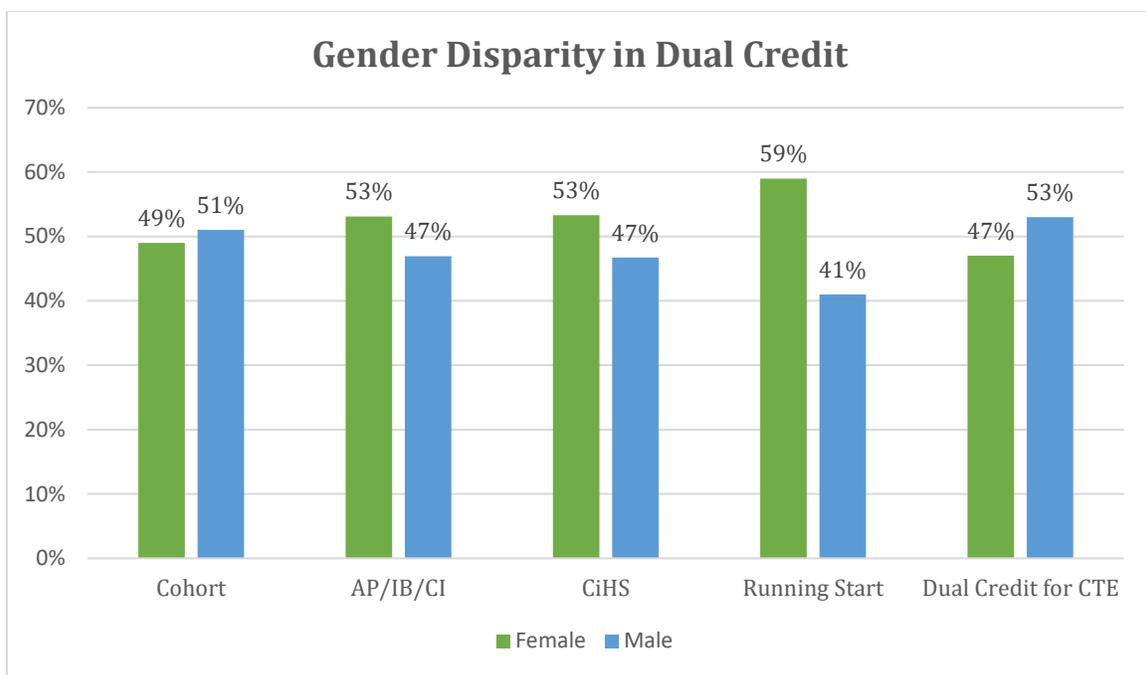
⁸ The data includes students who participated in more than one type of dual credit course.

Fifty-one percent of the students in the 2017 Cohort identified as male compared to 49% of students in the 2017 Cohort who identified as female. Comparing dual credit participants by gender with the entire 2017 Cohort the analysis showed no disparity based on gender (Table 1⁹).

However, when the gender of dual credit participants by course is compared to the gender of the 2017 Cohort, disparity existed based on gender.

Students who identified as female and participated in AP/IB/CI, College in the High School and Running Start were over-represented compared to the percentage of female students in the 2017 Cohort. In turn students who identified as female were under-represented in Dual Credit for CTE.

Students who identified as male and participated in Dual Credit for CTE were over-represented compared to the percentage of male students in the 2017 Cohort. In turn students who identified as male were under-represented in AP/IB/CI, College in the High School and Running Start.



Race/Ethnicity

Fifty-nine percent of the students in the 2017 Cohort identified as Caucasian/White followed by 20% of the students in the 2017 Cohort who identified as Hispanic/Latino and 7% of Asian.

Comparing dual credit participants by race/ethnicity with the 2017 Cohort the analysis showed disparity existed based on race/ethnicity for students who identified as American Indian/Alaska Native, Asian and Hispanic/Latino (Table 1^{10,11}).

⁹ Over-represented and under-represented were any percentage that was either more or less than the percentage of students with that characteristic in the 2017 Cohort.

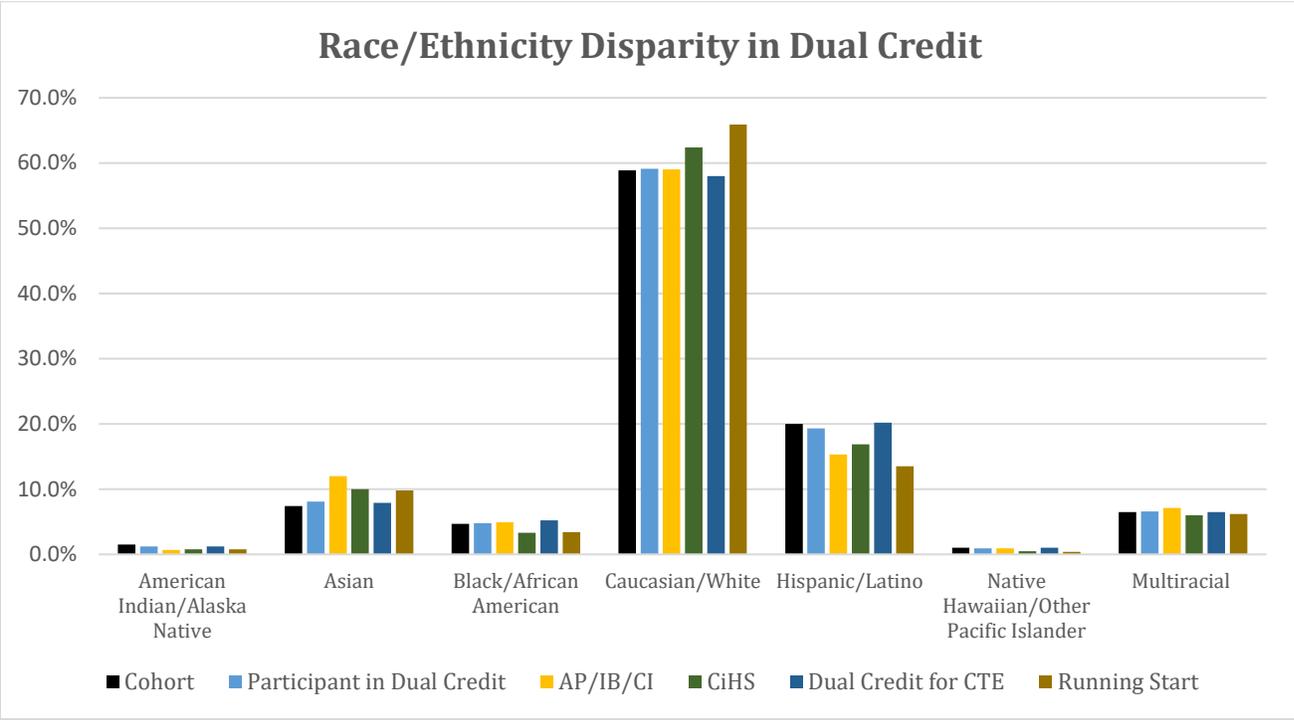
¹⁰ Over-represented and under-represented were any percentage that was either more or less than the percentage of students with that characteristic in the 2017 Cohort.

¹¹ Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.

Race/Ethnicity	2017 Cohort	Dual Credit Participants
American Indian or Alaska Native	2%	1%
Asian	7%	8%
Black or African American	5%	5%
Caucasian or White	59%	59%
Hispanic or Latino	20%	19%
Native Hawaiian or Other Pacific Islander	1%	1%
Of more than one race or Multiracial	7%	7%

However, when the race/ethnicity of dual credit participants by course is compared to the race/ethnicity of the 2017 Cohort, disparity existed based on race/ethnicity.

- Students who identified as American Indian/Alaska Native and participated in AP/IB/CI, CiHS, Running Start or Dual Credit for CTE were under-represented in all dual credit courses compared to the 2017 Cohort.
- Students who identified as Hispanic/Latino and participated in AP/IB/CI, CiHS and Running Start were under-represented in these courses compared to the 2017 Cohort. No disparity existed in Dual Credit for CTE courses for students in this sub-group compared to the 2017 Cohort.
- Students who identified as Asian and participated in AP/IB/CI, CiHS, Running Start or Dual Credit for CTE were over-represented in all dual credit courses compared to the 2017 Cohort.
- Students who identified as Black/African American and participated in AP/IB/CI and Dual Credit for CTE students were over-represented in these courses compared to the 2017 Cohort. Students in this sub-group were under-represented in College in the High School and Running Start courses compared to the 2017 Cohort.
- Students who identified as Caucasian/White and participated in College in the High School and Running Start were over-represented in these courses compared to the 2017 Cohort. A slight disparity existed in Dual Credit CTE course for students in this sub-group compared to the 2017 Cohort. No disparity existed in AP/IB/CI.
- Students who identified as Native Hawaiian/Other Pacific Islander and participated in College in the High School and Running start were under-represented in these courses compared to the 2017 Cohort. No disparity existed in AP/IB/CI and Dual Credit for CTE courses compared to the 2017 Cohort.
- Students who identified as more than one race or Multiracial and participated in AP/IB/CI were over-represented in these courses compared to the 2017 Cohort. A slight disparity existed in College in the High School and Running Start for students in this sub-group compared to the 2017 Cohort. No disparity existed in Dual Credit for CTE.



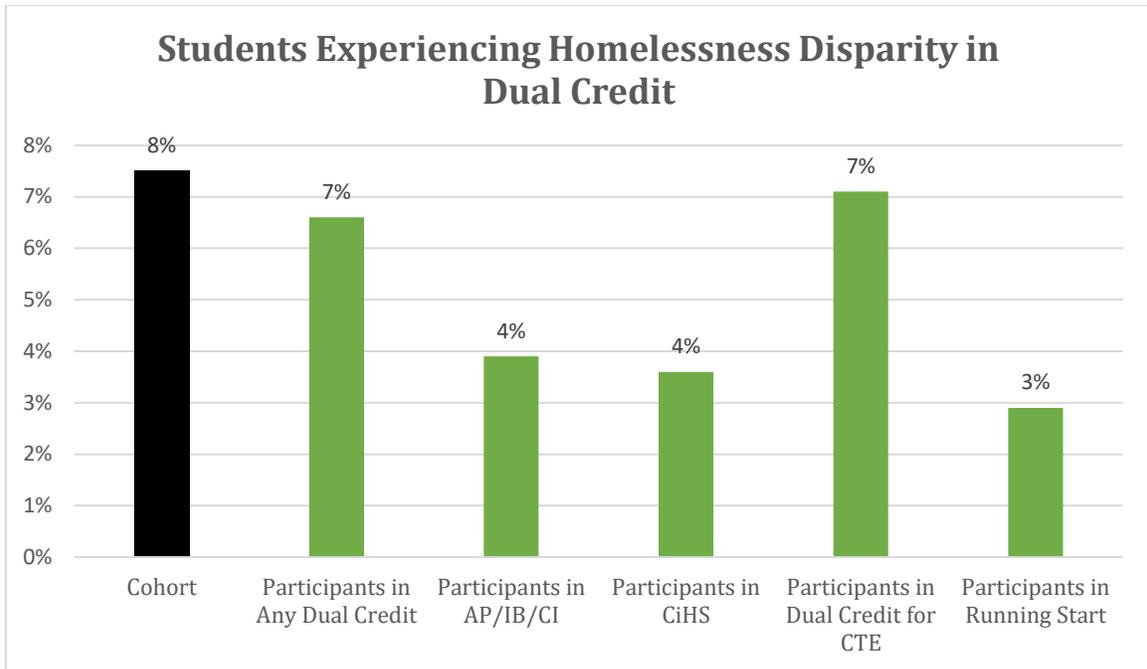
One observation is while the overall data showed disparities by student demographic sub-groups (i.e., gender and race), further analysis suggested historically under-represented student demographic sub-groups in education were over-represented in one dual credit course, Dual Credit for CTE. In addition, some sub-groups were over-represented in some dual credit courses and under-represented in others. Further analysis beyond this data is suggested to learn more.

Students Experiencing Homelessness

Students who experienced homelessness made up 7.5% of the 2017 Cohort compared to 93% of students who did not experience homelessness.

Comparing dual credit participants by experience with homelessness with the 2017 Cohort the analysis showed students who experienced homelessness were under-represented in dual credit participation (Table 1¹²). Students who experienced homelessness were also under-represented in all dual credit courses when compared to the 2017 Cohort.

¹² Over-represented and under-represented were any percentage that was either more or less than the percentage of students with that characteristic in the 2017 Cohort.

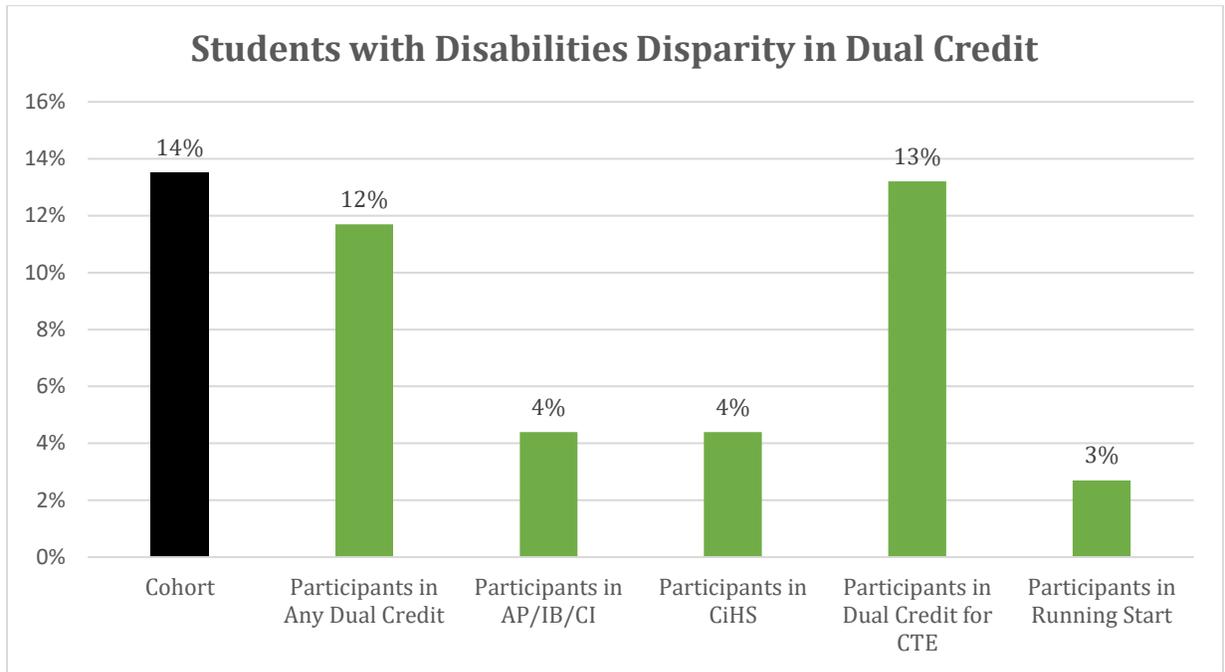


Students with Disabilities

Students with disabilities made up 13.5% of the 2017 Cohort compared to students without disabilities (86.5%).

Comparing dual credit participants by students with disabilities with the 2017 Cohort the analysis showed students with disabilities were under-represented in dual credit participation (Table 1¹³). Students with disabilities were also under-represented in all dual credit courses when compared to the 2017 Cohort.

¹³ Over-represented and under-represented were any percentage that was either more or less than the percentage of students with that characteristic in the 2017 Cohort.



Student Support Program Participation

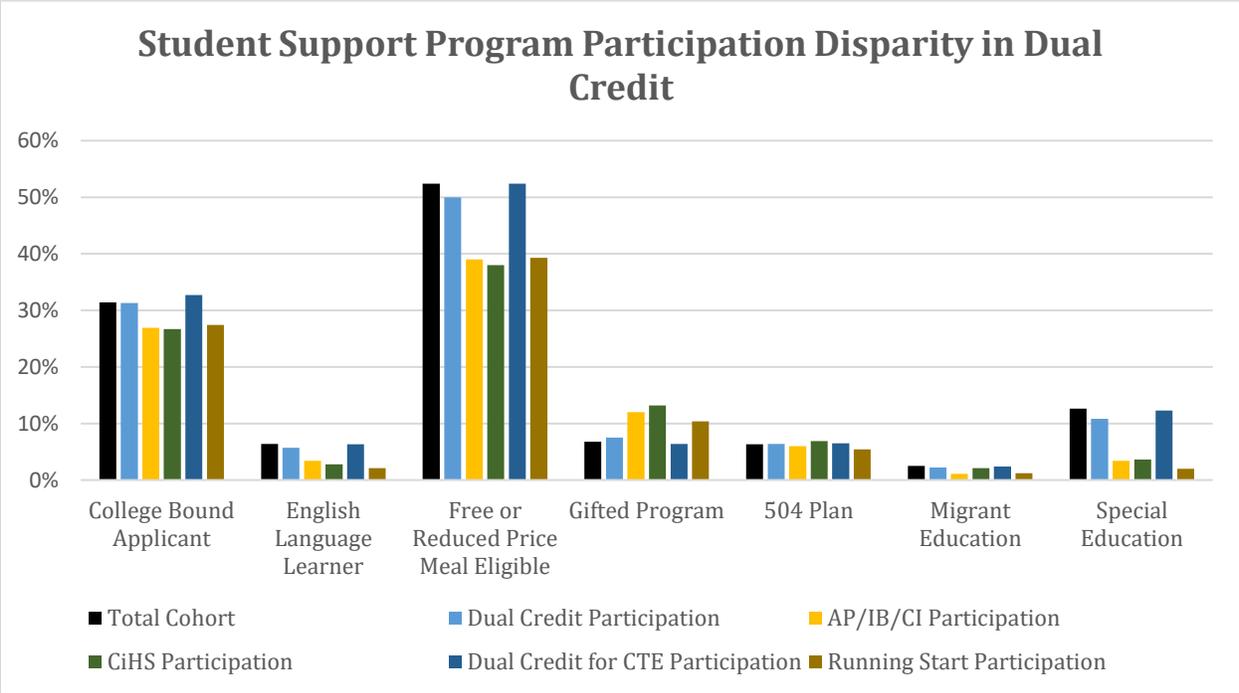
The 2017 Cohort included students who participated in a range of student support programs. The support programs included in this data analysis were: College Bound applicants, English language learners, free or reduced-price meal eligible, Gifted program, 504 Plan, migrant education and special education.

Comparing dual credit participants by participation in a student support program with the 2017 Cohort the analysis showed slight disparity existed based on student support program participation for students who were eligible/participated for free or reduced-price meals, the Gifted Program, migrant education and special education (Table 1^{14,15}).

Student Support Program	2017 Cohort	Dual Credit Participants
College Bound Applicant	31%	31%
English Language Learner	6%	6%
Free or Reduced-Price Meal Eligible	52%	50%
Gifted Program	7%	8%
504 Plan	6%	6%
Migrant Education	3%	2%
Special Education	13%	11%

¹⁴ Over-represented and under-represented were any percentage that was either more or less than the percentage of students with that characteristic in the 2017 Cohort.

¹⁵ Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.



However, when participation in a student support program of dual credit participants by course is compared to participation in these same programs of the 2017 Cohort, there some disparity existed based on program participation.

- College Bound applicants who participated in AP/IB/CI, CiHS and Running Start were under-represented in these courses compared to the 2017 Cohort. Students in this sub-group were over-represented in Dual Credit for CTE courses compared to the 2017 Cohort.
- English language Learner students who participated in AP/IB/CI, CiHS, Running Start and Dual Credit for CTE were under-represented in all dual credit courses compared to the 2017 Cohort.
- Free or reduced-price meal eligible students who participated in AP/IB/CI, CiHS and Running Start were under-represented in these courses compared to the 2017 Cohort. No disparity existed in Dual Credit for CTE courses for students in this sub-group compared to the 2017 Cohort.
- Gifted program students who participated in AP/IB/CI, CiHS and Running Start were over-represented in all dual credit courses compared to the 2017 Cohort. Students in this sub-group were under-represented in Dual Credit for CTE courses compared to the 2017 Cohort.

- Students with 504 Plans who participated in AP/IB/CI and Running Start were under-represented in these courses compared to the 2017 Cohort. Student in this sub-group were slightly over-represented in College in the High School and Dual Credit for CTE courses compared to the 2017 Cohort.
- Students who participated in migrant education and AP/IB/CI, Running Start, CiHS and Dual Credit for CTE were under-represented in all dual credit courses compared to the 2017 Cohort.
- Students who participated in special education and AP/IB/CI, Running Start, CiHS and Dual Credit for CTE were under-represented in all dual credit courses compared to the 2017 Cohort.

Echoing the earlier observation regarding gender and race/ethnicity, while the overall data showed disparities by student demographic sub-groups (i.e., experience with homelessness, students with disabilities, and participation in student support programs), further analysis suggested historically under-represented student demographic sub-groups in education were over-represented in one dual credit course, Dual Credit for CTE. In addition, some sub-groups were over-represented in some dual credit courses and under-represented in others. Further analysis beyond this data is suggested to learn more.

Finding 2: Participation in dual credit in Washington varied across student demographics. Students in the 2017 Cohort associated with demographics of under-represented student populations in education generally participated at a lower rate in dual credit.

The 2017 Cohort included 81,828 students. The 2017 Cohort included all students with a graduation requirement year of 2017 who began four-years after a student entered 9th grade (fall 2013).

Eighty-six percent of the 2017 Cohort participated in a dual credit course. Of the students in the 2017 Cohort that participated in a dual credit course, 71% of students participated in a Dual Credit for CTE course followed by AP/IB/CI (44%), Running Start (20%) and College in the High School (17%) (Table 2^{16, 17}).

Of the students in the 2017 Cohort, students who participated in the Gifted program and students who identified as Asian had the highest participation rates in college preparatory programs with exams (i.e., AP/IB/CI), of all subgroups, with rates of 77% and 71% (Table 2).

The highest participation rates in concurrent enrollment programs (i.e., CiHS, Running Start and Dual Credit for CTE) showed:

- Students who participated in the Gifted program and students who were not eligible for free or reduced-price meals had the highest participation rates in College in the High School, of all subgroups with rates of 33% and 22%.
- Students who identified as Black/African American and students who identified as Asian had the highest participation rates in Dual Credit for CTE, of all subgroups with rates of 78% and 76%.
- Students who participated in the Gifted program and students who identified as Asian had the highest participation rates in Running Start, of all subgroups with rates of 31% and 27%.

Gender

In the 2017 Cohort, females were slightly more likely to participate in dual credit than students who identified as male. An analysis of participation by dual credit course showed students in the 2017 Cohort who identified as female were more likely than students who identified as male to participate in all dual credit courses except Dual Credit for CTE courses (Table 2). Students who identified as male were more likely than students who identified as female to participate in Dual Credit for CTE courses.

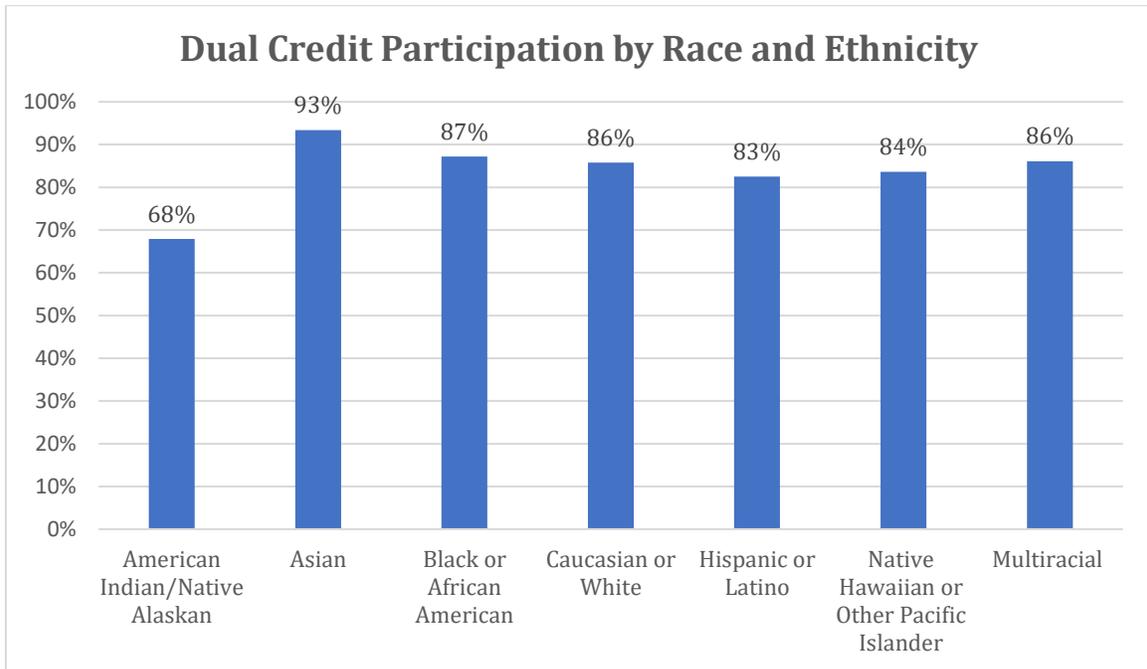
Race/Ethnicity¹⁸

In the 2017 Cohort, students who identified as Asian had the highest participation rate in a dual credit. In the 2017 Cohort, students who identified as American Indian/Alaska Native had the lowest participation rate in dual credit than students who identified as any other race or ethnicity.

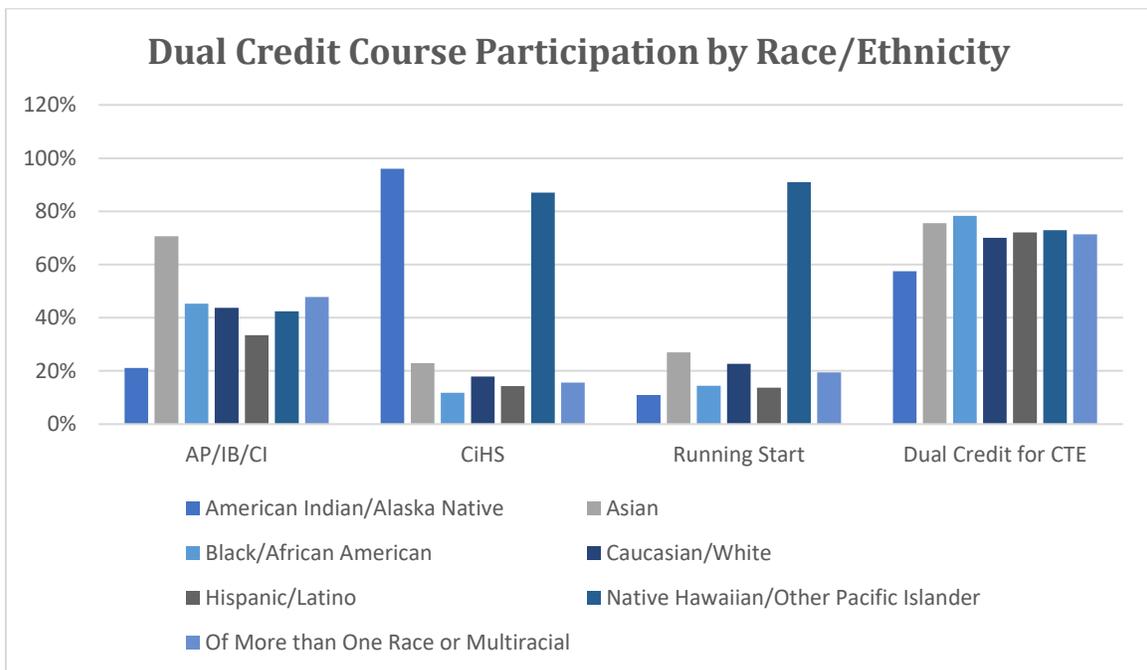
¹⁶ Table 2 refers to the likelihood that different groups participate in dual credit.

¹⁷ The data includes students who participated in more than one type of dual credit course.

¹⁸ Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.



An analysis of participation by dual credit course showed students who identified as Asian had the highest participation rate in all dual credit courses except Dual Credit for CTE (Table 2). Students who identified as Black/African American had the highest participation rate in Dual Credit for CTE.



Students with Disabilities and Students Experiencing Homelessness

In the 2017 Cohort, students without disabilities were more likely to participate in dual credit courses than students with disabilities. An analysis of participation by dual credit course showed students in the 2017 Cohort without disabilities were more likely than students with disabilities to

participate in all dual credit courses except Dual Credit for CTE (Table 2). Students with disabilities had a higher participation rate in Dual Credit for CTE than students without disabilities.

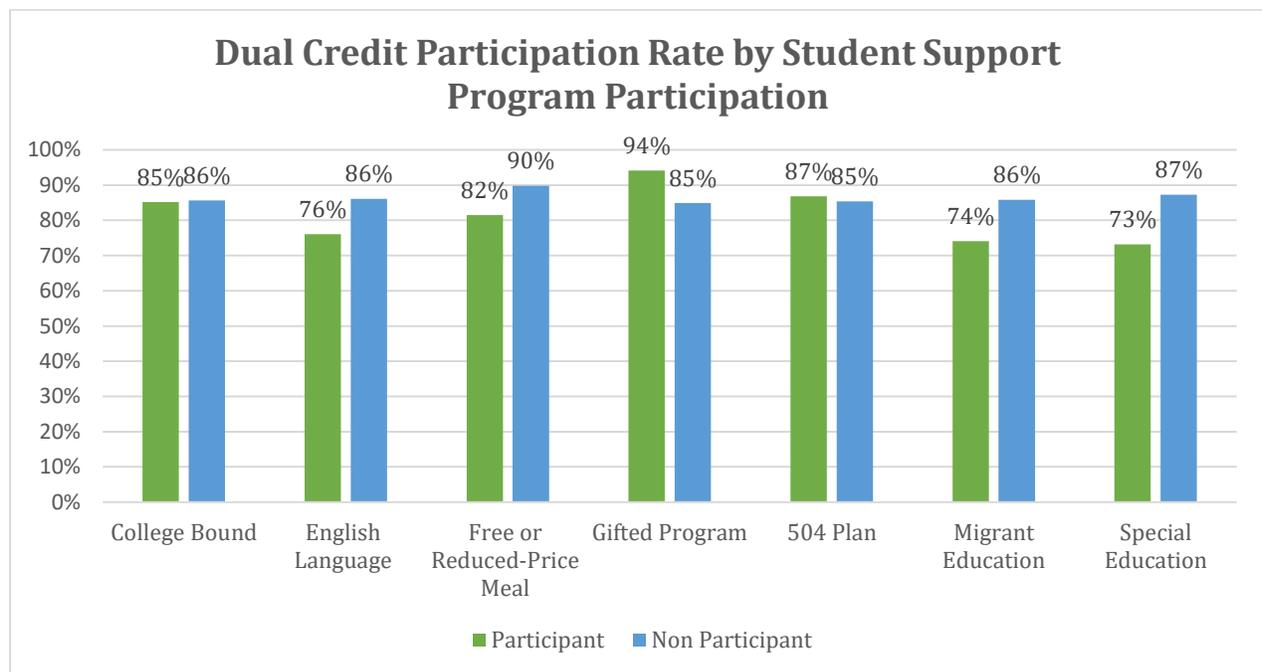
In the 2017 Cohort, students that did not experience homelessness were more likely to participate in dual credit courses than students who experienced homelessness. An analysis of participation by dual credit course showed students in the 2017 Cohort that did not experience homelessness were more likely than students who experienced homelessness to participate in all dual credit courses except Dual Credit for CTE (Table 2). Students who experienced homelessness had a higher participation rate in Dual Credit for CTE than students who did not experience homelessness.

Student Support Program Participation

The 2017 Cohort included students who participated in a range of student support programs. The support programs included in this data analysis were: College Bound applicants, English language learners, free or reduced-price meal eligible, Gifted program, 504 Plan, migrant education and special education.

Students in the 2017 Cohort who participated in the Gifted program, were not eligible for free or reduced-price meals and were not in special education had the highest participation rates in dual credit, with rates of 94%, 90% and 87%.

Students in the 2017 Cohort who participated in special education, migrant education and were English language learners had the lowest participation rates in dual credit, with rates of 73%, 74% and 76%.



Students within the 2017 Cohort who participated in the Gifted program, were not eligible for free or reduced-price meals and were not in special education had the highest participation rate in AP/IB/CI, of all student support programs, with rates of 77%, 56% and 48%.

An analysis of participation rates in College in the High School, Running Start and Dual Credit for CTE showed:

- Students who participated in the Gifted program and students who were not eligible for free or reduced-price meals had the highest participation rates in College in the High School courses with rates of 33% and 22%.
- Students who participated in 504 Plans and students who were College Bound applicants had the highest participation rates in Dual Credit for CTE with rates of 74% and 74%.
- Students who participated in the Gifted program and students who were not eligible for free or reduced-price meals had the highest participation rate in Running Start with rates of 31% and 26%.

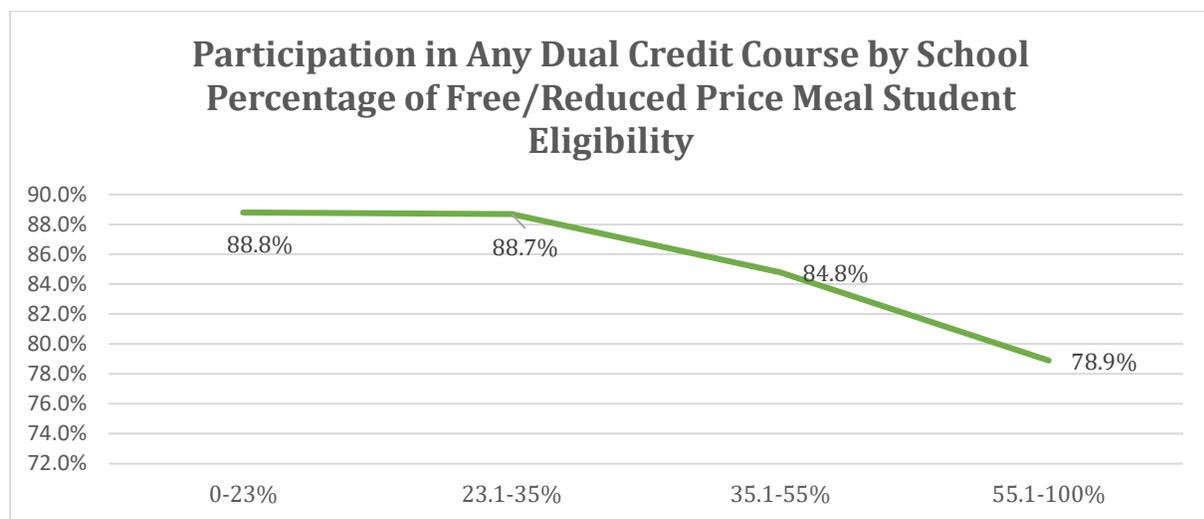
Finding 3: Participation by students in the 2017 Cohort varied across school characteristics by dual credit program. In general, students in the 2017 Cohort attending schools with lower percentages of students eligible for free or reduced-price meals, larger schools and urban schools experienced higher rates of participation in dual credit programs.

To analyze relationships between school characteristics and dual credit participation, the data set included three school characteristic variables: (1) percentage of student population eligible for free or reduced-price meals, (2) school enrollment and (3) geography and size. The quartiles for all three variables are based on the distributions within the 2017 Cohort.

Free or Reduced-Price Meal Eligibility

The data was categorized by a range of percentages of students eligible for free or reduced-price meals: (1) 0-23%, (2) 23.1-35%, (3) 35.1%-55% and (4) 55.1-100% (Table 3)¹⁹.

Students in the 2017 Cohort who attended schools with the lowest percentage of students eligible (0-23%) for free or reduced-price meals were more likely to experience higher participation rates in dual credit courses.



Students in the 2017 Cohort who attend schools with the lowest percentage (0-23%) of students eligible for free or reduced-price meals were more likely to experience higher participation rates in AP/IB/CI followed by schools with between 23.1-35% of students eligible for free or reduced-priced meals.

Students in the 2017 Cohort who attended schools with the lowest percentage (0-23%) of students eligible for free or reduced-price meals were more likely to experience higher participation rates in College in the High School followed by schools with free and reduced-price meal eligible students in the range third lowest percentage (35.1-55%).

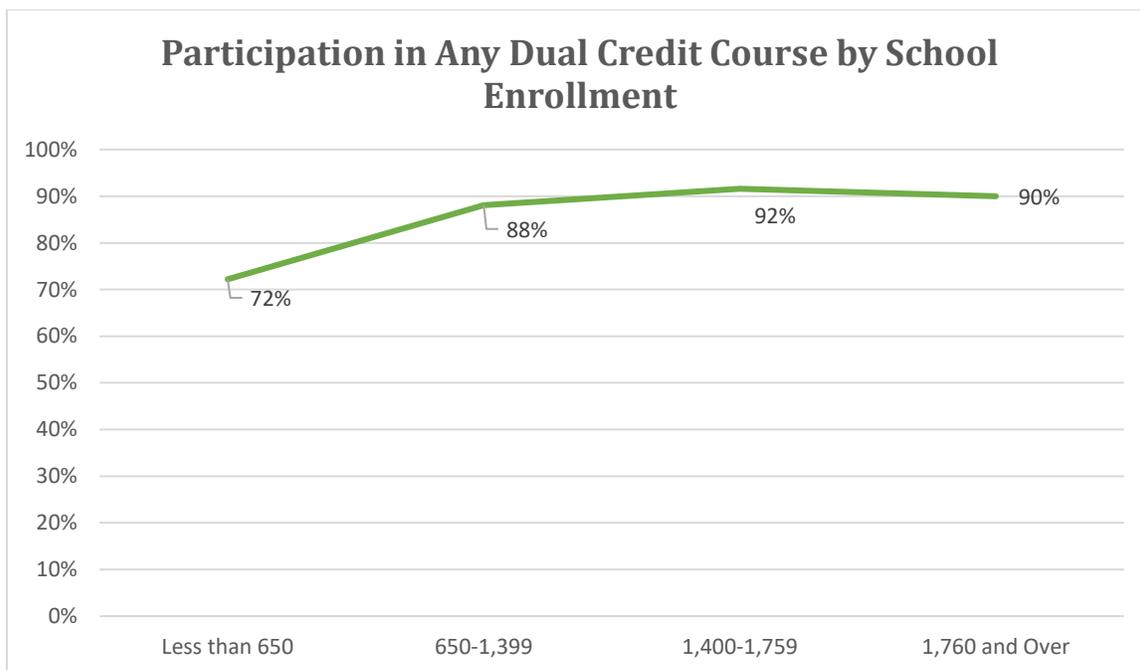
Students in the 2017 Cohort who attended schools with 23.1-35% of students eligible for free or reduced-price meals were more likely to experience higher participation rates in Running Start and Dual Credit for CTE.

¹⁹ Includes students in the Class of 2017 Cohort who graduated in 2017 or earlier. Students who graduated late are not included in Table 3. See Table 4 for a count of these students.

School Enrollment

The data was arranged into four categories of school enrollment: (1) Less than 650, (2) 650-1,399 (3) 1,400-1,759 and (4) 1,760 and over (Table 3).

Students in the 2017 Cohort who attended schools with enrollments of 1,400-1,759 were most likely to experience higher participation rates in dual credit.

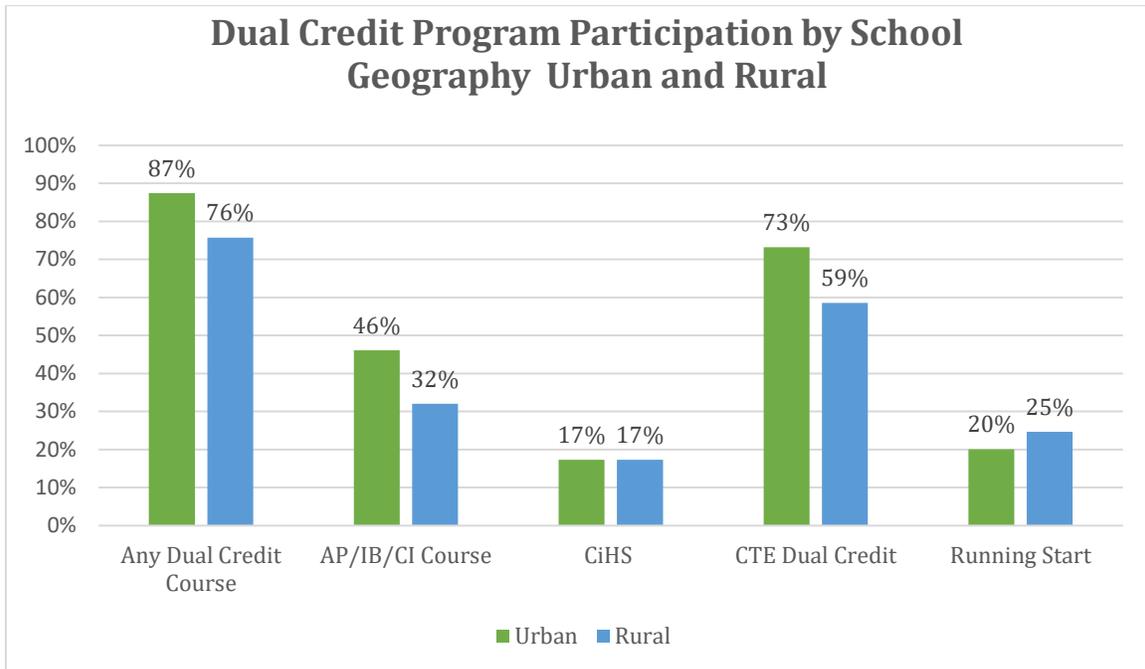


Schools who enrolled between 1,400-1,759 students were more likely to experience higher participation rates in AP/IB/CI and College in the High School followed by schools who enrolled 1,760 or more students.

Schools who served 1,760 students and over were more likely to experience higher participation rates in Dual Credit for CTE and Running Start.

School Geography

The data identified schools as urban and rural. Students in the 2017 Cohort who attended schools identified as urban were more likely to experience higher participation rates in dual credit than schools identified as rural. Students who attended urban schools were more likely to experience higher participation rates for AP/IB/CI and Dual Credit for CTE courses. Students who attended rural schools were more likely to experience higher participation rates for Running Start courses. Participation in College in the High School courses was the same for both urban and rural schools.



The data is further differentiated by students in the 2017 Cohort grouped by the locale of the last school the student attended before leaving high school. The data categorizes locale into twelve categories: large city, midsize city, small city²⁰, large suburb, midsize suburb, small suburb²¹, distant town, fringe town, remote town²², distant rural, fringe rural and remote rural²³.

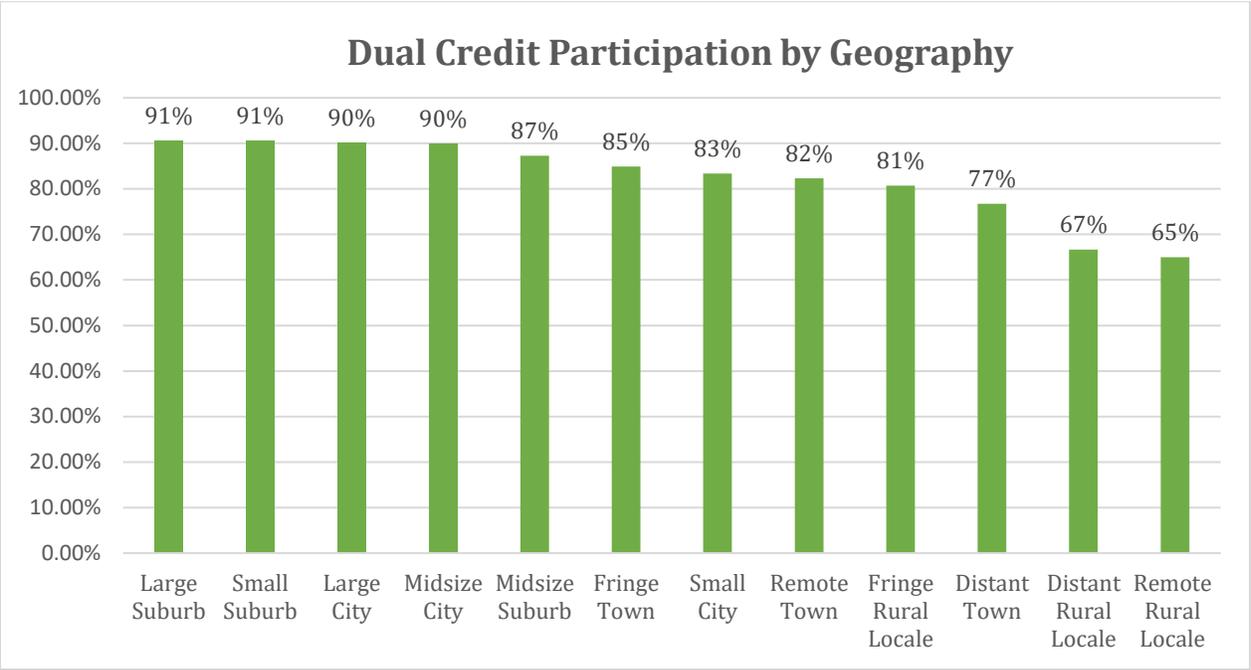
Students in the 2017 Cohort who participated in dual credit and attended schools located in large suburbs had the highest participation rates in dual credit. Students in the 2017 Cohort who participated in dual credit and attended schools located in remote rural locales had the lowest participation rates in dual credit.

²⁰ This dataset defines urban large cities as territories inside an urbanized area and inside a principal city with population of 250,000 or more. Urban midsize cities as territories inside an urbanized area and inside a principal city with a population of less than 250,000 and greater than or equal to 100,000. Urban small cities as territories inside an urbanized area and inside a principal city with a population of less than 100,000.

²¹ This dataset defines large urban suburbs as territories outside a principal city and inside an urbanized area with a population of 250,000 or more. Urban midsize suburbs are territories outside a principal city and inside an urbanized area with a population of less than 250,000 and greater than or equal to 100,000. Urban, small suburbs are territories outside a principal city and inside an urbanized area with a population of less than 100,000.

²² This dataset defines urban fringe towns are territories inside an urban cluster that is less than or equal to 10 miles from an urbanized area. Urban distant towns are territories inside an urban cluster that is more than 10 miles and less than or equal to 35 miles from an urbanized area. Urban remote towns are territories inside an urban cluster that is more than 35 miles of an urbanized area.

²³ This dataset defines rural fringe locales are census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster. Rural remote locales are census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster. Rural distant locales are census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster.



The highest participation rates in dual credit varied by dual credit course for students in the 2017 Cohort.

- Students who participated in dual credit and attended schools located in large and midsize cities and large suburbs had the highest participation rate in AP/IB/CI with rates of 71%, 59% and 53%.
- Students who participated in dual credit and attended schools located in distant towns, remote rural locales and midsize suburbs had the highest participation rate in College in the High School with rates of 24%, 23% and 22%.
- Students who participated in dual credit and attended schools located in fringe rural locales, large suburbs and remote rural locales had the highest participation rate in Running Start with rates of 26%, 23% and 22%
- Students who participated in dual credit and attended schools located in small suburbs, remote town locales and large suburbs had the highest participation rate in Dual Credit for CTE with rates of 83%, 78% and 77%.

Finding 4: The most popular dual credit courses are similar across dual credit programs except Dual Credit for CTE. While data was limited for AP/IB/CI, College in the High School (CiHS) and Career Technical Education (CTE) Dual Credit, data for Running Start courses suggested student demographics associated with under-represented student populations in education both participated at a lower level as measured by the number of courses taken and experienced lower completion rates.

AP/IB/Cambridge, College in the High School and Dual Credit for CTE Course Proportionality

Of the students in the 2017 Cohort who took AP/IB/Cambridge courses, 69% took at least one course in social sciences and history followed by English language and literature (52%), mathematics (40%), life and physical sciences (40%) and courses with no state code (16%) (Table 4)²⁴.

Of the students in the 2017 Cohort who took College in the High School courses, 38% took at least one course in mathematics, followed by life and physical science (31%), English language and literature (31%), courses with no state code (30%) and social sciences and history (20%) (Table 4).²⁵

Of the students in the 2017 Cohort who took Dual Credit for CTE courses, 43% took at least one course in computer and information sciences and support services followed by family and consumer sciences/human sciences (26%), business, management, marketing and related support services (21%) and visual and performing arts (16%) (Table 5).²⁶

Running Start Course Count and Grades Earned

Students in the 2017 Cohort took 183,001 Running Start courses (Table 6).

Of the student in the 2017 Cohort who took a Running Start course, the most often taken course was English language and literature/letters (16%) followed by social sciences (12%), mathematics and statistics (10%), history (7%) and visual and performing arts (7%)

²⁴ The ERDC dual credit data set is limited in its ability at this time to fully answer questions of the relationship between student characteristics, school characteristics and dual credit programs and courses. The data available for AP/IB/Cambridge, College in the High School and Dual Credit for CTE is limited by the structure of the high school course data collected by OSPI and does not allow for the collection of course counts. The data provided to ERDC from OSPI does not include a unique course record and, therefore, cannot calculate a count of courses taken, K-12 credits earned, or the average grade earned. The course data, analyzed below, for these dual credit programs are not counts of courses taken – what courses are taken most often – but instead measure of the students who took dual credit courses, what proportion of them took at least one course in a subject area. This is more of a measure of course popularity than of what courses are most often taken. The available data for Running Start courses does include course count, grades earned and completion. The data collected for Running Start comes from postsecondary institutions and not the K-12 system. The data set is unable to provide exam score data for AP/IB and Cambridge because ERDC does not have access to this data. The data request from COP asked two questions related to exam scores: (1) What is the average and median outcome score for the most common courses? and (2) Of the total exam completers, how many students score a 3 or higher in Advanced Placement, a 4 or higher on International Baccalaureate High- and Standard-Level exams and an E (e) or higher on Cambridge International?

²⁵ The proportion of courses where state course codes are missing is: 7% for AP/IB/Cambridge and 22% for College in the High School.

²⁶ If a student took multiple courses in a subject area, it is only counted once in Table 4 and Table 5.

The average grade earned for all Running Start courses for students in the 2017 Cohort was 2.85. Students in the 2017 Cohort, earned:

- Average grades of 3.0 or above for Running Start courses in visual and performing arts and communication/journalism/related programs.
- Average grades of between 2.75-3.0 for courses in English language and literature/letters, social sciences, physical sciences, psychology, foreign languages/literatures/linguistics, biological and biomedical sciences, business/management/marketing/related support services.
- Average grades between 2.5-2.75 for courses in mathematics and statistics, history and parks/recreation/leisure/fitness studies.

The median grade point average earned for all Running Start courses for students in the 2017 Cohort was 3.30. Students in the 2017 Cohort, earned:

- Median grades of 3.5 or above for Running Start courses in visual and performing arts, parks/recreation/leisure/fitness studies and communication/journalism/related programs.
- Median grades between 3.0-3.5 were English language and literature/letters, social sciences, mathematics and statistics, history, physical sciences, psychology, foreign languages/literatures/linguistics, biological and biomedical sciences and business/management/marketing/related support services.²⁷

Running Start Student Characteristics of Average and Median Courses Taken

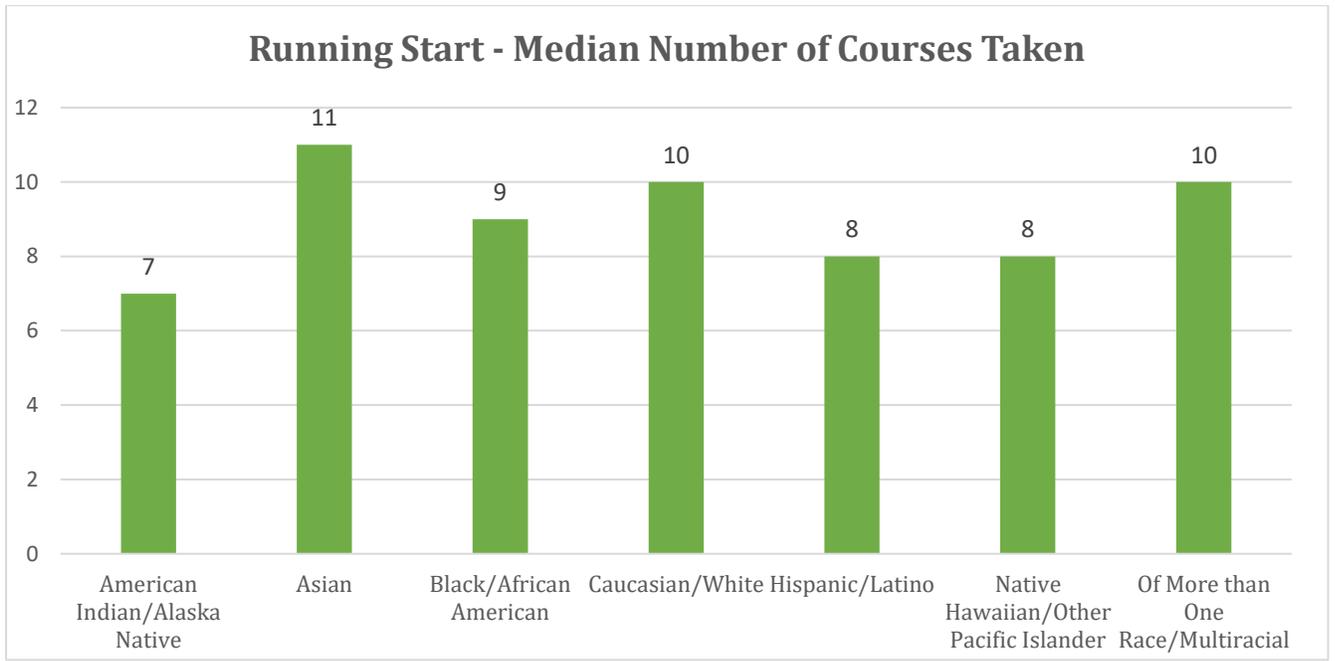
Students in the 2017 Cohort took on average 10.7 Running Start courses with a median number of 10 courses (Table 7).

Students in the 2017 Cohort who identified as female on average took 11 Running Start courses and students who identified as male took 10.1 courses. This was similar for the median number of courses with females taking a median number of 10 courses and males nine courses.

Students in the 2017 Cohort who identified as Asian²⁸ on average took 11.5 Running Start courses followed by students who identified as Caucasian/White (10.9 courses), Multiracial (10.8 courses) and Black/African American (9.9 courses). This was similar for the median number of courses with students who identified as Asian taking 11 courses, followed by students who identified as Caucasian/White with 10 courses, Multiracial students with 10 courses and Black/African American students with 9 courses.

²⁷Courses are categorized by CIP subject area.

²⁸ Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.



Students in the 2017 Cohort who experienced homelessness on average took 7.8 Running Start courses and students who were not experiencing homelessness took on average 10.7 courses. There was a slightly larger gap between students experiencing homelessness (6 courses) in the 2017 Cohort and students not experiencing homelessness (10 courses) for the median number of courses taken.

Students in the 2017 Cohort with disabilities on average took 7.3 Running start courses and students without disabilities took on average 10.8 courses. There was a slightly larger gap between students in the 2017 Cohort with disabilities (6 courses) and students without disabilities (10 courses) for the median number of courses taken.

The data for students in the 2017 Cohort included students who took Running Start courses and participated in a range of student support programs. The support programs included in this data analysis were: College Bound applicants, English language learners, free or reduced-price meal eligible, Gifted program, 504 Plan, migrant education and special education.

Students in the 2017 Cohort who were College Bound applicants, English language learners, free or reduced-price meal eligible and participated in a 504 Plan, migrant education and special education on average took fewer Running Start courses than students who were either not eligible or did not participate in one of these student support programs. The exception was students in the 2017 Cohort who participated in the Gifted program. Students in this program took more Running Start courses than students who did not participate.

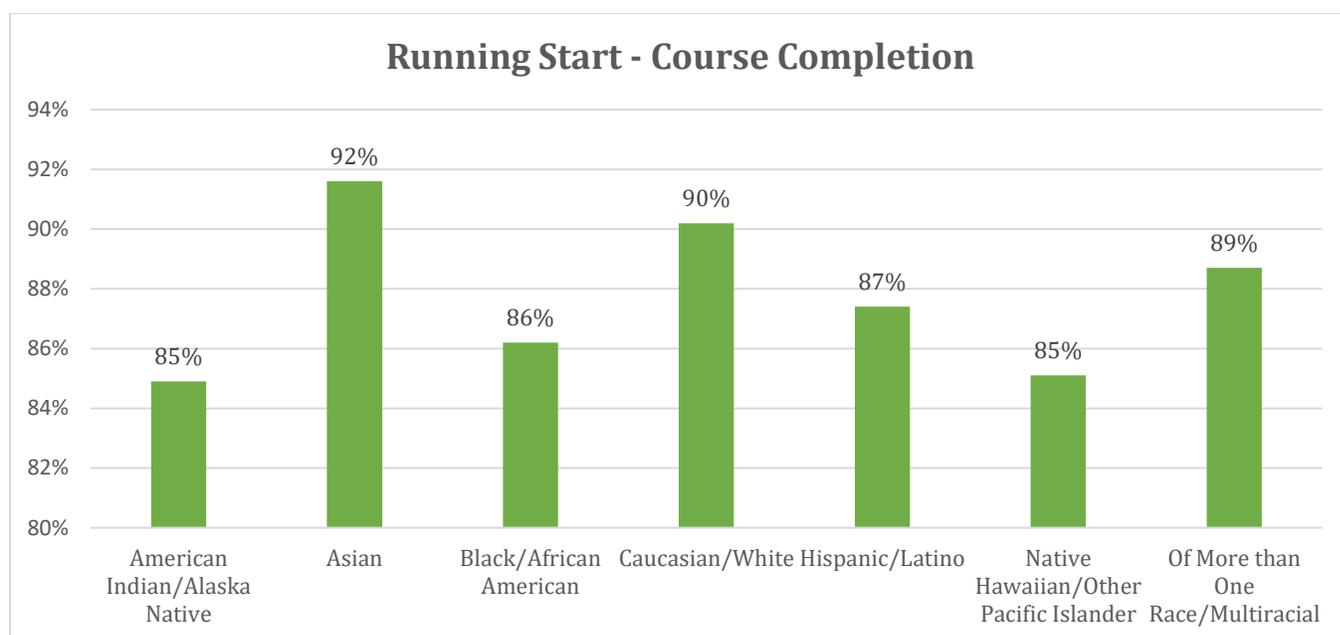
This was similar for the median number of Running Start courses taken by students in the 2017 Cohort eligible or participating in these student support programs. The exception was students in the 2017 Cohort who participated in the Gifted program. Students in who participated in this program took the same median number of courses as students who did not participate in the program.

Running Start Student Characteristics and Completion Rates

The 2017 Cohort had a completion rate of 90% for Running Start courses (Table 8).²⁹ Completion is defined as credits earned are greater than or equal to credits attempted. The unit of analysis is a course. The course completion rate is, of all courses taken by students in each sub-group what proportion were completed.

Students in the 2017 Cohort who identified as female had a completion rate of 91% for Running Start courses and students who identified as male had a completion rate of 88% for Running Start courses.

Students in the 2017 Cohort who identified as Asian had the highest completion rate of 92% for Running Start courses followed by students who identified as Caucasian/White (90%), Multiracial (89%) and Hispanic/Latino (87%).³⁰



Students in the 2017 Cohort who experienced homelessness had a completion rate of 78% for Running Start courses and students who did not experience homelessness had a completion rate of 90%.

Students in the 2017 Cohort with disabilities had a completion rate of 85% for Running Start courses and students without disabilities had a completion rate of 90%.

The data for students in the 2017 Cohort included students who took Running Start courses and participated in a range of student support programs. The support programs included in this data analysis were: College Bound applicants, English language learners, free or reduced-price meal eligible, Gifted program, 504 Plan, migrant education and special education.

Students in the 2017 Cohort who were College Bound applicants, English language learners, free or reduced-price meal eligible, participated in a 504 Plan, migrant education and special education

²⁹ The unit of analysis is a course.

³⁰ Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.

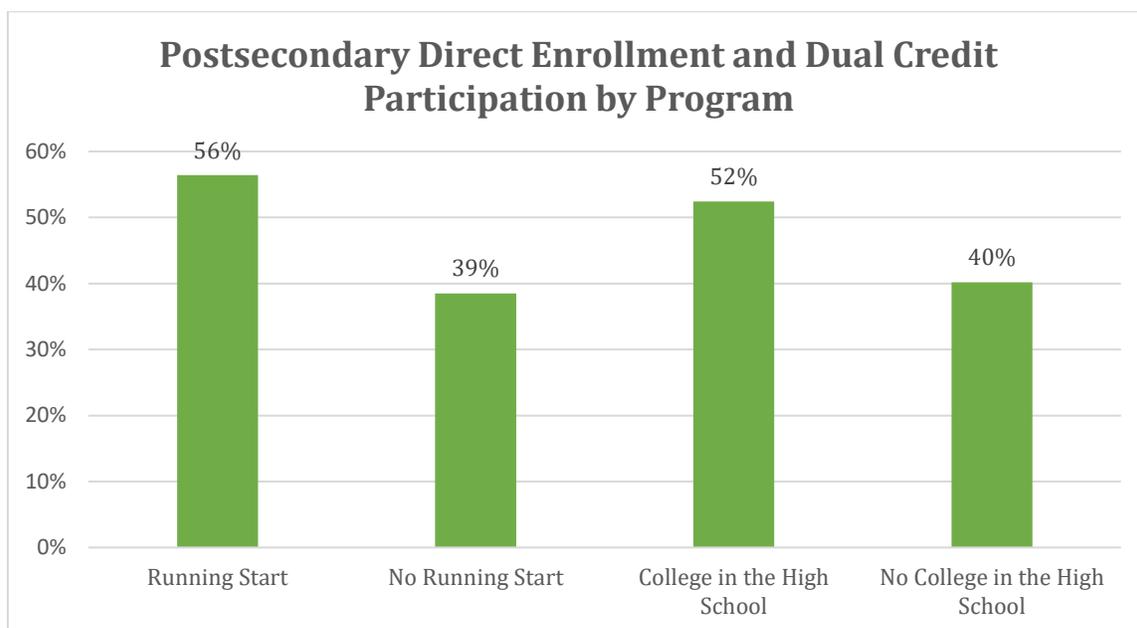
completed Running Start courses at a lower rate than students who were either not eligible or did not participate in one of these student support programs. The exception was students in the 2017 Cohort who participated in the Gifted program. Students in this program completed a higher percentage of Running Start courses than students who did not participate in this program.

Finding 5: Participation in Running Start and College in the High School is associated with higher levels of direct postsecondary enrollment after high school graduation across student demographics.

The 2017 Cohort included 27,914 (43%) students who enrolled directly in postsecondary education after graduating from high school (Table 9)³¹.

Of the high school graduates in the 2017 Cohort who participated in College in the High School, 52% enrolled directly in postsecondary education after graduating from high school compared to 40% of those who did not participate in College in the High School.

Of the high school graduates in the 2017 Cohort who participated in Running Start, 56% enrolled directly in postsecondary education after graduating from high school compared to 39% of those who did not participate in Running Start.



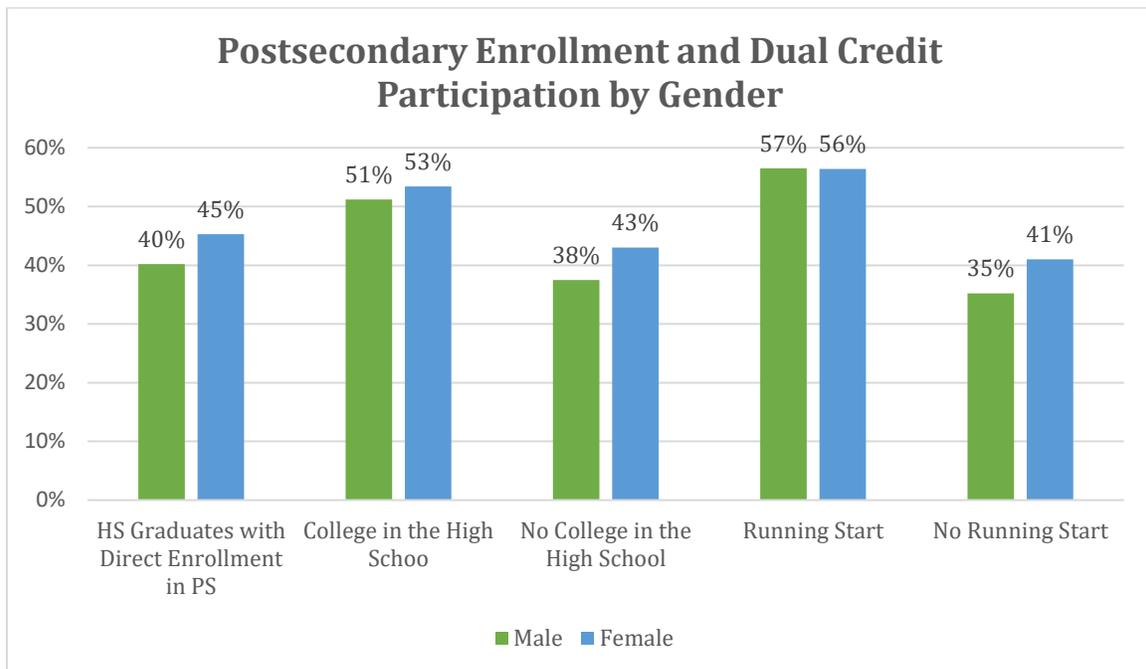
Gender

Students in the 2017 Cohort who identified as female directly enrolled in postsecondary education after graduating high school at a higher percentage (45%) compared to students who identified as males (40%).

³¹ This analysis does not address the following questions posed by WSAC due to the timeline for the request and data sharing approvals among entities: (1) What percent of students who enroll in dual credit courses in K12 earn college credit for their dual credit course(s), by type of dual credit? (2) What were the postsecondary outcomes for each type of dual credit participant/non-participant by type of Credential(s) completed and by type of dual credit? And (3) What was the time to degree? It is anticipated that responses to these questions will be available in future analysis. WSAC also expressed interest to ERDC in learning more about the relationship between postsecondary persistence and dual credit. Specifically, whether there is a “credit” threshold that is predictive of increased enrollment. ERDC did not have time within WSAC’s identified timeframe or the available data to respond.

Of the high school graduates in the 2017 Cohort who identified as female and participated in College in the High School, 53% enrolled directly in postsecondary education and 51% of students who identified as male and participated in College in the High School enrolled directly in postsecondary education. This is in comparison to 43% of students in the 2017 Cohort who identified as female who did not participate in College in the High School and 38% of students who identified as male.

Of the high school graduates in the 2017 Cohort who identified as female and participated in Running Start, 56% enrolled directly in postsecondary education and 57% of students who identified as male and participated in Running Start enrolled directly in postsecondary education. This is in comparison to 41% of students in the 2017 Cohort who identified as female who did not participate in Running Start and 36% of students who identified as male.

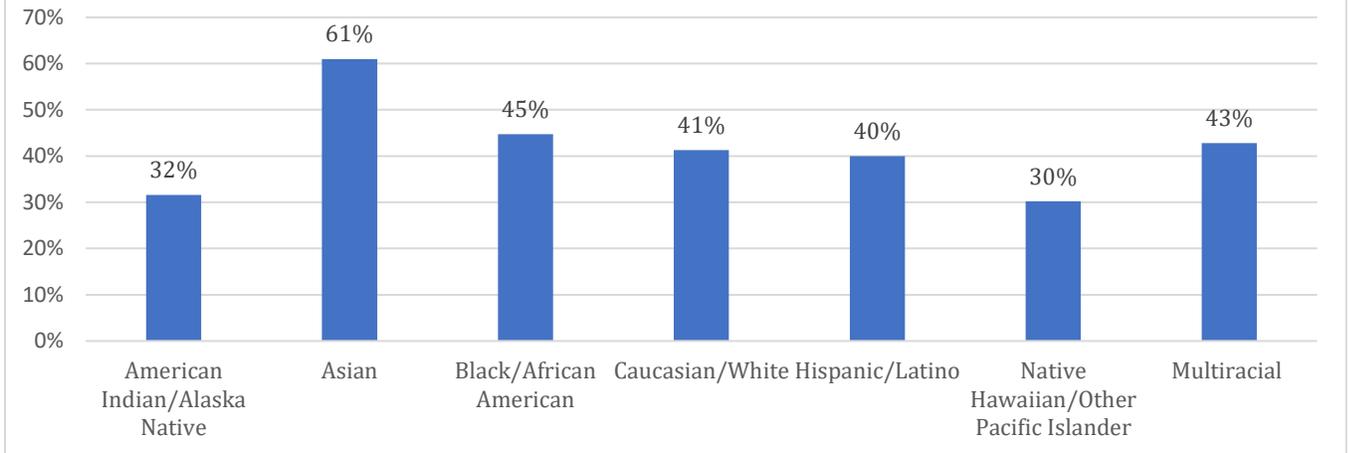


Race/Ethnicity³²

In the 2017 Cohort, 61% of students who identified as Asian directly enrolled in postsecondary education after graduating high school at the highest percentage, of all race/ethnicity subgroups.

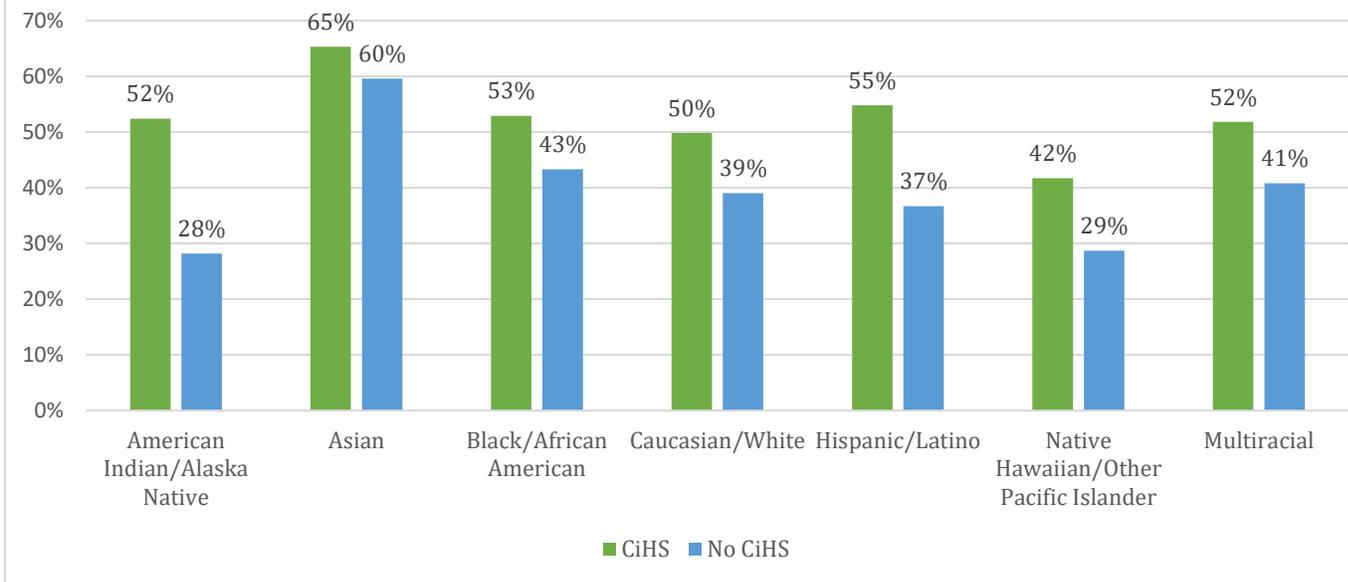
³² Percentages for the race/ethnicity subgroups are based on students with reported race/ethnicity data.

Direct Enrollment in Postsecondary Education by Race/Ethnicity

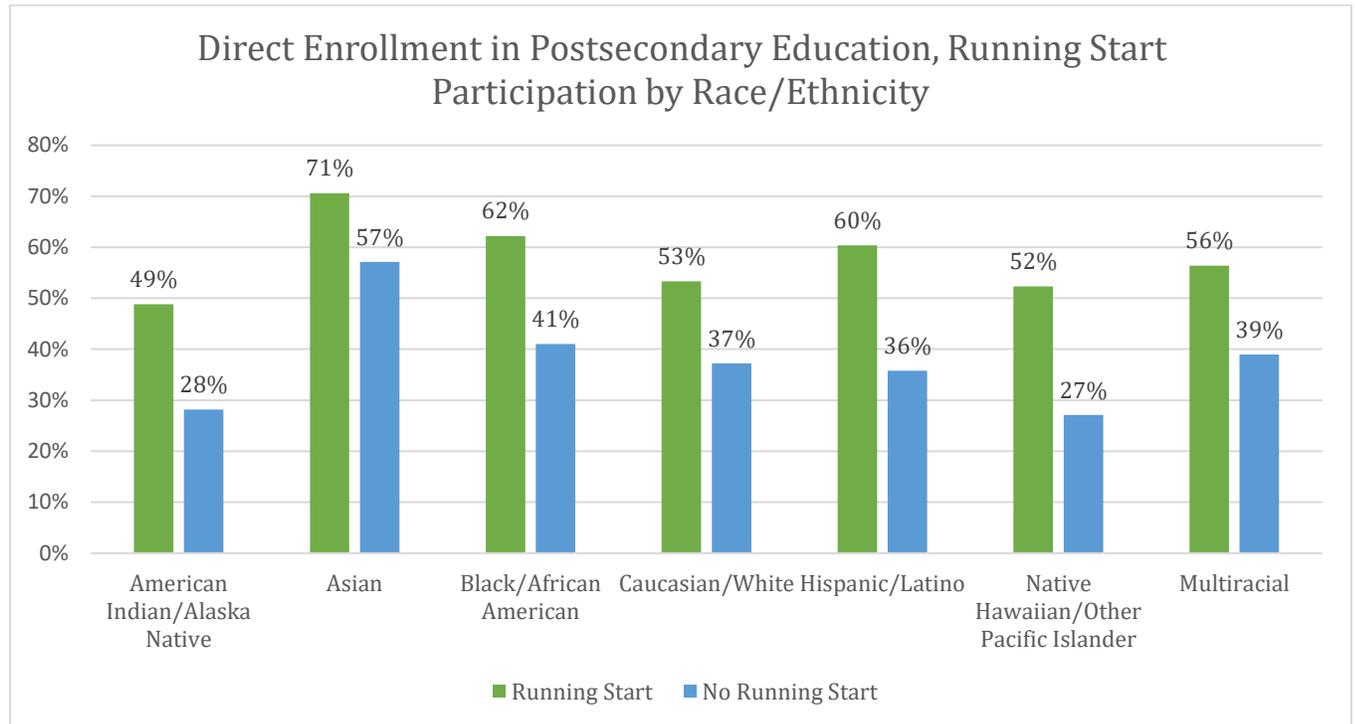


Of the high school graduates in the 2017 Cohort who identified as Asian and participated in College in the High School, 65% directly enrolled in postsecondary education after graduating high school, the highest percentage, of all race/ethnicity subgroups.

Direct Enrollment in Postsecondary Education, CiHS Participation by Race/Ethnicity



Of the high school graduates in the 2017 Cohort who identified as Asian and participated in Running Start, 71% directly enrolled in postsecondary education after graduating high school, the highest percentage, of all race/ethnicity subgroups.



Free or Reduced-Price Meal Eligible Students

In the 2017 Cohort, 47% of students not eligible to participate in the free or reduced-price meal program directly enrolled in postsecondary education after graduating high school compared to 38% of students eligible to participate in the free or reduced-price meal program.

In the 2017 Cohort,

- 53% of students **not eligible** to participate in the free or reduced-price meal program and **participated** in College in the High School directly enrolled in postsecondary education.
- 51% of students **eligible** to participate in the free or reduced-price meal program and **participated** in College in the High School directly enrolled in postsecondary education.
- 45% of students **not eligible** to participate in the free or reduced-price meal program and **did not participate** in College in the High School directly enrolled in postsecondary education.
- 35% of students **eligible** to participate in the free or reduced-price meal program and **did not participate** in College in the High School directly enrolled in postsecondary education.

In the 2017 Cohort,

- 57% of students **not eligible** to participate in the free or reduced-price meal program and **participated** in Running Start directly enrolled in postsecondary education.
- 56% of students **eligible** to participate in the free or reduced-price meal program and **participated** in Running Start directly enrolled in postsecondary education.

- 45% of students **not eligible** to participate in the free or reduced-price meal program who **did not participate** in Running Start directly enrolled in postsecondary education.
- 35% of students **eligible** to participate in the free or reduced-price meal program and **did not participate** in Running Start directly enrolled in postsecondary education.

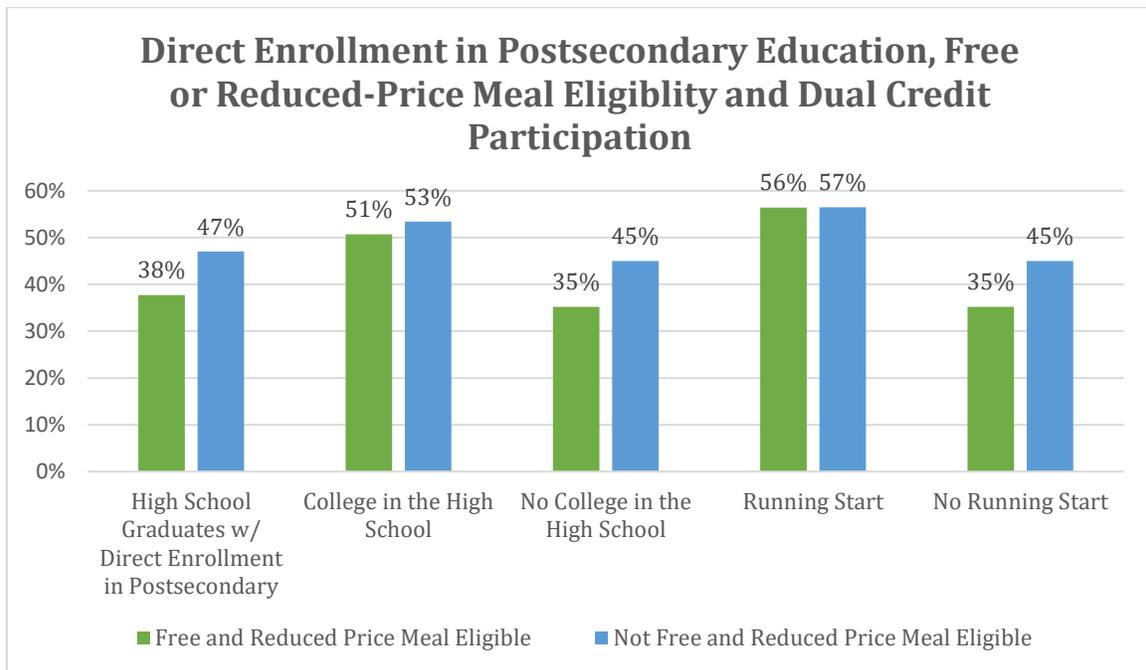


Table 1. Characteristics and program participation of students with graduation requirement year 2017, who participated in at least one dual credit course, by type of dual credit course.

Subgroup	All Students in Cohort		Participants in Any Dual Credit Course		Participants in Any AP, IB or Cambridge		Participants in Any College in the HS Course		Participants in Any CTE Dual Credit Course		Participants in Any Running Start Course	
	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %	N	Col %
All students in cohort	81,828	100.0%	69,949	85.5%	35,689	43.6%	13,855	16.9%	58,271	71.2%	16,609	20.3%
Gender												
Male	41,965	51.3%	35,660	51.0%	16,742	46.9%	6,472	46.7%	30,636	52.6%	6,787	40.9%
Female	39,863	48.7%	34,289	49.0%	18,947	53.1%	7,383	53.3%	27,635	47.4%	9,822	59.1%
Race/Ethnicity												
American Indian or Alaska Native	1,216	1.5%	826	1.2%	256	0.7%	117	0.8%	699	1.2%	133	0.8%
Asian	6,061	7.4%	5,662	8.1%	4,277	12.0%	1,385	10.0%	4,576	7.9%	1,634	9.8%
Black or African American	3,878	4.7%	3,380	4.8%	1,755	4.9%	459	3.3%	3,038	5.2%	557	3.4%
Caucasian or White	48,223	58.9%	41,370	59.1%	21,059	59.0%	8,652	62.4%	33,802	58.0%	10,942	65.9%
Hispanic or Latino	16,337	20.0%	13,473	19.3%	5,465	15.3%	2,344	16.9%	11,784	20.2%	2,236	13.5%
Native Hawaiian or Other Pacific Islander	780	1.0%	652	0.9%	331	0.9%	68	0.5%	569	1.0%	71	0.4%
Of more than one race or Multiracial	5,323	6.5%	4,582	6.6%	2,546	7.1%	830	6.0%	3,800	6.5%	1,035	6.2%
Homeless	6,163	7.5%	4,593	6.6%	1,393	3.9%	503	3.6%	4,130	7.1%	475	2.9%
Student with Disability	11,037	13.5%	8,157	11.7%	1,556	4.4%	614	4.4%	7,673	13.2%	453	2.7%
Program Participation												
College Bound applicant	25,719	31.4%	21,917	31.3%	9,583	26.9%	3,702	26.7%	19,039	32.7%	4,546	27.4%
English Language Learner	5,240	6.4%	3,989	5.7%	1,197	3.4%	394	2.8%	3,665	6.3%	343	2.1%
Free or Reduced Price Meal-eligible	42,859	52.4%	34,944	50.0%	13,931	39.0%	5,260	38.0%	30,518	52.4%	6,535	39.3%
Gifted program	5,551	6.8%	5,222	7.5%	4,298	12.0%	1,828	13.2%	3,716	6.4%	1,723	10.4%
504 Plan	5,123	6.3%	4,449	6.4%	2,139	6.0%	958	6.9%	3,807	6.5%	902	5.4%
Migrant Education	2,083	2.5%	1,544	2.2%	389	1.1%	289	2.1%	1,371	2.4%	195	1.2%
Special Education	10,340	12.6%	7,564	10.8%	1,204	3.4%	493	3.6%	7,182	12.3%	332	2.0%

Note: The percentages are of all students in the dual credit group or, for the first column, all students in the cohort. This table shows the characteristics of the students in each type dual credit course. Percentages are column level. For example, 47 percent of the students who participated in any AP, IB or Cambridge course were. You would use this table to determine whether a subgroup is over- or under- represented in dual credit when you compare to the proportion in the entire cohort. In the example of males, since they make up 51% of the cohort, you could say they are slightly under-represented among the AP, IB or Cambridge course takers.

Table 2. Dual credit participation rate by student characteristics, program participation and dual credit type for students with graduation requirement year 2017.

Subgroup	Participants in Any Dual Credit Course		Participants in Any AP, IB or Cambridge Course		Participants in Any College in the HS Course		Participants in Any CTE Dual Credit Course		Participants in Any Running Start Course	
	N	%	N	%	N	%	N	%	N	%
All students in cohort	69,949	85.5%	35,689	43.6%	13,855	16.9%	58,271	71.2%	16,609	20.3%
Gender										
Male	35,660	85.0%	16,742	39.9%	6,472	15.4%	30,636	73.0%	6,787	16.2%
Female	34,289	86.0%	18,947	47.5%	7,383	18.5%	27,635	69.3%	9,822	24.6%
Race/Ethnicity										
American Indian or Alaska Native	826	67.9%	256	21.1%	117	9.6%	699	57.5%	133	10.9%
Asian	5,662	93.4%	4,277	70.6%	1,385	22.9%	4,576	75.5%	1,634	27.0%
Black or African American	3,380	87.2%	1,755	45.3%	459	11.8%	3,038	78.3%	557	14.4%
Caucasian or White	41,370	85.8%	21,059	43.7%	8,652	17.9%	33,802	70.1%	10,942	22.7%
Hispanic or Latino	13,473	82.5%	5,465	33.5%	2,344	14.3%	11,784	72.1%	2,236	13.7%
Native Hawaiian or Other Pacific Islander	652	83.6%	331	42.4%	68	8.7%	569	72.9%	71	9.1%
Of more than one race or Multiracial	4,582	86.1%	2,546	47.8%	830	15.6%	3,800	71.4%	1,035	19.4%
Homeless	4,593	74.5%	1,393	22.6%	503	8.2%	4,130	67.0%	475	7.7%
Not Homeless	65,356	86.4%	34,296	45.3%	13,352	17.6%	16,134	21.3%	16,134	21.3%
Disability	8,157	73.9%	1,556	14.1%	614	5.6%	7,673	69.5%	453	4.1%
No Disability	61,792	87.3%	34,133	48.2%	13,241	18.7%	16,156	22.8%	16,156	22.8%
Program Participation										
College Bound applicant	21,917	85.2%	9,583	37.3%	3,702	14.4%	19,039	74.0%	4,546	17.7%
Not College Bound applicant	48,032	85.6%	26,106	46.5%	10,153	18.1%	39,232	69.9%	12,063	21.5%
English Language Learner	3,989	76.1%	1,197	22.8%	394	7.5%	3,665	69.9%	343	6.5%
Not English Language Learner	65,960	86.1%	34,492	45.0%	13,461	17.6%	54,606	71.3%	16,266	21.2%
Free or Reduced Price Meal-eligible	34,944	81.5%	13,931	32.5%	5,260	12.3%	30,518	71.2%	6,535	15.2%
Not Free or Reduced Price Meal-eligible	35,005	89.8%	21,758	55.8%	8,595	22.1%	27,753	71.2%	10,074	25.9%
Gifted program	5,222	94.1%	4,298	77.4%	1,828	32.9%	3,716	66.9%	1,723	31.0%
Not Gifted program	64,727	84.9%	31,391	41.2%	12,027	15.8%	54,555	71.5%	14,886	19.5%
504 Plan	4,449	86.8%	2,139	41.8%	958	18.7%	3,807	74.3%	902	17.6%
No 504 Plan	65,500	85.4%	33,550	43.7%	12,897	16.8%	54,464	71.0%	15,707	20.5%
Migrant Education	1,544	74.1%	389	18.7%	289	13.9%	1,371	65.8%	195	9.4%
Not Migrant Education	68,405	85.8%	35,300	44.3%	13,566	17.0%	56,900	71.4%	16,414	20.6%
Special Education	7,564	73.2%	1,204	11.6%	493	4.8%	7,182	69.5%	332	3.2%
Not Special Education	62,385	87.3%	34,485	48.2%	13,362	16.3%	51,089	71.5%	16,277	22.8%

Note: Table 2 shows the percentage of each subgroup (e.g., Homeless students) who participated in a dual credit course type. These are row percentages. The denominators are in the first column of Table 1. As such, this table indicates the rate of participation among different subgroups of students.

Table 3. Dual credit participation rate by school characteristics (2016-17 SY) and type of dual credit course for students with graduation requirement year 2017.

	Participants in Any Dual Credit Course		Participants in Any AP, IB or Cambridge Course		Participants in Any College in the HS Course		Participants in Any CTE Dual Credit Course		Participants in Any Running Start Course	
	N	%	N	%	N	%	N	%	N	%
Total	69,804	8552.00%	35,655	43.7	13,850	17.0	58,132	71.2	16,591	20.3
Percent Free or Reduced Price Meals										
0 - 23	17,387	88.8	10,774	55.0	4,486	22.9	14,035	71.7	4,355	22.2
23.1 - 35	18,398	88.7	9,987	48.2	3,445	16.6	15,272	73.6	4,685	22.6
35.1 - 55	20,480	84.8	8,984	37.2	4,099	17.0	17,128	71.0	4,837	20.0
55.1 - 100	13,539	78.9	5,910	34.4	1,820	10.6	11,697	68.2	2,714	15.8
School Enrollment										
Less than 650	14,520	72.2	4,038	20.1	2,779	13.8	12,142	60.3	3,256	16.2
650 - 1399	18,311	88.1	10,001	48.1	2,715	13.1	15,137	72.9	4,459	21.5
1400 - 1,759	17,964	91.6	10,926	55.7	4,354	22.2	14,839	75.7	4,084	20.8
1,760 and over	19,009	90.0	10,690	50.6	4,002	19.0	16,014	75.8	4,792	22.7
Locale Type (ULOCAL)										
Large City	3,031	90.1	2,398	71.3	662	19.7	2,401	71.4	684	20.3
Midsized City	10,368	89.8	6,782	58.7	1,763	15.3	8,566	74.2	2,023	17.5
Small City	1,926	83.4	4,610	39.7	953	8.2	8,032	69.3	2,121	18.3
Suburb, Large	21,824	90.6	12,787	53.1	5,036	20.9	18,493	76.8	5,420	22.5
Suburb, Midsize	6,206	87.3	2,650	37.3	1,530	21.5	4,966	69.9	1,452	20.4
Suburb, Small	1,962	90.5	620	28.6	269	12.4	1,802	83.1	378	17.4
Town, Distant	3,697	76.7	1,043	21.7	1,152	23.9	3,008	62.4	985	20.4
Town, Fringe	2,587	84.9	1,102	36.2	570	18.7	2,200	72.2	628	20.6
Town, Remote	2,320	82.3	555	19.7	233	8.3	2,204	78.2	511	18.1
Rural, Distant	1,301	66.7	395	20.2	344	17.6	937	48.0	416	21.3
Rural, Fringe	4,970	80.7	2,187	35.5	995	16.2	4,006	65.1	1,621	26.3
Rural, Remote	785	65.0	395	32.7	273	22.6	513	42.5	261	21.6
Urban	61,668	87.4	32,547	46.1	12,168	17.3	51,672	73.2	14,202	20.1
Rural	7,056	75.7	2,977	32.0	1,612	17.3	5,456	58.6	2,298	24.7

Table 4. Proportion of AP, IB, Cambridge and College in the HS program participants who took at least one AP, IB or Cambridge course in the subject area, students with graduation requirement year of 2017.

State Course Code Subject Area Title	AP, IB, or Cambridge	College in the HS
Agriculture, Food, and Natural Resources	0.2%	0.5%
Business and Marketing	1.2%	2.3%
Communications and Audio/Visual Technology	0.8%	0.9%
Computer and Information Sciences	6.9%	5.4%
Engineering and Technology	0.4%	1.8%
English Language and Literature	51.7%	31.1%
Fine and Performing Arts	6.1%	2.1%
Foreign Language and Literature	0.0%	0.3%
Health Care Sciences	0.1%	0.8%
Hospitality and Tourism	0.0%	0.2%
Human Services	0.3%	0.6%
Life and Physical Sciences	39.5%	31.3%
Manufacturing	0.0%	0.4%
Mathematics	39.7%	37.5%
Miscellaneous	0.7%	0.5%
No state course code	16.3%	29.9%
Physical, Health, and Safety Education	0.0%	1.7%
Public, Protective, and Government Service	0.0%	0.2%
Religious Education and Theology	0.2%	0.0%
Social Sciences and History	69.2%	20.0%
Transportation, Distribution and Logistics	0.0%	0.1%
Source: OSPI CEDARS Grade History file, State Course Code subject area		

Note: Course records missing a state course code in the CEDARS data are not included in calculations for Table 4.

Table 5. Proportion of CTE dual credit program participants who took at least one course in the subject area, students with graduation requirement year 2017.

CIP Family Title	CTE Dual Crec
COMPUTER AND INFORMATION SCIENCES AND SUPPORT SERVICES.	43.1%
FAMILY AND CONSUMER SCIENCES/HUMAN SCIENCES.	25.8%
BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES.	20.7%
VISUAL AND PERFORMING ARTS.	15.7%
COMMUNICATIONS TECHNOLOGIES/TECHNICIANS AND SUPPORT SERVICES.	14.5%
AGRICULTURE, AGRICULTURE OPERATIONS, AND RELATED SCIENCES.	9.3%
HEALTH PROFESSIONS AND RELATED PROGRAMS.	9.2%
PERSONAL AND CULINARY SERVICES.	7.7%
MATHEMATICS AND STATISTICS.	6.7%
ENGINEERING TECHNOLOGIES AND ENGINEERING-RELATED FIELDS.	6.2%
MECHANIC AND REPAIR TECHNOLOGIES/TECHNICIANS.	6.2%
PRECISION PRODUCTION.	4.7%
FOREIGN LANGUAGES, LITERATURES, AND LINGUISTICS.	4.4%
ENGINEERING.	3.7%
NATURAL RESOURCES AND CONSERVATION.	2.9%
BIOLOGICAL AND BIOMEDICAL SCIENCES.	2.9%
BASIC SKILLS AND DEVELOPMENTAL/REMEDIAL EDUCATION.	2.3%
CONSTRUCTION TRADES.	2.2%
HOMELAND SECURITY, LAW ENFORCEMENT, FIREFIGHTING AND RELATED PROTECTIVE SERVICES.	2.1%
LEGAL PROFESSIONS AND STUDIES.	1.8%
EDUCATION.	1.4%
COMMUNICATION, JOURNALISM, AND RELATED PROGRAMS.	1.1%
SOCIAL SCIENCES.	0.9%
PARKS, RECREATION, LEISURE, AND FITNESS STUDIES.	0.9%
PHYSICAL SCIENCES.	0.8%
MILITARY SCIENCE, LEADERSHIP AND OPERATIONAL ART.	0.5%
TECHNOLOGY EDUCATION/INDUSTRIAL ARTS.	0.3%
TRANSPORTATION AND MATERIALS MOVING.	0.2%
ENGLISH LANGUAGE AND LITERATURE/LETTERS.	0.1%

Source: OSPI CEDARS Grade History file, CTE CIP Code-first 2 digits joined to 2010 CIP code data to get the CIP Family title

Table 6. Running Start--Top twelve subject areas (CIP Family) of Running Start courses taken by students with graduation requirement year 2017: proportion of all RS courses taken, average and median grade earned.

CIP Family	Count of Courses	% of Courses Taken	Average Grade Earned in all courses in the subject area	Median Grade Earned in all courses in the subject area
ENGLISH LANGUAGE AND LITERATURE/LETTERS.	29,686	16.2%	2.83	3.30
SOCIAL SCIENCES.	22,085	12.1%	2.83	3.20
MATHEMATICS AND STATISTICS.	18,326	10.0%	2.70	3.00
HISTORY.	13,091	7.2%	2.71	3.00
VISUAL AND PERFORMING ARTS.	12,995	7.1%	3.12	3.70
PHYSICAL SCIENCES.	12,192	6.7%	2.88	3.20
PARKS, RECREATION, LEISURE, AND FITNESS STUDIES.	11,579	6.3%	2.59	4.00
PSYCHOLOGY.	8,551	4.7%	2.88	3.30
FOREIGN LANGUAGES, LITERATURES, AND LINGUISTICS.	8,321	4.5%	2.99	3.40
BIOLOGICAL AND BIOMEDICAL SCIENCES.	7,870	4.3%	2.76	3.00
COMMUNICATION, JOURNALISM, AND RELATED PROGRAMS.	7,067	3.9%	3.18	3.70
BUSINESS, MANAGEMENT, MARKETING, AND RELATED SUPPORT SERVICES.	6,037	3.3%	2.87	3.30
ALL COURSES	183,001	100.0%	2.85	3.30
Source: ERDC P20W Data Warehouse				

Table 7. Average and median number of Running Start courses taken during high school: student characteristics and program participation of students with graduation requirement year 2017 who took at least one Running Start course.

Subgroup	Average Number of Running Start courses	Median Number of Running Start courses
Total	10.7	10.0
Gender		
Male	10.1	9.0
Female	11.0	10.0
Race/Ethnicity		
American Indian or Alaska Native	8.7	7.0
Asian	11.5	11.0
Black or African American	9.9	9.0
Caucasian or White	10.9	10.0
Hispanic or Latino	9.4	8.0
Native Hawaiian or Other Pacific Islander	9.8	8.0
Of more than one race or Multiracial	10.8	10.0
Homeless	7.8	6.0
Not Homeless	10.7	10.0
Disability	7.3	6.0
No Disability	10.8	10.0
Program Participation		
College Bound applicant	10.5	9.0
Not College Bound applicant	10.7	10.0
English Language Learner	8.4	7.0
Not English Language Learner	10.7	10.0
Free or Reduced Price Meal-eligible	10.3	9.0
Not Free or Reduced Price Meal-eligible	10.9	10.0
Gifted program	8.2	7.0
Not Gifted program	8.0	7.0
504 Plan	8.8	8.0
No 504 Plan	10.8	10.0
Migrant Education	7.5	6.0
Not Migrant Education	10.7	10.0
Special Education	7.2	6.0
Not Special Education	10.7	10.0

Source for Running Start course data: ERDC P20W Data Warehouse

Table 8. Running Start—Completion rates for Running Start courses for students with graduation requirement year 2017 by student characteristics and program participation (unit of analysis is course).

Subgroup	Course Completion Rate
Total	89.7%
Gender	
Male	88.3%
Female	90.7%
Race/Ethnicity	
American Indian or Alaska Native	84.9%
Asian	91.6%
Black or African American	86.2%
Caucasian or White	90.2%
Hispanic or Latino	87.4%
Native Hawaiian or Other Pacific Islander	85.1%
Of more than one race or Multiracial	88.7%
Homeless	
Homeless	77.6%
Not Homeless	90.0%
Disability	
Disability	84.9%
No Disability	89.8%
Program Participation	
College Bound applicant	87.6%
Not College Bound applicant	90.5%
English Language Learner	86.2%
Not English Language Learner	89.6%
Free or Reduced Price Meal-eligible	86.9%
Not Free or Reduced Price Meal-eligible	91.5%
Gifted program	92.2%
Not Gifted program	89.4%
504 Plan	85.9%
No 504 Plan	89.9%
Migrant Education	87.6%
Not Migrant Education	89.8%
Special Education	83.9%
Not Special Education	89.8%

Source for Running Start course data: ERDC P20W Data Warehouse

Table 9. Direct enrollment in WA public postsecondary institutions: Class of 2017 high school graduates, by College in the High School and Running Start program participation and student characteristics.

	HS Graduates with Direct Enrollment in PS		College in the High School		No College in the High School		Running Start		No Running Start	
	N	%	N	%	N	%	N	%	N	%
All students in cohort	27,914	42.7%	6,898	52.4%	21,016	40.2%	8,617	56.4%	19,297	38.5%
Gender										
Male	12,924	40.1%	3,116	51.2%	9,808	37.5%	3,464	56.5%	9,460	36.2%
Female	14,990	45.3%	3,782	53.4%	11,208	43.0%	5,153	56.4%	9,837	41.0%
Race/Ethnicity										
American Indian or Alaska Native	235	31.6%	55	52.4%	180	28.2%	60	48.8%	175	28.2%
Asian	3,267	61.0%	870	65.3%	2,397	59.6%	1,084	70.6%	2,183	57.1%
Black or African American	1,250	44.7%	219	52.9%	1,031	43.3%	306	62.2%	944	41.0%
Caucasian or White	16,394	41.3%	4,134	49.8%	12,260	39.0%	5,366	53.3%	11,028	37.2%
Hispanic or Latino	4,783	40.0%	1,186	54.8%	3,597	36.7%	1,237	60.4%	3,546	35.8%
Native Hawaiian or Other Pacific Islander	162	30.2%	25	41.7%	137	28.7%	34	52.3%	128	27.1%
Of more than one race or Multiracial	1,823	42.8%	409	51.8%	1,414	40.8%	530	56.4%	1,293	39.0%
Free or Reduced Price Meal-eligible										
Yes	11,313	37.7%	2,430	50.7%	8,883	35.2%	3,284	56.4%	8,883	35.2%
No	16,601	47.0%	4,468	53.4%	12,133	45.0%	5,333	56.5%	12,133	45.0%

	Class of 2017 Cohort		Did not graduate		2013-2014		2014-2015		2015-2016		2016-2017		2017-2018	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Total	81,828	100.0%	13,458	16.4%	<10	NA	<10	NA	263	0.3%	65,111	79.6%	2,987	3.7%
Gender														
Male	41,965	51.3%	8,002	19.1%	<10	NA	<10	NA	86	0.2%	32,174	76.7%	1,702	4.1%
Female	39,863	48.7%	5,456	13.7%	<10	NA	<10	NA	177	0.4%	32,937	82.6%	1,285	3.2%
Race/Ethnicity														
American Indian or Alaska Native	1,216	1.5%	417	34.3%	<10	NA	<10	NA	<10	NA	734	60.4%	55	4.5%
Asian	6,061	7.4%	532	8.8%	<10	NA	<10	NA	25	0.4%	5,330	87.9%	171	2.8%
Black or African American	3,878	4.7%	903	23.3%	<10	NA	<10	NA	27	0.7%	2,767	71.4%	179	4.6%
Caucasian or White	48,223	58.9%	6,942	14.4%	<10	NA	<10	NA	157	0.3%	39,564	82.0%	1,558	3.2%
Hispanic or Latino	16,337	20.0%	3,585	21.9%	<10	NA	<10	NA	30	0.2%	11,936	73.1%	785	4.8%
Native Hawaiian or Other Pacific Islander	780	1.0%	198	25.4%	<10	NA	<10	NA	<10	NA	537	68.8%	45	5.8%
Of more than one race or Multiracial	5,323	6.5%	872	16.4%	<10	NA	<10	NA	15	0.3%	4,242	79.7%	194	3.6%
Free or Reduced Price Meal-eligible														
Free or Reduced Price Meal-eligible	42,859	52.4%	10,593	24.7%	<10	NA	<10	NA	156	0.4%	29,862	69.7%	2,240	5.2%
Not Free or Reduced Price Meal-eligible	38,969	47.6%	2,865	7.4%	<10	NA	<10	NA	107	0.3%	35,249	90.5%	747	1.9%

APPENDIX A

COP ERDC Data Request Form B

To be completed by data requester

This data request form is for data requests to ERDC that do **not** involve redisclosure of identifiable data to the requester, and which do **not** involve substantial statistical analysis or new measures to be created with the data.

1. Contact Information

Requester: Julie Garver

Agency or Organization Name: Council of Presidents

Email Address: jgarver@councilofpresidents.org

Telephone Number: 360-292-4102

Date Submitted: January 13, 2020

2. Question

Study Questions:

- What are the characteristics of students participating in a dual credit course?
- What is the relationship between dual credit participation and school characteristics?
- What are the relationships between the student characteristics, the school characteristics and dual credit programs/courses?
 - What are courses most often taken in high school by dual credit program?
 - What is the average and median number of dual credit courses high school students take statewide? What is the average and median number of dual credit courses by dual credit program?
 - What is the average and median outcome score for the most common courses? (i.e., exam score for AP/IB/Cambridge and grade for CiHS and Running Start
 - Of the total exam completers, how many students score a 3 or higher on Advance Placement, a 4 or higher on International Baccalaureate High Level and Standard Level and E or higher on Cambridge International

Study Purpose / Rationale: The rationale of this study is to respond to state-level policy questions and inform institutional policies and practices.

3. Cohort

Study Cohort: 2015 graduate year and 2017 graduation year

Comparison Groups:

4. Demographic and Outcome variables

School characteristics: location, size, FRPL population, dual credit offering, dual credit completion rates by dual credit program

Student characteristics: race and ethnicity, income, graduation status, school attending, dual credit course completion, high school GPA, institution attended post-high school graduation.

5. Data Sources

Using the data menu chart, please select the organizations whose data is required to complete the project or request.

Education: SBCTC OSPI DCYF COP WSAC 4-year institutions

Workforce: ESD WECTB L&I

Justice: DOC

Social services: DCYF DSHS

Health: DSHS DOH HCA

(Note: Data requests that involve data beyond education and workforce data may involve more scrutiny and a lengthier IRB process.)

6. Example Table

While not strictly required, it is very helpful to provide an example table of what you hope the results might look like.

7. Notes

Is there anything else you want us to know about this project: The Council of Presidents is requesting analysis by ERDC of the identified study questions above.

APPENDIX B

WSAC ERDC Data Request Form A

To be completed by data requester

This data request form is for two types of data uses:

- Data requests to ERDC that involve redisclosure of identifiable data to the requester. This includes data with no direct identifiers, but which still includes indirect identifiers (such as demographic and geographic variables), as well as unredacted aggregate data that includes small cell counts. This form should be completed for new data requests, and to receive a refresh or additional data related to a prior data request.
- Data requests involving ERDC that do **not** involve redisclosure of identifiable data to the requester, but which involves substantial data analysis, new measures, or a public-facing dashboard or report. This may be, for example, a request for aggregate data from an external researcher, partner, or agency, or a grant project conducted by ERDC staff.

1. Contact Information

Principle Investigator: Sarah Pasion

Title: Data Analyst Department: Research

Agency or Organization Name: Washington Student Achievement Council

Email Address: sarahp@wsac.wa.gov Telephone Number: 360-753-7820

Date Submitted: 05/12/2020

2. Basic Information

Project Title: Dual Credit Descriptive Analysis

Abstract: Requesting all the available dual credit data to answer the study questions below.

Study Questions: What is the relationship between participation (enrollment) in dual credit in K12 and direct enrollment in post-secondary (all types – CTC, 4-year)? Are students who enroll in dual credit (all programs - RS, CiHS, CTE, AP/IB/CI) more likely to directly enroll in post-secondary than students who do not enroll in dual credit? What does this look like when broken down by dual credit program (RS, CiHS, CTE, AP/IB/CI) and by school type (CTC, 4-year)? What percent of students who enroll in dual credit courses in K12 earn college credit for their dual credit course(s), by type of dual credit (RS, CiHS, CTE only – no AP/IB/CI)?

What was the postsecondary outcomes for each type of dual credit participant/non-participant by type of Credential(s) completed

(certificate, associate, bachelors) and by type of dual credit (RS, CiHS, CTE, AP/IB/CI)? What was the time to degree? Which demographic subgroups (race/ethnicity, income) are over-represented/under-represented in dual credit programs (broadly and by program type – RS, CiHS, CTE, AP/IB/CI)?

Study Purpose / Rationale: The rationale of this study is to respond to state-level policy questions, to understand outcomes of dual credit programs, to understand the populations of students that participate in the various dual credit programs, and to inform state policies and practices.

3. Request Type

For projects that involve redisclosure:

Is this a new data request, or a request for additional data under a prior data request and/or data sharing agreement?

New Additional data / refresh

If this is a request for a refresh of data or additional data, please provide the following information:

Prior request #:

Data sharing agreement K#:

4. FERPA and IRB Information

Yes No Is this study an audit or evaluation of a state- or federally funded education program?

If so, what is the program being audited or evaluated?

In what way is the program being audited or evaluated?

Yes No Is this study intended to produce *generalizable knowledge*?

5. Data Sources

Using the data menu chart, please select the organizations whose data you are requesting as part of your data request.

- Education: SBCTC (2-year institutions) OSPI DCYF COP WSAC
 All 4-year institutions UW WWU EWU CWU WSU Evergreen
- Workforce: ESD WTECB L&I (registered apprenticeships)
- Justice: DOC
- Social services: DCYF DSHS
- Health: DSHS DOH HCA

(Note: Data requests that involve data beyond education and workforce data may involve more scrutiny and a lengthier IRB process.)

6. Other Data

- Yes No Will the data requester be providing personally identifiable information to ERDC to identify the cohort of students involved in the request?

If so, please explain:

- Yes No Will the data provided in this request be linked to or combined with data from sources other than the ERDC? (I.e., will data received under the request be linked by the requester to data not provided by ERDC?)

If so, please explain:

7. Contact with Data Contributors

- Yes No Have you made contact with data contributors, and consulted with them on your study questions, rationale, and design?

If yes, please describe prior interactions with data contributors: The dual credit workgroup meetings within the past year and a half

8. Funding

Yes No Have you received outside funding to conduct this study?

If yes, please describe funding sources:

9. Cohort & Data Elements

Study Cohort: 2015 graduation year and 2017 graduation year

Comparison Groups:

Data Elements Requested: All of the available data elements as discussed during the dual credit workgroup meetings

(Please ensure that only necessary data elements are included here. Best practices require that we ensure that data requests are confined to only those elements needed to answer a particular questions of study.)

[Click or tap here to enter text.](#)

10. Methods & Analysis

Please describe your study design, methods, and planned analysis: We will be conducting descriptive analysis of the data

11. Timeline

- ERDC's data sharing agreements require that data requestors submit draft publications that use ERDC data to ERDC for review prior to publication. This review involves two steps:
- (1) ERDC reviews to ensure that drafts are FERPA compliant. If data included in the draft is not FERPA compliant, ERDC reserves the right to require edits to bring the material into compliance.
 - (2) ERDC will send the drafts to data contributors, who will review the analyses, methods, and use of the data included in the study, and provide feedback to the data requestors.

Please build into your timeline space to submit materials created using ERDC data to ERDC for review and check the box to the left if you are able to comply with this requirement.

Describe the timeline of your study:

(If this is a refresh of a prior data request, or a request for additional information, please describe the activities conduct so far, and how they relate to previously submitted timelines.)

June 2021

When do you plan to submit deliverables to ERDC for review? 9/1/2021

12. Notes

Is there anything else you want us to know about your study: We plan to use this data for the July Council meeting.