WEC Supporting PreK-12

Wisconsin Evaluation Collaborative

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Academic and Career Planning Evaluation

2020-21

WISCONSIN UNIVERSITY OF WISCONSIN-MADISON

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About the Wisconsin Evaluation Collaborative

The Wisconsin Evaluation Collaborative (WEC) is housed at the Wisconsin Center for Education Research at the University of Wisconsin-Madison. WEC's team of evaluators supports youth-serving organizations and initiatives through culturally responsive and rigorous program evaluation. Learn more at http://www.wec.wceruw.org.

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Copyright Information

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Section 1

Introduction

Introduction

The following is the final report for the 2020-21 Evaluation of Academic and Career Planning (ACP) conducted by the Wisconsin Evaluation Collaborative (WEC), part of the Wisconsin Center for Education Research (WCER) at the University of Wisconsin-Madison, for the Wisconsin Department of Public Instruction (DPI).

Purpose of the Evaluation

This 2020-21 evaluation report examines findings from Year 6 of the ACP statewide evaluation, which WEC has conducted since the initial pilot phase of ACP starting in 2015-16. Previous annual evaluations focused on the ACP pilot and the statewide implementation process. In 2020-21, we continue the examination of implementation as well as examine ACP-relevant outcomes.

Specifically, during 2020-21, WEC built upon the mixed methods evaluation that took place during prior years, conducting a statewide survey among school leaders to follow up on findings from the previous year, including progress made in implementation, challenges and successes, perceptions about stakeholder awareness of and attitudes toward ACP, and the effects of COVID-19 on ACP. For more information on the findings from the 2020-21 survey, see Academic and Career Planning Survey 2020-21. In addition to the 2020-21 survey, WEC received statewide administrative data from DPI through 2019-20 (the most recent year available), which WEC used to analyze logic model outputs and outcomes to compare to baseline data for the longitudinal analysis. A focus on specific infrastructural elements and student activities (outputs) was continued to understand how they are realized in various contexts, to measure their prevalence, and to measure possible associations between outputs and outcomes at the school and student levels over time.

WEC also plans to continue its qualitative work conducting case studies as in prior years. Reports detailing the findings of this future work will be forthcoming.

Evaluation Questions

The overarching evaluation questions for the statewide evaluation can be found on the following page.

The specific infrastructure elements and student activities of interest, referred to in Evaluation Questions 1-3, are the following:

Infrastructural elements:

1. An inclusive schoolwide culture with administrative engagement, prioritized goals, staff participation and which is student-focused.
2. Regular and ongoing informing of and engaging families in their students' ACP.
3. Regular and ongoing supportive and safe student relationships with adults.
4. Non-judgmental, informed, comprehensive education and career advising.
5. Equitable access to all ACP opportunities.
6. Regular, ongoing and dedicated time for ACP activities.
7. Outlined ACP activity curriculum that is scaffolded and developmentally appropriate (scope and sequence).
8. Career pathways.

Student activity components

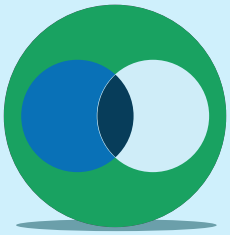
1. Students participating in career-based learning activities.
2. Students taking dual credit, AP, and IB courses.
3. Students participating in Industry-Recognized Credentials (IRCs).
4. Students utilizing knowledge and skills gained through ACP activity participation to set, modify, and update personal, education and career goals.
5. Students choosing CTE and academic courses applicable to their ACP/career goals.

Due to delayed qualitative case study efforts, this evaluation report only examines evaluation questions 1, 2, 4, and 5.

Evaluation Questions

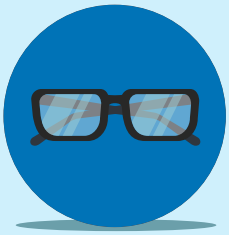
1.

To what extent are school districts and schools implementing ACP infrastructure and activities?



2.

What are the varieties of ACP infrastructure and activities across different school and district contexts?

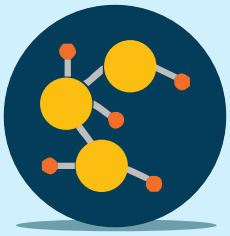


3.

What are stakeholder (administrators, school counselors, teachers, students, families) perceptions about ACP infrastructure and activities?

4.

What, if any, changes have occurred in terms of student outcome data compared to baseline data?



5.

What, if any, associations between ACP elements and outcomes can be measured at school or student levels?

Methodology

To address the evaluation questions, WEC evaluators designed a study comprised of two major components:

1. School-level survey of ACP coordinators
2. Statewide implementation and outcome data

School-Level Survey of ACP Coordinators

WEC evaluators developed and programmed a web-based survey in Qualtrics intended to gather information statewide from ACP coordinators of schools with any grades 6 through 12. For those schools for which we did not have contact information for an ACP coordinator, the survey was sent to the school principal. The purpose of the survey was to collect information related to ACP implementation during the fourth full year (2020-21) of statewide implementation. Specific areas of interest were ACP awareness and knowledge, ACP component implementation, ACP curriculum, continuous improvement of ACP, and how COVID-19 and remote instruction affected ACP. We continued to include items related to opportunity and funding limitations connected to certain ACP student activities, and the decision-making processes that districts/schools implemented to determine how to allocate resources and select students for participation in activities.

WEC opened the survey on January 26, 2021 and sent it to school leaders representing ACP schools in Wisconsin. The survey closed on March 5, 2021. The total number of respondents was 495, with 361 completing the full survey for a response rate of 40 percent and a completion rate of 73 percent. Key findings are included throughout this report. For the full survey report, please refer to Academic and Career Planning Survey 2020-21, July 2021.

Statewide Implementation and Outcome Data

To evaluate the implementation of certain ACP infrastructural and student activity components, WEC requested the following statewide administrative data:

- Implementation
  - Student participation in career-based learning activities
  - Student enrollment in dual enrollment and college-level industry certification courses
  - Student enrollment in Advanced Placement (AP) and International Baccalaureate (IB) courses
  - Xello lesson completion
- Short-term outcomes
  - Attendance rates
  - Out-of-school suspension rates
- Intermediate outcomes
  - ACT composite scores
  - AP exam scores
  - High school completion
- Long-term outcomes
  - Post-secondary enrollment

WEC received the majority of these sources for all years 2014-15 through 2019-20. There were, however, restrictions on some of the requested outcome data. For student participation in career-based learning activities, student enrollment in dual-credit courses, and student enrollment in college level industry certification courses, the data source that provided these results, the Career and Technical Education Enrollment Reporting System (CTEERS), transitioned to a new Career Education data reporting system in 2018-19. As a result of this transition, this report only examines implementation of these data starting in 2018-19. As of the time of writing this report, DPI was not able to provide post-secondary enrollment data for 2019-20, so the evaluation was not able to examine this long-term ACP outcome. In addition, WEC received Xello data for 2019-20, but these data did not include linkable information to other DPI administrative data. Thus, the evaluation was not able to examine Xello participation by student subgroups. Further, as COVID-19 resulted in changing practices in nearly all schools toward the end of the 2019-20 school year, the evaluation examined each outcome in 2019-20 to see if the distribution changed considerably compared to other years. Both out-of-school suspension rates and AP exam scores in 2019-20 differed enough from prior years to raise concerns about interpretation of results. As a result, this evaluation does not include updated findings for these two outcomes.

To understand how ACP is associated with the short- and intermediate-term outcomes noted above, the evaluation must identify a comparison group of non-ACP students and schools. Because ACP was first implemented statewide in 2017-18, there are no non-ACP students and schools in that year or the years following that could be used as a comparison. To account for this, the evaluation used a pre/post design to follow and compare the same schools both before and after exposure to ACP implementation. The treatment group was all schools in 2017-18 through 2019-20 (as ACP is statewide). For a comparison group, the evaluation used all of the same schools throughout the state in the years prior to ACP implementation. To account for any long-term trends occurring throughout the state, the analysis used three prior years of baseline data on the intended outcomes (specifically 2014-15 through 2016-17). To conduct this outcomes analysis, WEC received data on these outcomes from 2014-15 through 2019-20. The evaluation then used multivariate regression models to estimate the associated impact of ACP on these outcomes while controlling for a variety of student- and school-level characteristics. The models compared each outcome in 2017-18, 2018-19, and 2019-20 to the previous three years of outcomes within each school to estimate the impact associated with ACP on these outcomes in each of those three years of implementation. The student-level controls included gender, race/ethnicity, special education status, economic status (as measured by free or reduced price lunch eligibility), English learner (EL) status, and grade level (as appropriate for the outcome). The analysis included school-level controls for locale description, including indicator variables for city, suburb, town, and rural.

In addition to examining the overall change in these outcomes, the evaluation also included an analysis to explore associations for levels of ACP implementation. The evaluation identified levels of ACP implementation from the 2017-18 through 2019-20 ACP implementation building-level surveys.[1] Specifically, four different measures of ACP implementation were identified: infrastructural element implementation, equitable access implementation, dedicated ACP time implementation, and student activity component implementation. For each of these implementation metrics, the evaluation combined all relevant survey item responses into a single score with values ranging from 0 (not yet started) through 3 (institutionalized). Implementation scores near 1 indicate the initiated level, and scores near 2 indicate the implemented level. Since not all schools responded to each year of the survey, if a school responded in any one year, the evaluation assigned response values for that school to other missing years. The evaluation did not include schools not responding to any year of the survey in this analysis.

For further information about the quantitative methodology, refer to Appendix A.

Limitations

There are limitations to the extent to which findings in this evaluation can be generalized. The response rate for the school survey is by no means a census; it may be that those respondents engaging less intensively in ACP activities did not choose to report their work.

All output measures of implementation provided in this report are contingent upon available data. Additionally, results on these output measures should only be used for comparison to ACP implementation and should not be used for purposes that are more general. It is likely that results presented on these measures differ slightly from those publicly reported by DPI due to differences in data availability and calculation practices. For all purposes other than ACP evaluation use, publicly reported data from DPI should take priority in standing.

While the outcome analysis provides the most rigorous possible evaluation given the statewide implementation of ACP and available data, there are several limitations. The primary limitation is that identification of ACP impact solely relies on changes between the 2014-15 through 2016-17 school years and the 2017-18 through 2019-20 school years. It is possible that the implementation of other programs and policies aligned with the start of ACP during 2017-18. Thus, the estimated impact of ACP may also include these program or policy changes. The second limitation occurs from prior implementation of ACP practices. As many schools likely implemented several ACP infrastructural and student activity components prior to official implementation in 2017-18, the estimated impacts are likely downward biased (toward zero) from using these prior years as a comparison. The third limitation, new to this year's evaluation, is a change in outcomes occurring from COVID-19. As noted previously, out-of-school suspensions and AP exam scores differed considerably compared to previous years, and results for these outcomes were not updated for this year's evaluation. It is possible, however, that COVID-19 also impacted the outcome results presented in this report. Due to these limitations, the results presented in this report should not be considered causal. For further information on limitations associated with the outcomes analysis, refer to Appendix A.

1 Refer to the Academic and Career Planning Evaluation Implementation Year School-Level Survey Results, Academic and Career Planning 2018-19 Evaluation Survey Results, and Academic and Career Planning Survey 2019-2020 Results reports for further details.

Section 2

Findings

Findings

In this section, we present data and findings in two different categories. ACP Implementation examines the results of the evaluation pertaining to Evaluation Questions 1 and 2. ACP Outcomes examines the results of the evaluation pertaining to Evaluation Questions 4 and 5.

ACP Implementation

This section of the findings covers Evaluation Question 1 (to what extent are school districts and schools implementing ACP infrastructure and activities?) and Evaluation Question 2 (what are the varieties of ACP infrastructure and activities across different school and district contexts?). The findings under these two questions focus on the extent to which ACP is being implemented in the state and on variations of the infrastructural elements.

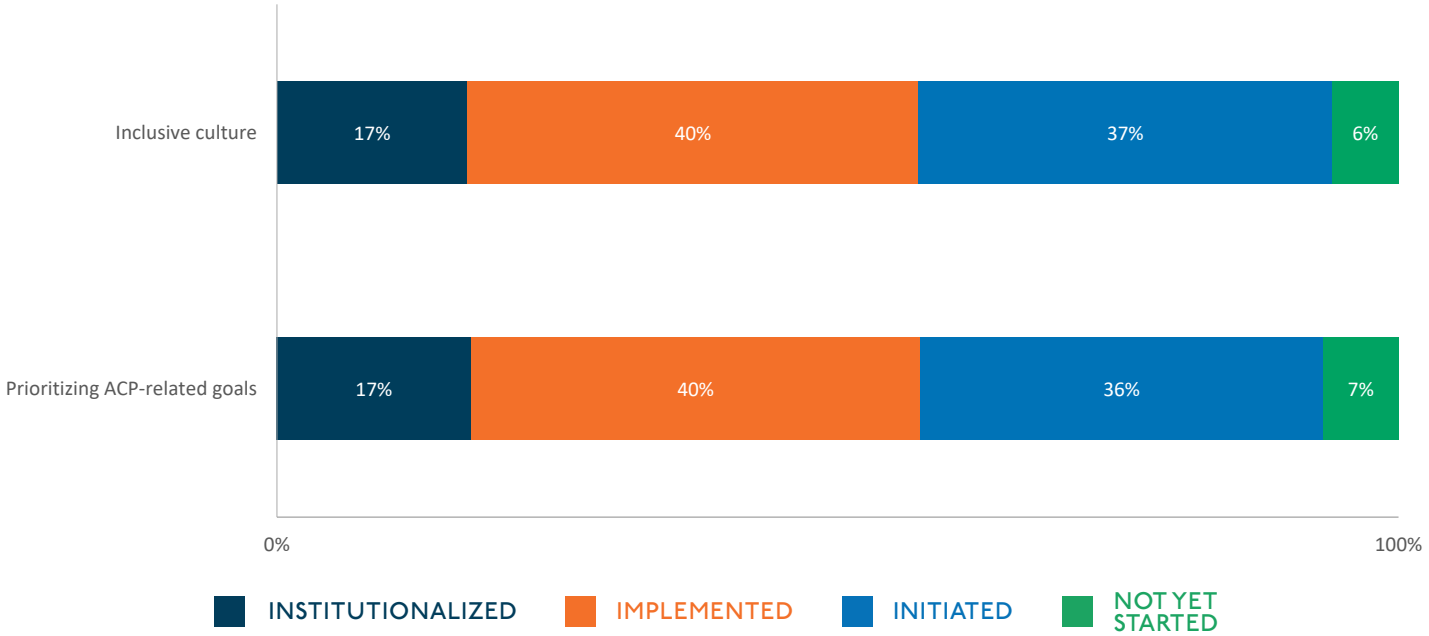
Infrastructural elements

An inclusive school wide culture with administrative engagement, prioritized goals, staff participation and which is student-focused.

School-level survey results provide information on the levels of ACP infrastructure implementation during 2020-21. Several of the items on this survey examined the level of inclusive school wide culture. All of these items inquired as to level of implementation in a respondent's school with response options ranging from "institutionalized" to "not yet started." Figure 1 and Figure 2 show the results from these items. As these figures illustrate, the majority of respondents indicated that the prioritization of ACP goals, inclusive culture, making ACP student-focused, and administrative engagement were either at the institutionalized or implemented level. One area that respondents reported had less implementation was full staff participation in ACP, with 32 percent indicating this element was at the implemented stage and 12 percent indicating it was institutionalized.

Figure 1: Implementation of ACP Inclusive Culture and Prioritized ACP Goals

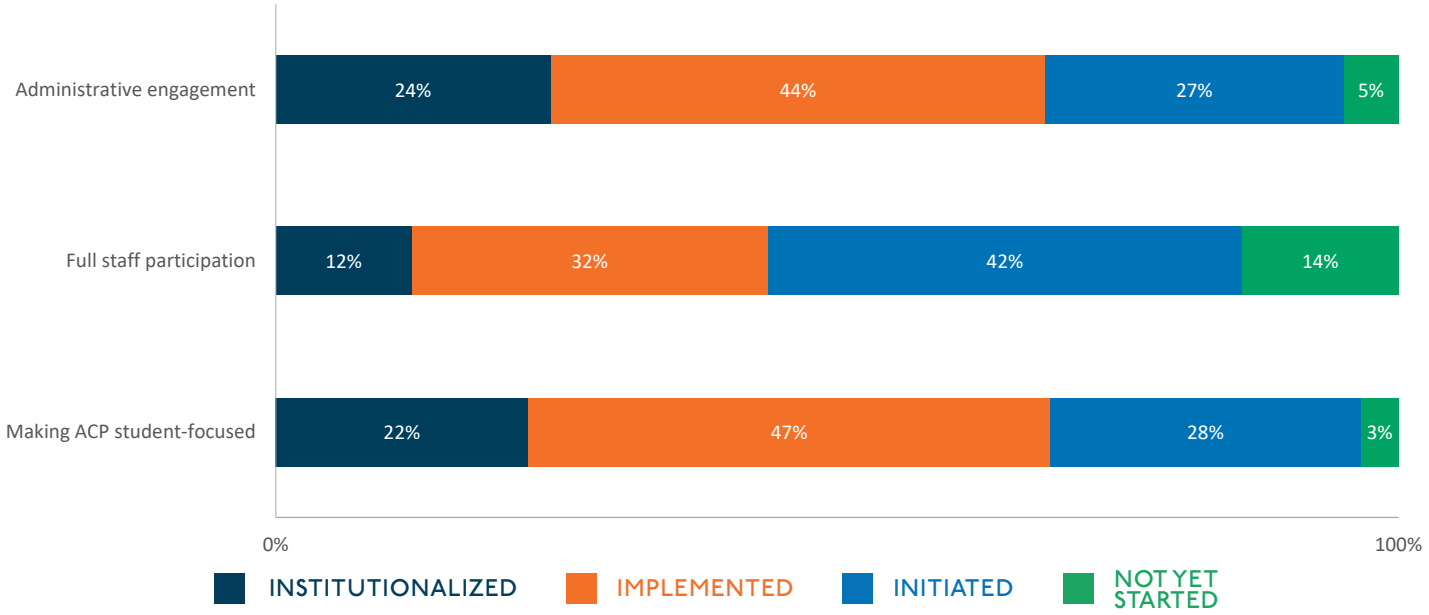
2020-21



Source: Academic and Career Planning Survey 2020-21

Figure 2: Implementation of ACP Administrative Engagement, Full Staff Participation, and Student-Focused ACP

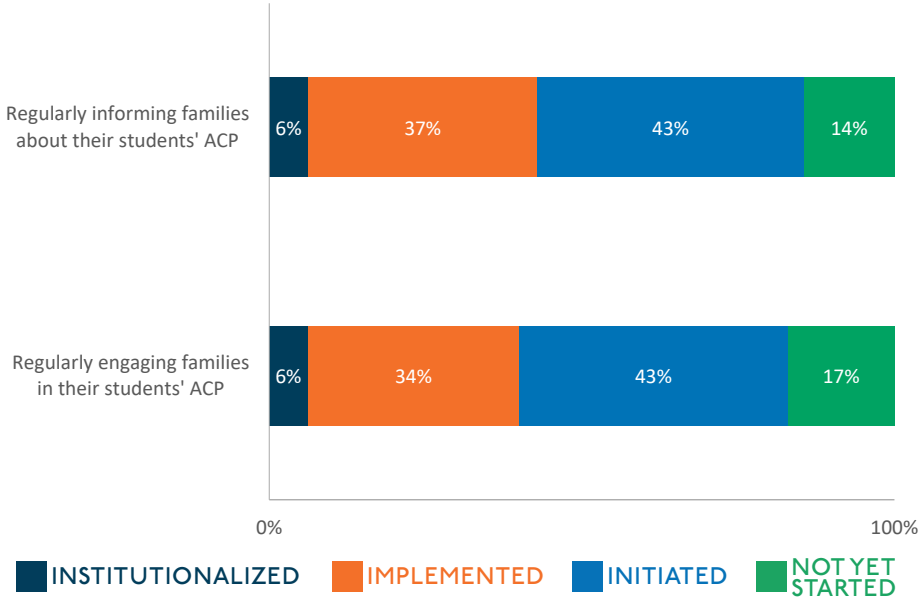
2020-21



Source: Academic and Career Planning Survey 2020-21

Figure 3: Implementation of ACP Family Engagement

2020-21



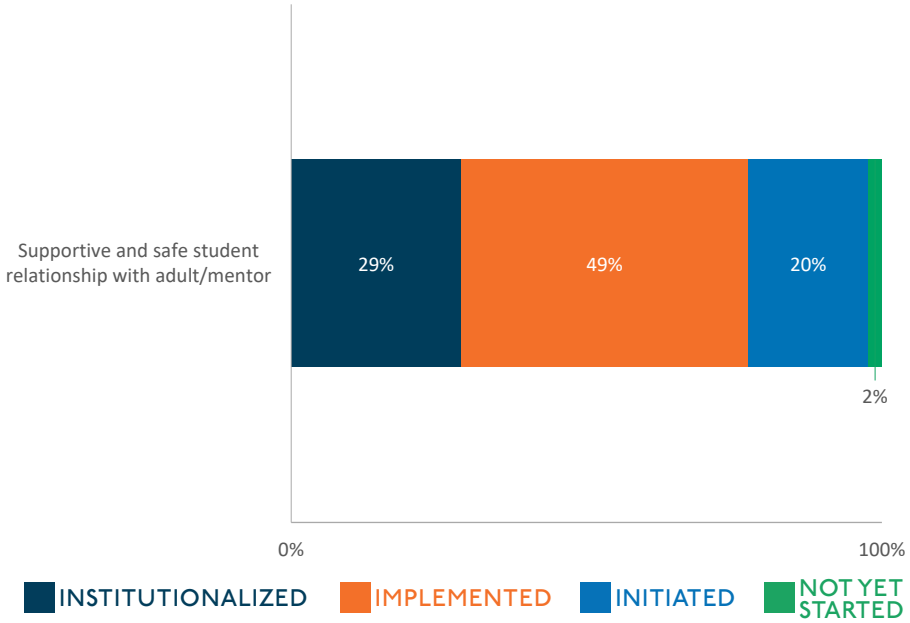
Source: Academic and Career Planning Survey 2020-21

Regular and ongoing informing of and engaging families in their students' ACP.

Figure 3 shows the results from the school-level survey related to family engagement. Nearly half of respondents indicated that these ACP elements were initiated, with a slightly higher percentage of respondents indicating that informing families was implemented than was engaging families. As with previous years, this remains an area of ACP with the lowest levels of implementation.

Figure 4: Implementation of Supportive and Safe Student Relationships with Adults

2020-21



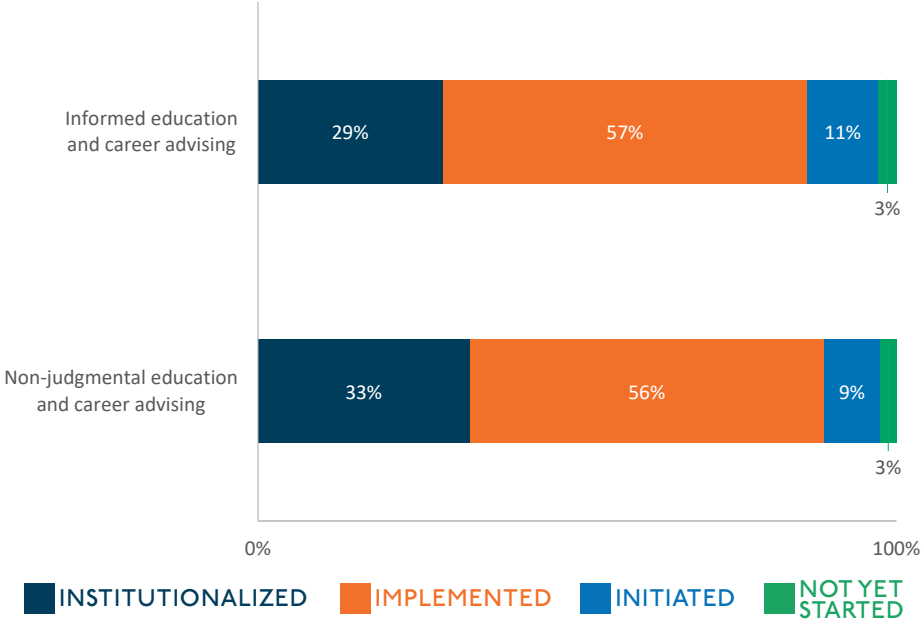
Source: Academic and Career Planning Survey 2020-21

Regular and ongoing supportive and safe student relationships with adults.

Respondents to the school-level survey generally indicated implementation of supportive and safe student relationships with adults in the school. As Figure 4 shows, over three-quarters of respondents thought their school provided this ACP element at either the institutionalized or implemented level.

Figure 5: Implementation of Informed and Non-Judgmental Education and Career Advising

2020-21



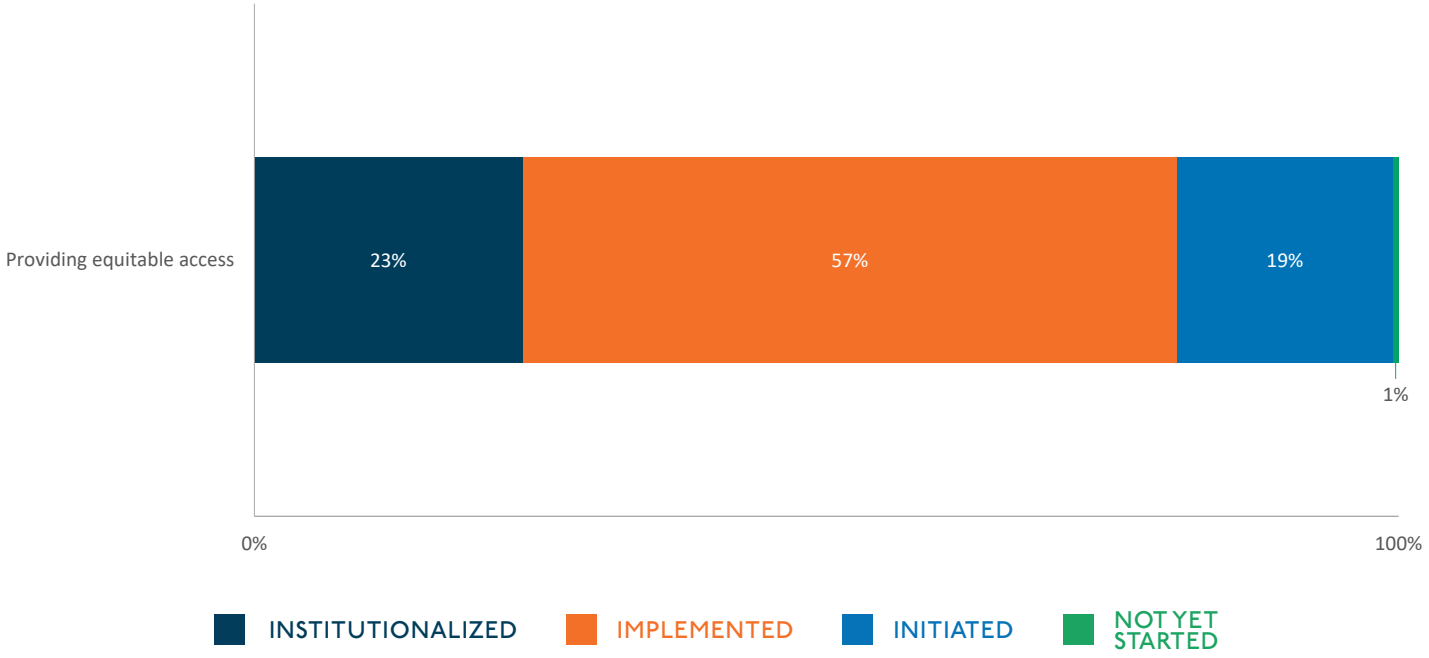
Source: Academic and Career Planning Survey 2020-21

Non-judgmental, informed, comprehensive education and career advising.

Results from the school-level survey of staff continue to show high levels of implementation of this ACP infrastructural element in 2020-21, as seen in Figure 5. Eighty-six percent of respondents answered that their school provided informed education and career advising at the institutionalized or implemented level and a slightly higher proportion of respondents indicated likewise for non-judgmental education and career advising.

Figure 6: Implementation of Equitable Access to All ACP Opportunities

2020-21



Source: Academic and Career Planning Survey 2020-21

Equitable access to all ACP opportunities.

DPI defines educational equity as "every student [having] access to the resources and educational rigor they need at the right moment in their education, across race, gender, ethnicity, language, ability, sexual orientation, family background, and/or family income."[2] However, it is important to distinguish between equity in terms of access (that is, who is theoretically able to participate), equity in actual participation rates, and equity in terms of whether the right opportunities are occurring at the right time for all students. A wide variety of factors can create barriers to participation among students who are theoretically eligible, and even required activities such as those undertaken to satisfy graduation requirements may not be best suited to each student's individual needs.

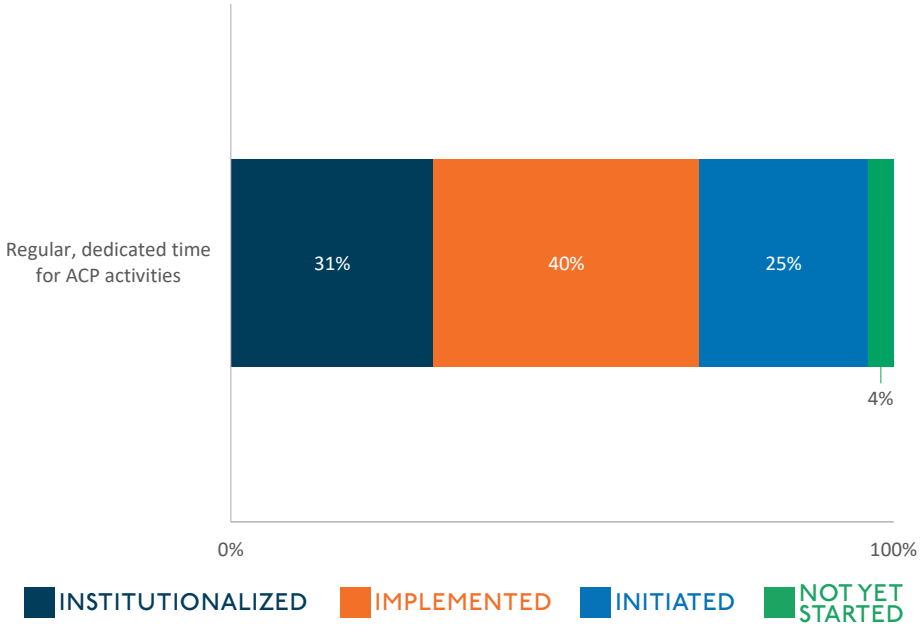
Throughout the state, many schools indicated via the survey that they provided equitable access to all ACP opportunities. Figure 6 shows the results from the school-level survey of staff on an item related to this ACP element. As shown, about 80 percent of respondents thought their school provided equitable access at either the institutionalized or implemented level. As always, self-reported data should be recognized as such, particularly in terms of sensitive topics like equity. While including all students in ACP work and honoring all post-graduation plans are important, there is still the potential for these activities, practices, and policies to be implemented inequitably.

Student participation results in the sections below will also highlight the extent of equitable access to ACP by providing breakdowns of participation by student subgroups where available. These subgroups include differences by race/ethnicity, economic status, English learner status, and special education status where they exist. To examine the extent of equitable access by region, these later sections will also examine participation by Cooperative Education Service Agency (CESA).

2 https://dpi.wi.gov/rti/equity

Figure 7: Implementation of Regular, Dedicated Time for ACP Activities

2020-21



Source: Academic and Career Planning Survey 2020-21

Regular, ongoing and dedicated time for ACP activities.

Figure 7 shows the extent of implementation of regular, ongoing, and dedicated time for ACP activities throughout the state from the school-level survey. As this figure displays, approximately 70 percent of respondents thought their school provided this element at the institutionalized or implemented level.

Results from the 2020-21 survey also provided further insight into the characteristics of dedicated ACP time within schools. As seen from Table 1, respondents indicated that dedicated ACP time was typically required for all students and that students typically have the same ACP teacher all years. A small minority of respondents indicated that they tied accountability to dedicated ACP time by making it worth credit or a letter grade. For more information on dedicated ACP time frequency and organization, please refer to the Academic and Career Planning Survey 2020-21 report.

Table 1: Characteristics of Dedicated ACP Time

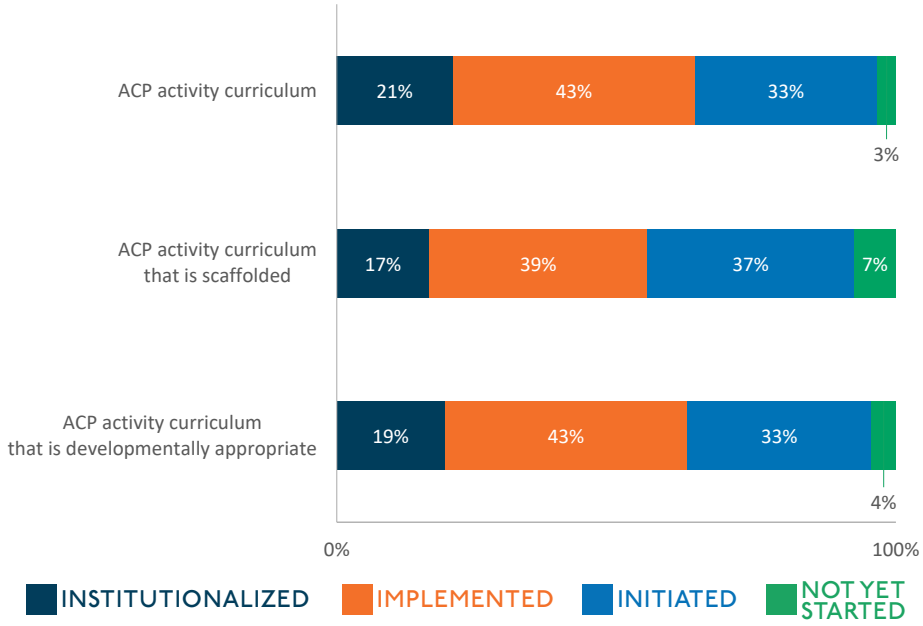
2020-21

CHARACTERISTIC	PERCENTAGE
ACP time required for all students, regardless of ability (N=227)	83%
Students typically have the same ACP (advisory, homeroom) teacher all years of high school (N=228)	64%
Students earn credit for ACP time (N=230)	15%
Students earn a grade for ACP time (N=231)	14%

Source: Academic and Career Planning Survey 2020-21

Figure 8: Implementation of an Outlined ACP Activity Curriculum

2020-21



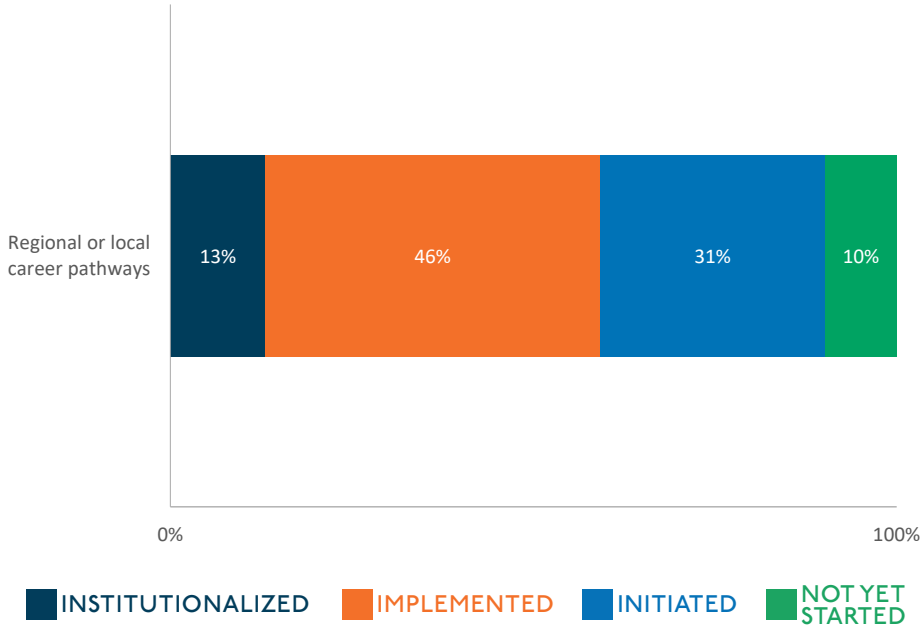
Source: Academic and Career Planning Survey 2020-21

Outlined ACP activity curriculum that is scaffolded and developmentally appropriate (scope and sequence).

Of the respondents to the school-level survey, just less than two-thirds provided information that their school had institutionalized or implemented an outlined ACP activity curriculum that was developmentally appropriate, as shown in Figure 8. Slightly fewer, 56 percent of respondents, thought they had institutionalized or implemented an ACP activity curriculum that was scaffolded.

Figure 9: Implementation of Career Pathways

2020-21



Source: Academic and Career Planning Survey 2020-21

Career pathways.

Results from the school-level survey also showed the levels of implementation for informing students about regional or locally created career pathways, as seen in Figure 9. Approximately 60 percent of respondents indicated that they institutionalized or implemented this element, with most at the implemented level.

Student activity components

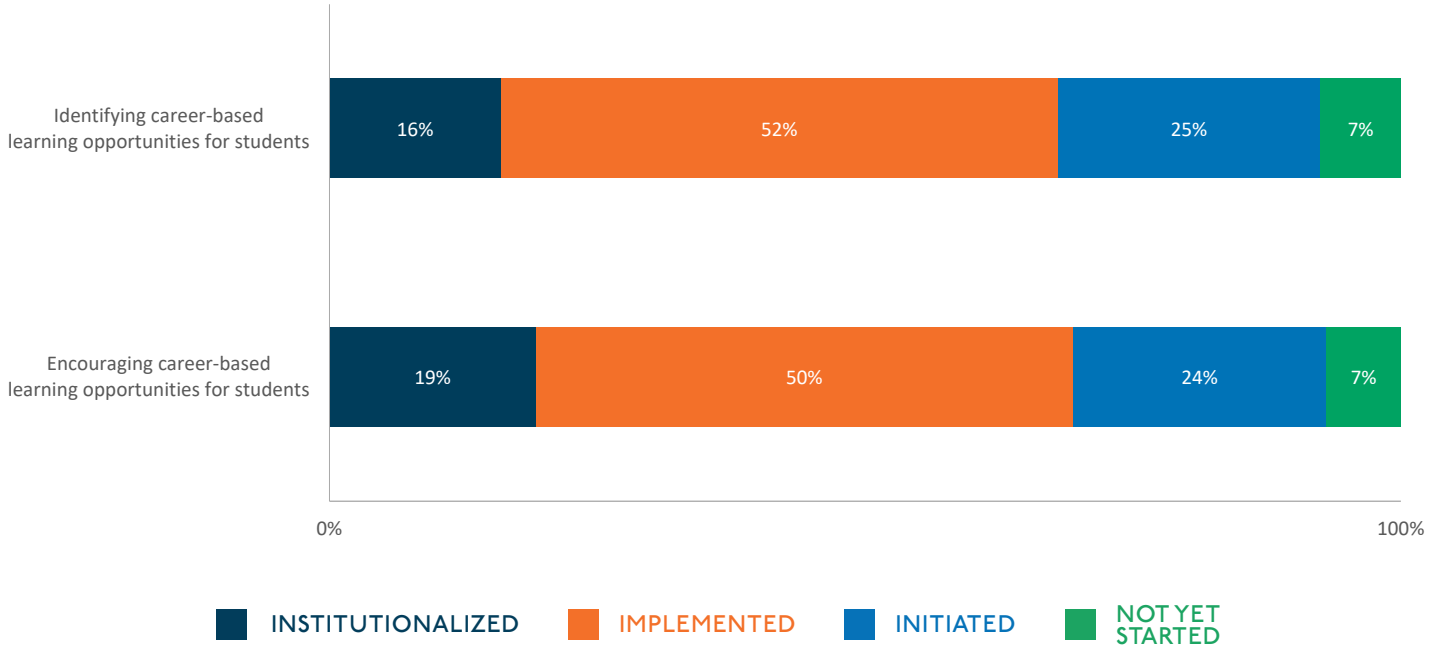
Students participating in career-based learning activities.

As with the infrastructural ACP elements above, the school-level survey also examined the level of implementation of several ACP student activity components. Two of the items on this survey asked about career-based learning activities, one related to the implementation of identifying these activities, and the other related to the implementation of encouraging these activities. As Figure 10 shows, over two-thirds of respondents indicated that their school conducted the practices of identifying and encouraging work-based learning opportunities for students at either the institutionalized or implemented level.

The levels of implementation noted in the survey results in 2020-21 (as well as previous survey results from 2019-20) might suggest a different picture of implementation of career-based learning compared to the student participation results that follow, from the 2018-19 and 2019-20 school years. Approximately 15 to 20 percent of schools with survey respondents indicated they were at the institutionalized level with identifying and encouraging students about career-based learning opportunities, which may not be consistent with the levels of participation in the activities presented below. There may be several reasons for these discrepancies. First, schools may feel they provide a high degree of information and encouragement regarding career-based learning opportunities, but students, nonetheless, may not choose to participate. Second, schools may find that they are reaching the full intended population of students for which career-based learning opportunities are appropriate given their post-secondary plans. Third, there may be discrepancies between what survey respondents consider career-based learning opportunities compared to what are captured by DPI data systems. Finally, results from the survey may not be generalizable to the entire state, as responding schools may differ in their ACP practices from non-responding schools.

Figure 10: Implementation of Career-Based Learning Opportunities for Students

2020-21



Source: Academic and Career Planning Survey 2020-21

DPI's Career Education reporting systems provide additional information on student participation in certified career-based learning activities. Specifically, the two major categories of certified career education programs are Youth Apprenticeships and State Skills Standards Co-Ops. Slightly less than two percent of high school students participated in Youth Apprenticeships (Figure 11) and slightly less than one percent of high school students participated in State Skills Standards Co-Ops (Figure 15), with relatively similar rates of participation in 2018-19 and 2019-20.

To provide further context into the types of students participating in these activities, the following pages of summary data show the percentage of students participating by grade, race/ethnicity, economically disadvantaged status, disability status, English proficiency status, and CESA. As seen from the following dashboard, the majority of students participating in Youth Apprenticeships are in 11th and 12th grade. The following dashboard shows evidence of gaps in participation based on student population. White students participate in Youth Apprenticeships as a rate over double that of any other race/ethnicity. Economically disadvantaged students, students with disabilities, and English learners all participate at lower rates compared to students not in those categories. Rates of student participation did not substantially change from 2018-19 to 2019-20 with the exception of a slightly higher rate of participation in 12th grade and a slightly lower rate of participation in 9th and 10th grade in 2019-20. Regionally, participation in Youth Apprenticeships is highest in CESAs 3, 9, and 11 and lowest in CESAs 1, 8, and 12 (Table 2). CESAs 3 and 12 each saw a large increase in participation from 2018-19 to 2019-20.

Youth Apprenticeships

Participation Percentages for 2018-19 and 2019-20

Figure 11: Overall **participation remained similar** from 2018-19 to 2019-20.

Figure 12: **Economically disadvantaged, special education,** and **English learner students** all participated at **lower rates.**

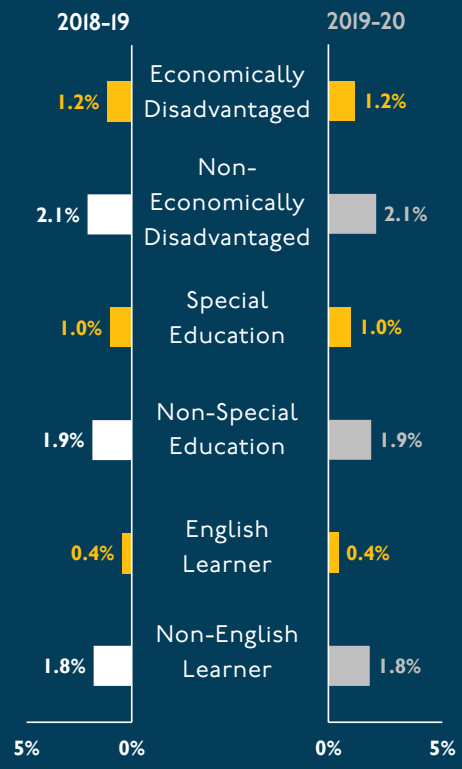


Figure 13: Participation is **highest in 12th grade** with a slight increase from 2018-19 to 2019-20.

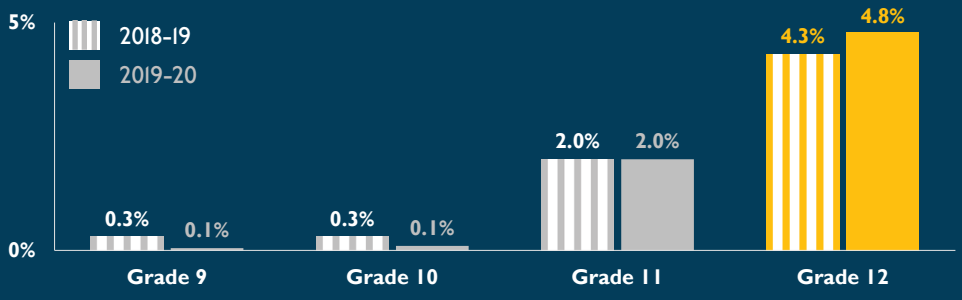


Figure 14: Participation of **White students** is at a **rate over double** that of any other race/ethnicity.

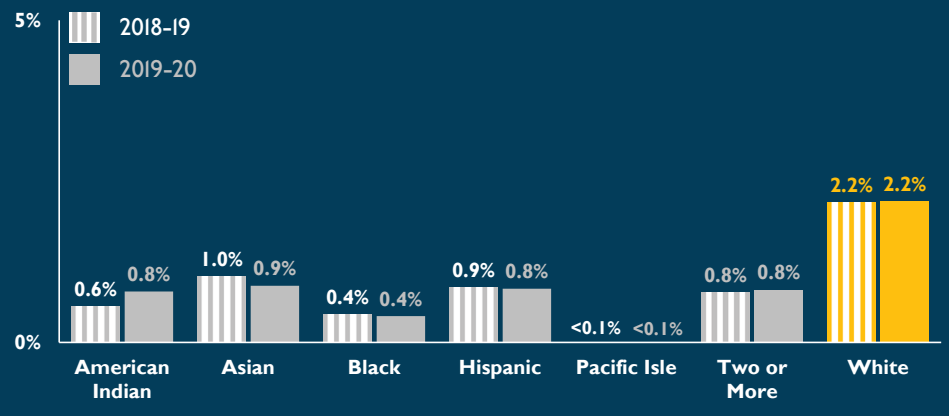


Table 2: Participation **increased in CESA 3 and CESA 12.**

CESA	2018-19	2019-20
1	0.7%	0.9%
2	2.7%	1.4%
3	**3.5%**	**6.4%**
4	0.9%	1.0%
5	2.2%	2.8%
6	1.4%	2.0%
7	1.4%	1.7%
8	0.7%	0.8%
9	3.5%	3.8%
10	3.5%	2.1%
11	3.5%	3.3%
12	**0.2%**	**1.0%**

The following dashboard shows participation rates in State Skills Standards Co-Ops overall and by the three major types. As seen, slightly less than one percent of high school students participated in State Skills Standards Co-Ops and the majority of these Co-Ops were Employability Skills and Occupational. The following dashboard also shows participation by grade level, student subgroups, and region. The highest student participation occurs in 11th and 12th grade. Compared to Youth Apprenticeships, there is less of a gap in participation in State Skills Standards Co-Ops across subgroups. Participation in State Skills Standards Co-Ops is highest in CESA 9 and lowest in CESA 12. From 2018-19 to 2019-20, participation increased for English learners and students in CESA 4. Participation decreased for 12th graders, Pacific Islander students, and students in CESA 9.

State Skills Standards Co-ops

Participation Percentages for 2018-19 and 2019-20

Figure 15: Overall **participation remained somewhat stable** from 2018-19 to 2019-20.

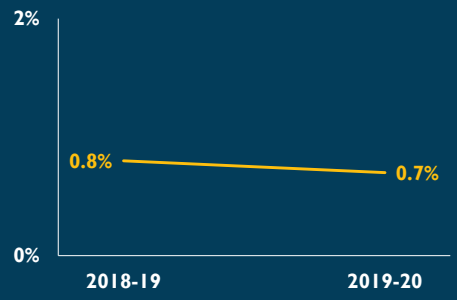


Figure 16: Participation was highest in **Employability Skills** and **Occupational Co-Ops**.

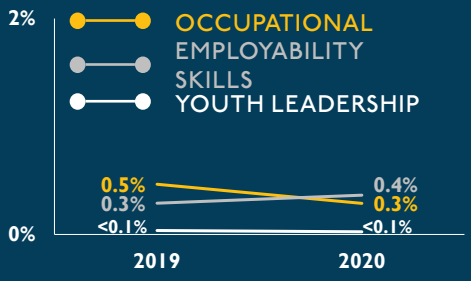


Figure 17: Participation **rates for English learners nearly doubled** between 2018-19 to 2019-20.

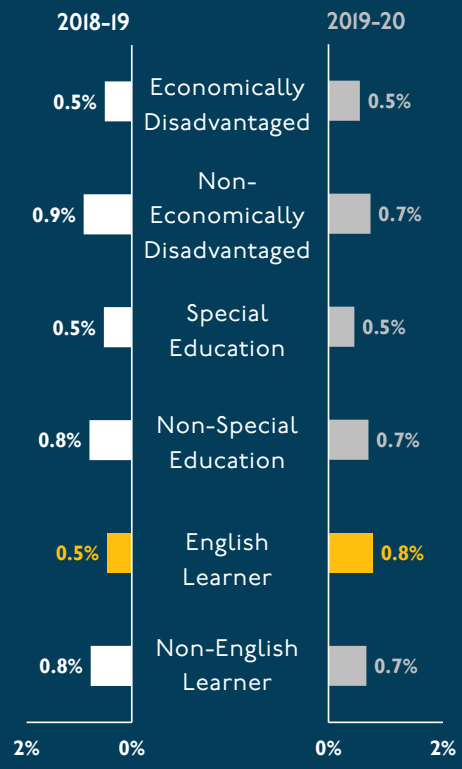


Figure 18: **Participation is higher in 11th and 12th grade** with a slight decline from 2018-19 to 2019-20.

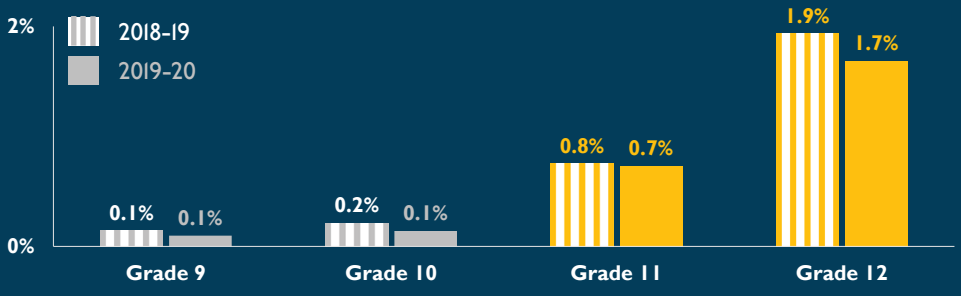


Figure 19: Participation across race/ethnicity showed small gaps, with slight decreases in participation, except for Pacific Islander students who participated at a lower rate.

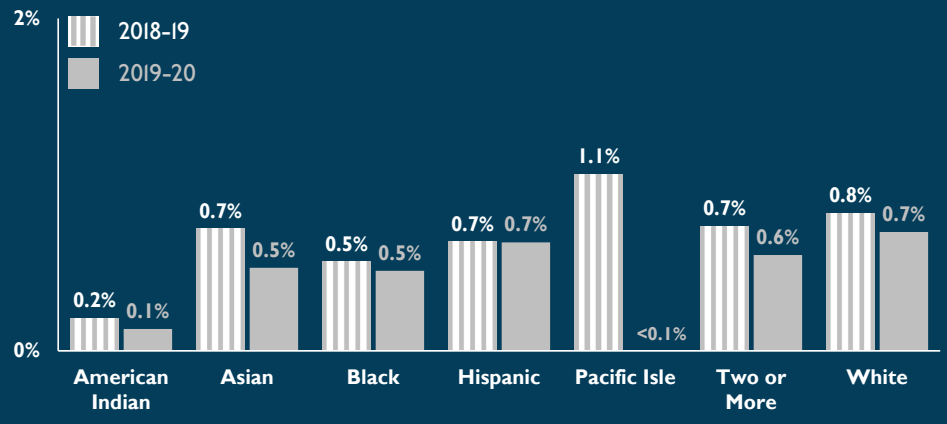


Table 3: **CESA 9 saw the greatest participation decrease but has the highest percentage of participants.**

CESA	2018-19	2019-20
1	0.2%	0.3%
2	1.6%	1.2%
3	0.6%	0.8%
4	0.1%	1.1%
5	1.1%	0.9%
6	0.5%	0.3%
7	0.2%	0.3%
8	0.3%	0.2%
9	**3.5%**	**1.9%**
10	0.4%	0.3%
11	1.6%	1.1%
12	<0.1%	0.2%

DPI administrative data also included information on participation in career-based learning for non-certified career education programs. The following dashboard shows the overall participation rate of high school students in these non-certified programs as well as by the five types: internships, local co-ops, school-based enterprises, simulations, and supervised occupational experiences. Over the last two years of available data, the overall participation rate was approximately eight percent of high school students, with the majority of participation coming from simulations. There was relatively little change in participation rates from 2018-19 to 2019-20.

Like previous types of career-based learning, the highest rates of participation were in 11th and 12th grade as seen from Figure 23. Across student subgroups (Figure 22 and Figure 24), participation was higher for Asian and White students and participation was lower for Black, Pacific Islander, economically disadvantaged, and English learner students. Unlike many aspects of ACP, participation in non-certified career education programs was at a similar rate for special education and non-special education students. As seen from the regional participation rates presented in Table 4, participation was highest in CESAs 3, 5, 6, and 9. Rates of participation in non-certified career education programs remained somewhat stable from 2018-19 to 2019-20.

Non-Certified Career Education Programs

Participation Percentages for 2018-19 and 2019-20

Figure 20: Overall **participation remained somewhat stable** from 2018-19 to 2019-20.

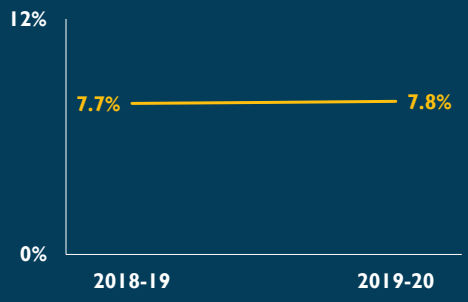


Figure 21: Participation was **highest in Simulations.**

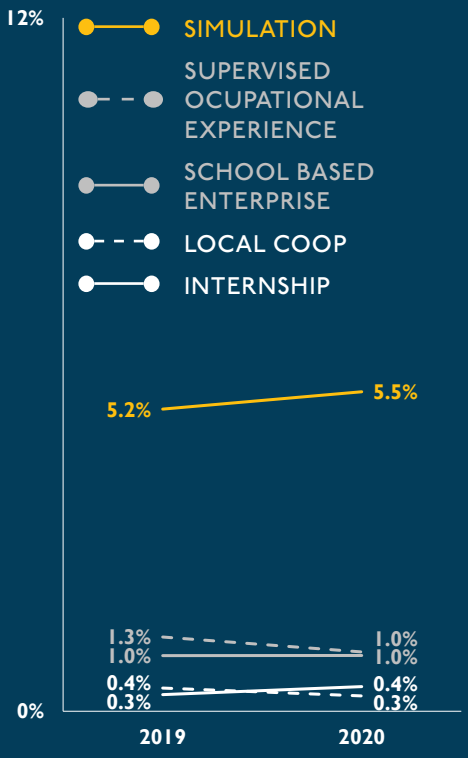


Figure 22: Participation **rates were lowest for Economically Disadvantaged** and **English learner students.**

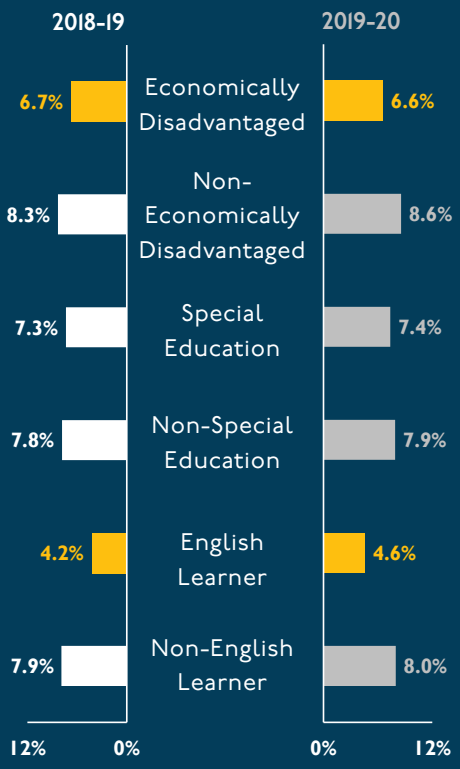


Figure 23: **Participation is higher in 11th and 12th grade.**

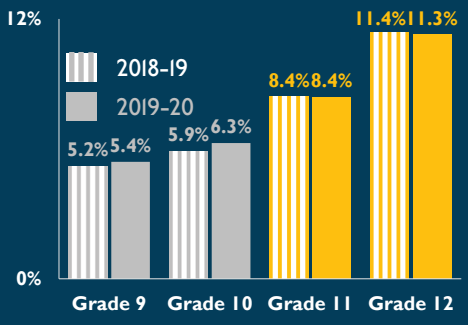


Figure 24: Participation across race/ethnicity showed **White and Asian students participate at the highest rates.**

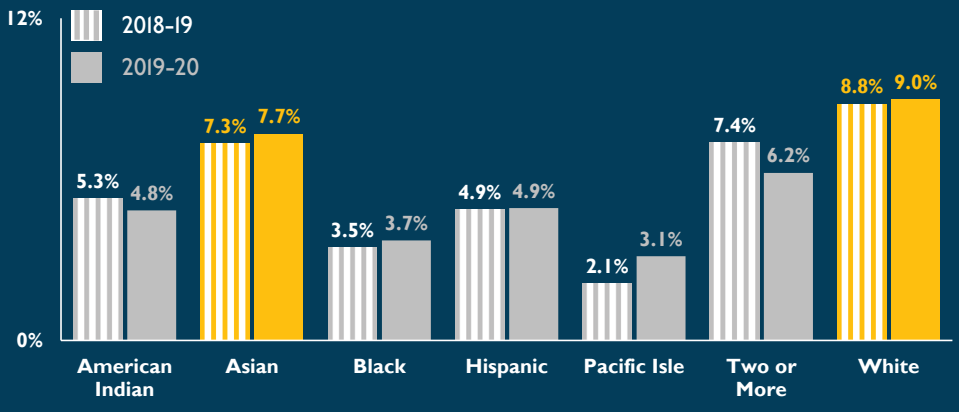


Table 4: Participation was **highest in CESAs 3, 5, 6, and 9.**

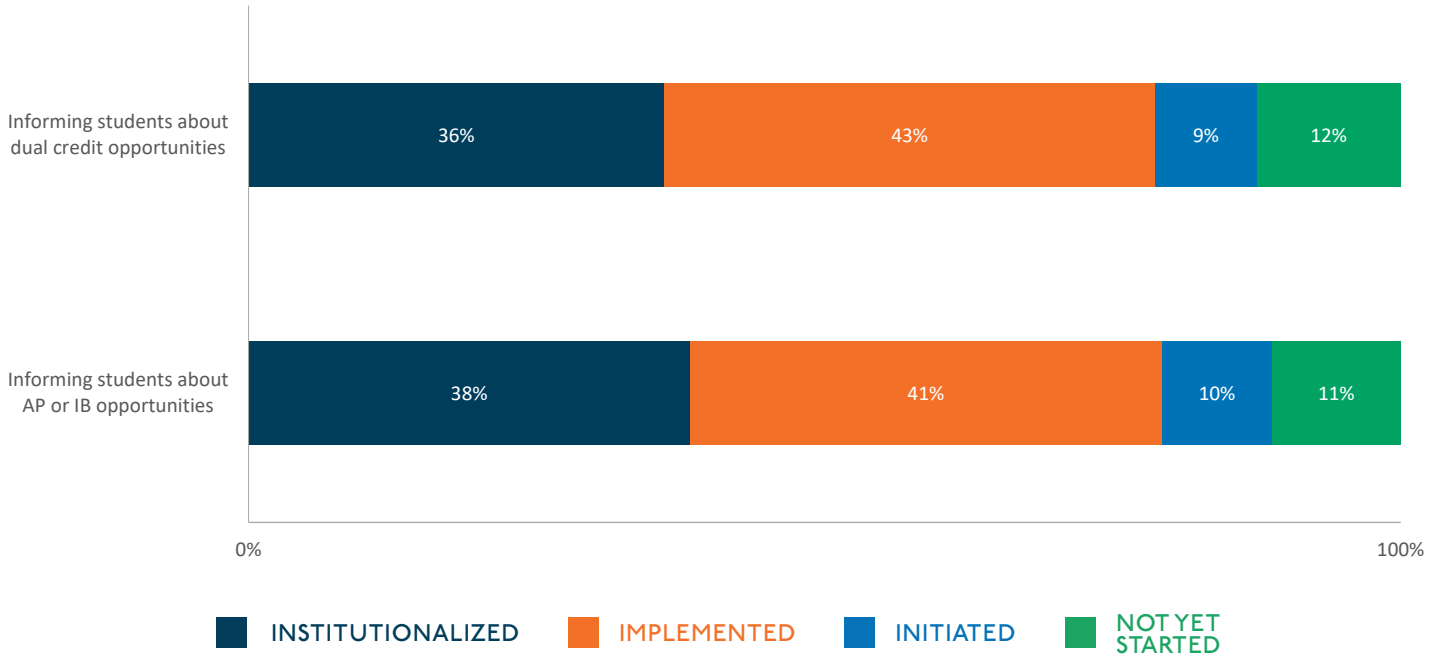
CESA	2018-19	2019-20
1	5.1%	5.6%
2	2.5%	3.0%
3	**18.9%**	**20.4%**
4	5.9%	9.9%
5	**21.3%**	**18.7%**
6	**14.0%**	**15.2%**
7	4.6%	3.5%
8	6.4%	6.6%
9	**19.1%**	**16.1%**
10	9.6%	8.7%
11	5.2%	4.0%
12	6.2%	6.6%

Students taking dual credit, AP, and IB courses.

The school-level survey also asked respondents about their level of implementation regarding this ACP element. Figure 25 shows that approximately 80 percent of respondents indicated their school conducted the practices of informing students about dual credit and AP or IB opportunities at the institutionalized or implemented levels.

Figure 25: Implementation of Informing Students of Dual Credit, AP, and IB Courses

2020-21



Source: Academic and Career Planning Survey 2020-21

DPI provides information on student participation in dual enrollment in two ways: first, the type of institution at which the student potentially earns post-secondary credits – private college, technical college, tribal college, or UW System – and second, whether the course was taught at the high school or college. The following dashboard shows the percentage of high school students participating in dual enrollment courses overall as well as by the type of instruction and the location of the course. Approximately 20 percent of all high school students participated in some type of dual enrollment course with a slight increase in participation from 2018-19 to 2019-20. The vast majority of these dual enrollment courses provided credits with technical colleges and occurred in students' high schools.

Dual enrollment participation by various subgroups is also found on the following dashboard. As seen, participation gradually increases throughout high school with approximately 10 percent of students participating in dual enrollment in 9th grade and over 30 percent in 12th grade. Asian and White students participated at the highest rates while American Indian and Black students participated at lower rates. Economically disadvantaged students, students with disabilities, and English learners also participated at lower rates compared to students not in those groups. Examining regional variation, dual enrollment participation was highest in CESAs 6 and 10 and lowest in CESAs 8 and 12. From 2018-19 to 2019-20, participation increased slightly among most subgroups and CESA regions.

Dual Enrollment

Participation Percentages for 2018-19 and 2019-20

Figure 26: Overall **participation increased** from 2018-19 to 2019-20.

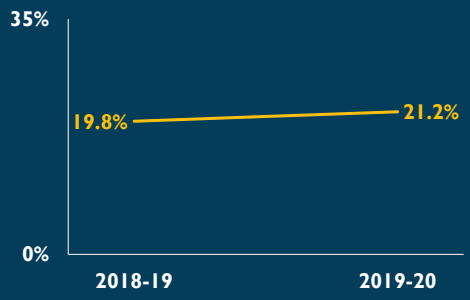


Figure 27: The **majority** of dual enrollment courses took place in **high school.**

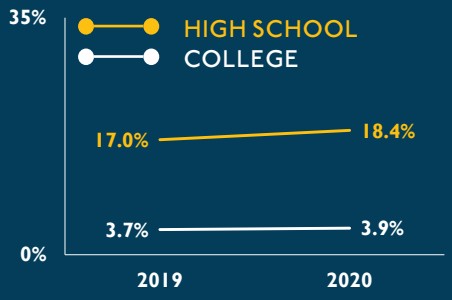


Figure 28: **Participation was lowest for economically disadvantaged, special education, and English learner students.**

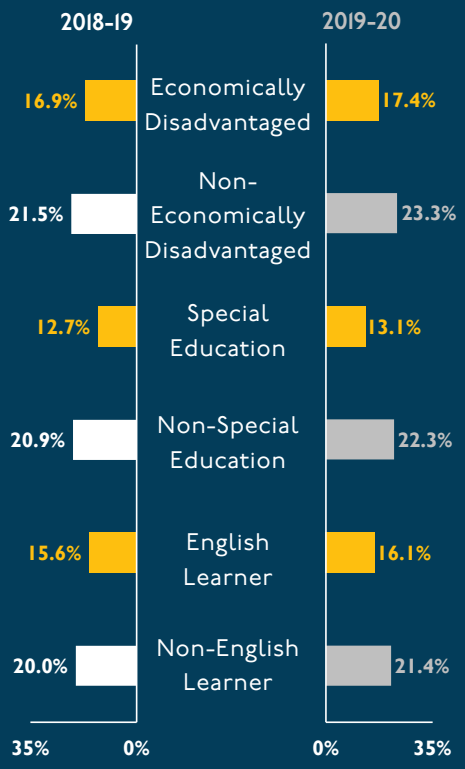


Figure 29: **Participation is higher in 11th and 12th grade** with a slight increase from 2018-19 to 2019-20 for 11th and 12th grade.

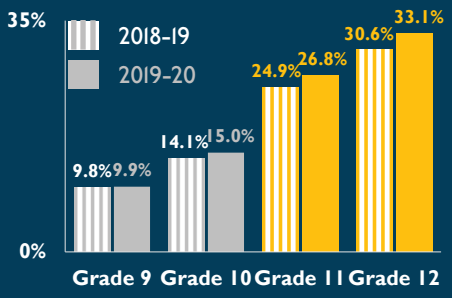
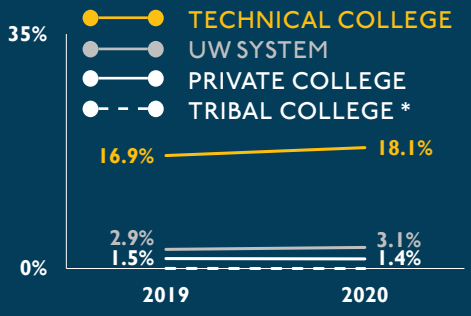


Figure 30: Most dual enrollment courses provide credits from **technical colleges.**



* <0.1% in 2018-19 and 2019-20

Figure 31: Participation across race/ethnicity showed **White and Asian students participate at the highest rates.**

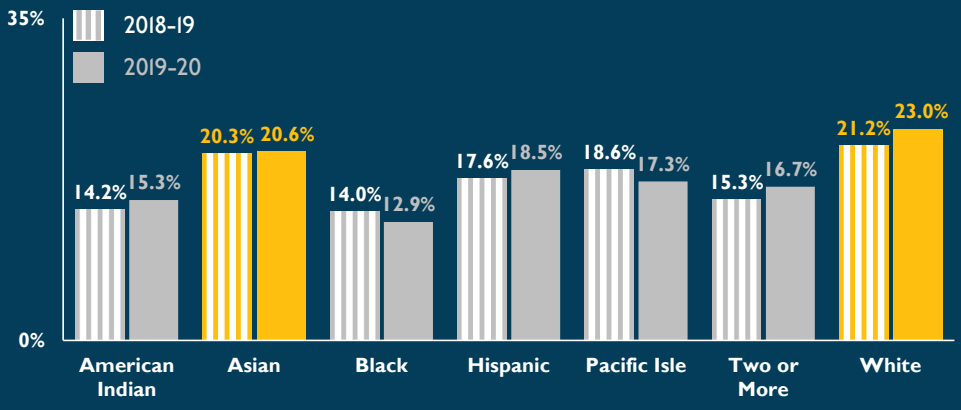
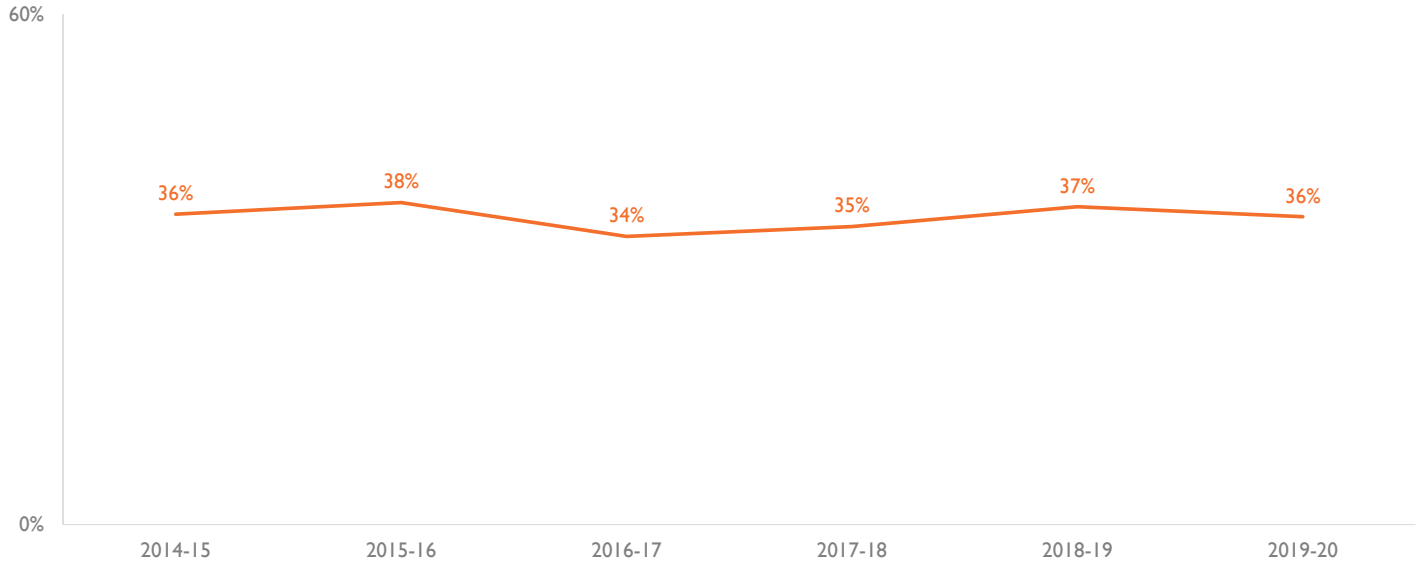


Table 5: Participation was **highest in CESAs 6 and 10.**

CESA	2018-19	2019-20
1	15.2%	15.6%
2	17.8%	20.0%
3	19.5%	19.0%
4	19.0%	21.5%
5	15.3%	16.8%
6	**30.1%**	**33.1%**
7	25.9%	28.0%
8	11.2%	13.6%
9	20.8%	23.4%
10	**30.4%**	**30.3%**
11	21.5%	18.9%
12	11.9%	14.0%

Student-level data on AP and IB course participation comes from DPI's Coursework Completion System (CWCS) which covered 2014-15 and 2015-16, and Roster, which covered 2016-17 through 2019-20. Due to the change in data systems over the period of examination, the evaluation only included schools that reported data on AP and IB over all years. Figure 32 shows the statewide participation rate in AP/IB courses among students in Grades 11-12. The participation rate from 2014-15 through 2019-20 ranged from approximately 34 percent to 38 percent. While there was a slight decrease in participation from 2015-16 to 2016-17 (which may be due to changing data systems), there was a slight increase in participation from 2016-17 through the second year of ACP implementation in 2018-19 followed by a slight decrease in 2019-20.

Figure 32: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course



The evaluation also examined equitable participation in AP/IB course enrollment across student subgroups. Figures 33 - Figure 36 show the participation rate by race/ethnicity, economic status, special education status, and English proficiency status respectively. As seen from these figures, American Indian, Black, economically disadvantaged, special education, and English learner students all had participation rates lower than their subgroups of comparison. While slight gains in participation occurred for English learners at the beginning of ACP, participation slightly dropped for these students in 2019-20. Regional participation in AP/IB courses also varied, as seen in Table 6. During the most recent year of implementation data in 2019-20, CESA I continued to have the highest participation rate and CESA 8 the lowest.

Figure 33: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course

by Race/Ethnicity

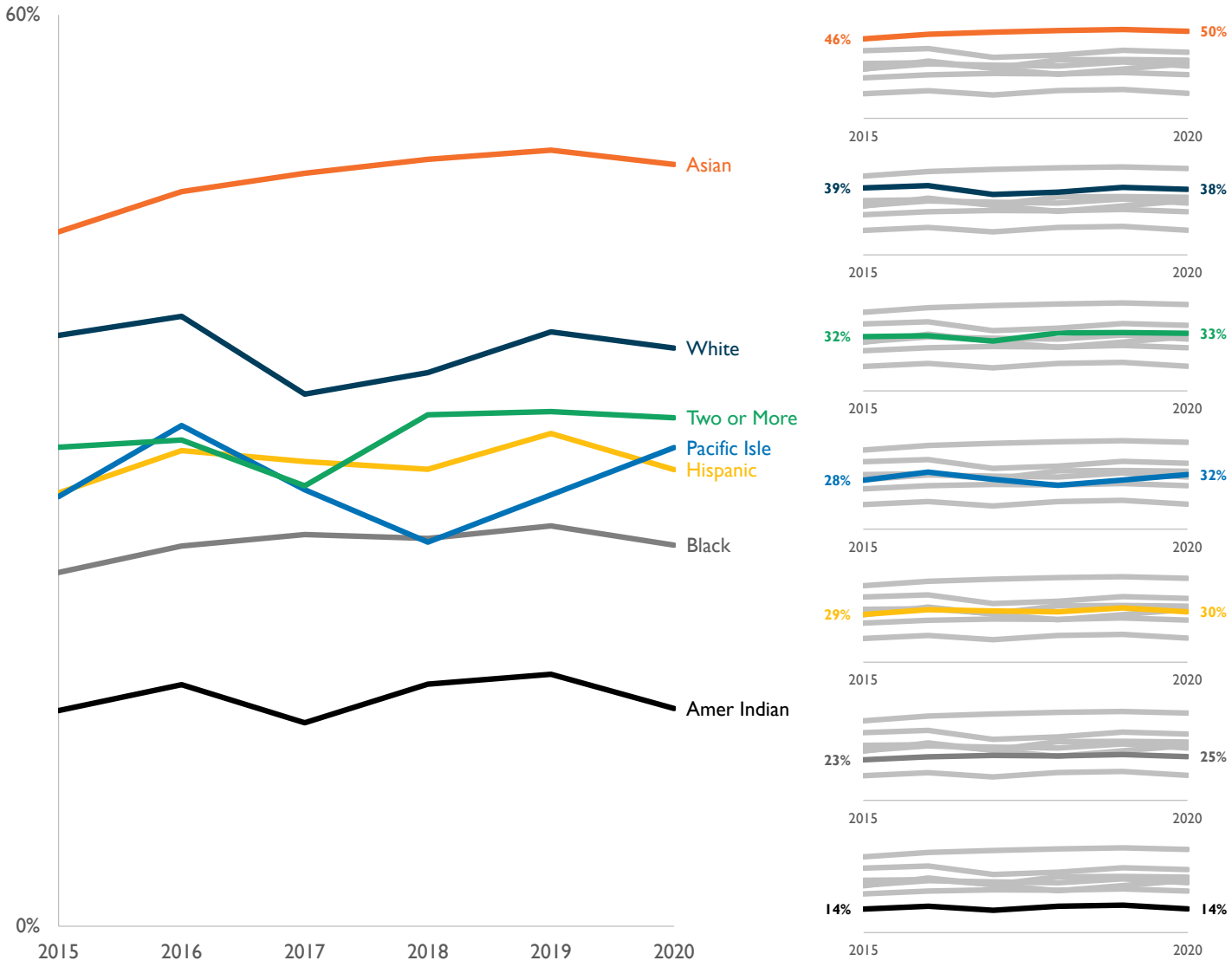


Figure 34: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course

by Economic Status

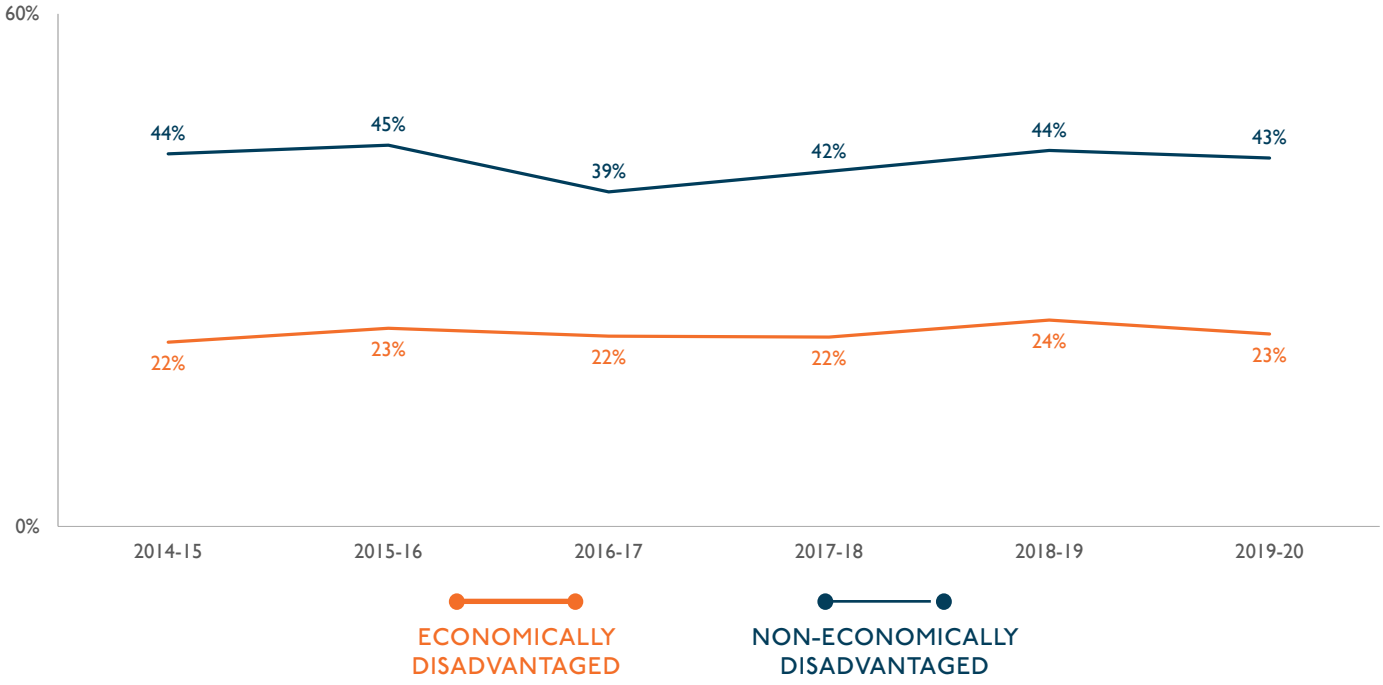


Figure 35: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course

by Special Education Status

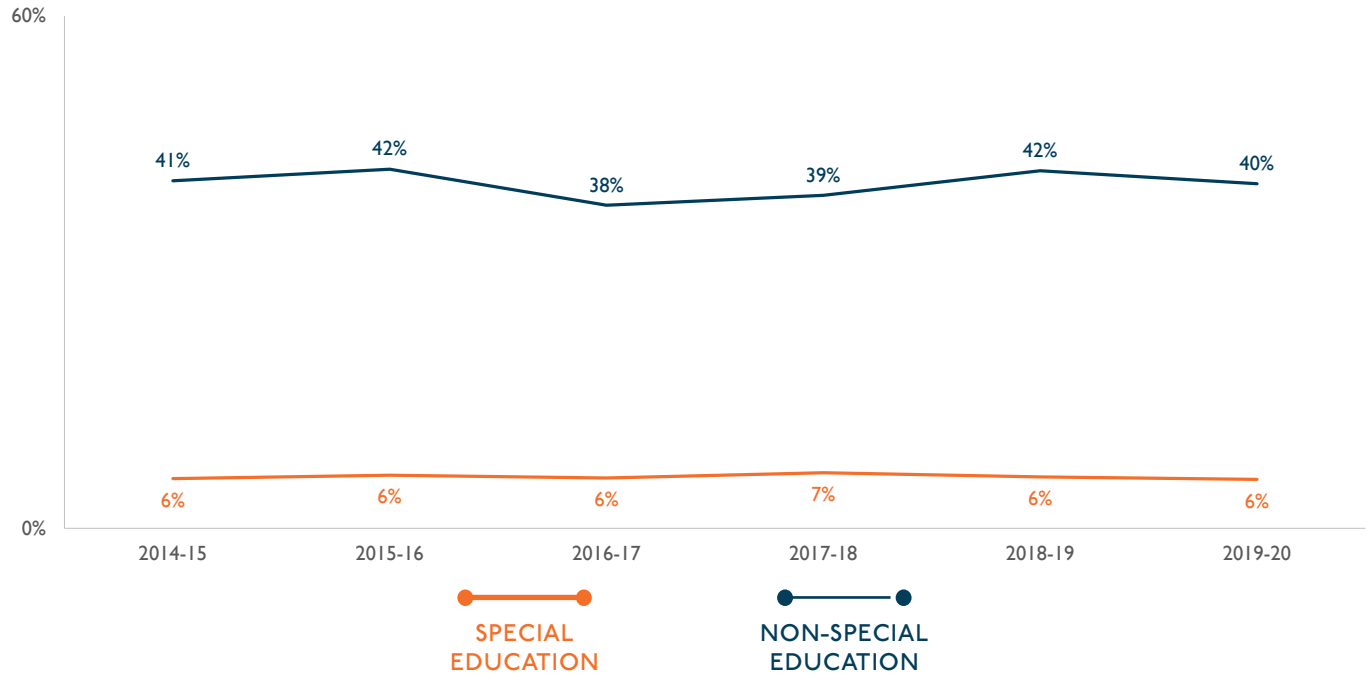


Figure 36: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course

by English Proficiency Status

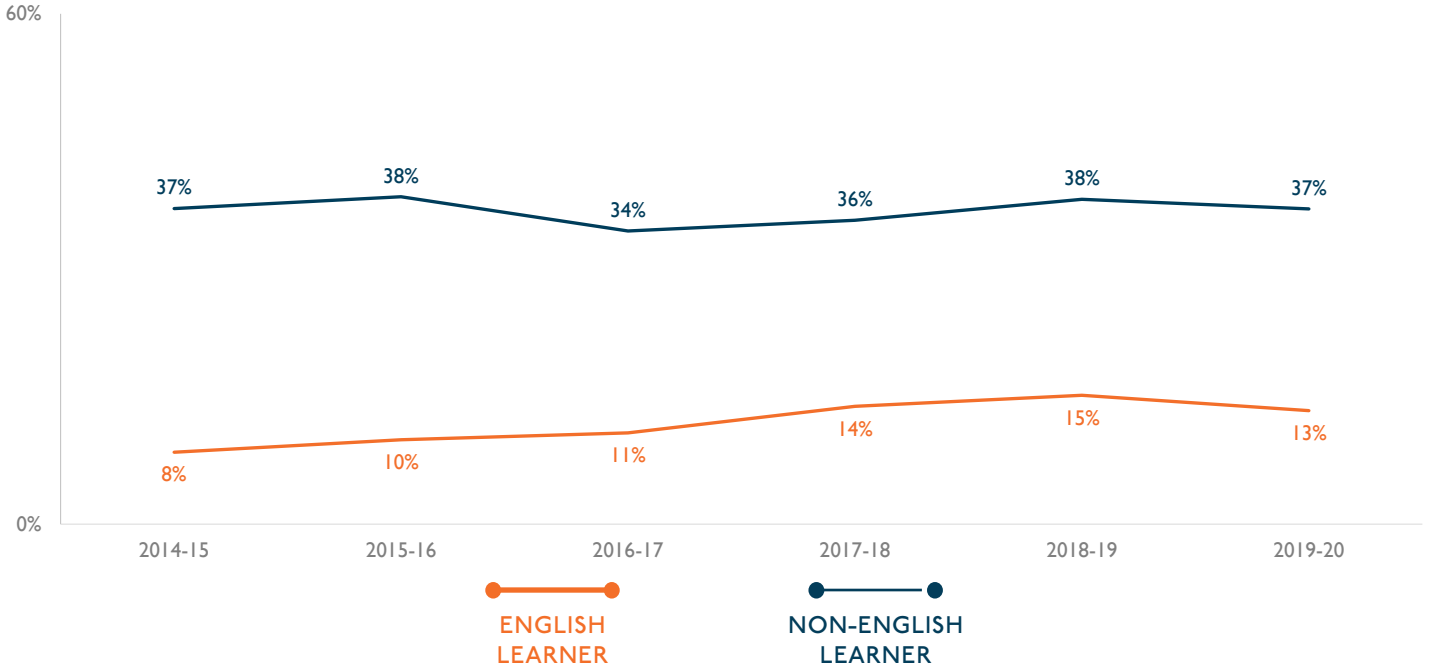


Table 6: Percentage of 11th and 12th Grade Students Participating in at least one AP or IB Course

by CESA

CESA	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
1	44.5%	46.2%	43.7%	44.9%	46.4%	47.0%
2	37.5%	40.0%	37.8%	38.1%	42.1%	39.7%
3	28.0%	31.4%	23.1%	23.9%	30.6%	28.9%
4	27.4%	26.6%	18.8%	26.3%	28.3%	23.1%
5	31.6%	32.1%	21.4%	19.1%	25.9%	31.2%
6	38.0%	37.9%	30.8%	33.2%	33.0%	30.0%
7	31.3%	32.2%	30.8%	31.7%	34.4%	33.5%
8	16.8%	15.8%	11.9%	10.0%	12.1%	11.4%
9	31.9%	32.5%	28.6%	31.5%	35.0%	34.1%
10	28.7%	30.8%	31.7%	29.6%	30.2%	28.0%
11	32.2%	34.2%	25.9%	26.4%	26.0%	24.3%
12	20.1%	18.7%	7.9%	18.5%	23.7%	18.5%

Students participating in Industry-Recognized Credentials (IRCs).

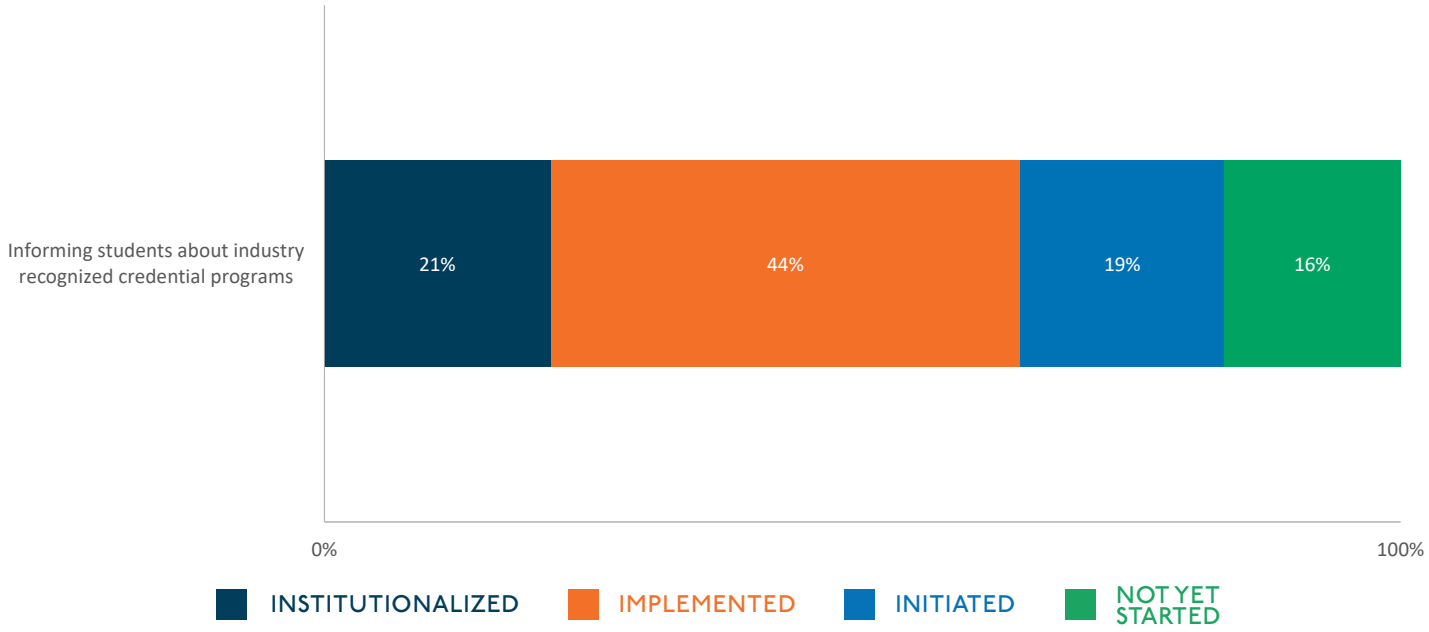
Respondents to the school-level survey also reported levels of implementation of informing students about college-level industry certification courses. As shown in Figure 37, nearly two-thirds of respondents indicated this element was at the institutionalized or implemented level.

DPI provides information on five types of Industry Recognized Credentials (IRCs):

- State-Approved Wisconsin Technical College System (WTCS) Embedded Technical Diploma (WTCS Embedded)
- State-Approved WTCS Technical Diploma (WTCS Tech Diploma)
- State-Approved WTCS Associates (WTCS Associates)
- State-Approved Business and Industry
- Not State-Approved

Figure 37: Implementation of Informing Students of College-Level Industry Certification Courses

2020-21



Source: Academic and Career Planning Survey 2020-21

The following dashboard shows the percentage of high school students participating in IRCs overall and by each of the five types. Overall participation in IRCs in 2018-19 was at slightly less than three percent of high school students, which decreased to just over two percent in 2019-20. The majority of participation in IRCs was in State-Approved Business and Industry.

As with career-based learning opportunities, the overall participation rate in IRCs seems to differ from the levels of implementation suggested from the survey results in 2020-21 (as well as previous survey results from 2019-20). With approximately 20 percent of schools with survey respondents indicating they were at the institutionalized level with informing students about IRC programs, less than 3 percent participation in IRCs might suggest a somewhat different picture of implementation. The reasons for these discrepancies are similar to those with career-based learning: students may not participate even with high levels of information, schools may reach the full intended population of students for which IRCs are appropriate, there may be discrepancies between what survey respondents consider IRCs compared to what are captured by DPI data systems, and survey findings may not be generalizable to the whole state.

As with the previous types of student participation, this report also provides information on IRC participation by various subgroups of students also found on the following dashboard. Similar to other career-based learning and dual enrollment, participation in IRCs increased throughout high school. Across racial and ethnic groups, American Indian and Black students participated in IRCs at the lowest rates. There were also gaps in participation based on economic status and special education status. As seen in Figure 40, while there was only a slight difference in participation between students based on English proficiency status in 2018-19, this difference increased in 2019-20. More generally, from 2018-19 to 2019-20, participation in IRCs decreased across all subgroups. Regionally, participation in IRCs varied by school year. In the most recent year of data, 2019-20, CESA 3 had the highest participation and CESAs 5 and 8 had the lowest.

Industry Recognized Credentials

Participation Percentages for 2018-19 and 2019-20

Figure 38: Overall **participation decreased** from 2018-19 to 2019-20.

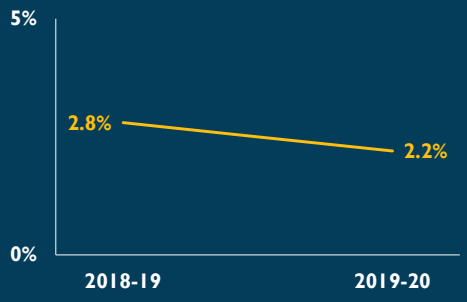


Figure 39: Most participation in IRCs was in State Approved **Business and Industry**.

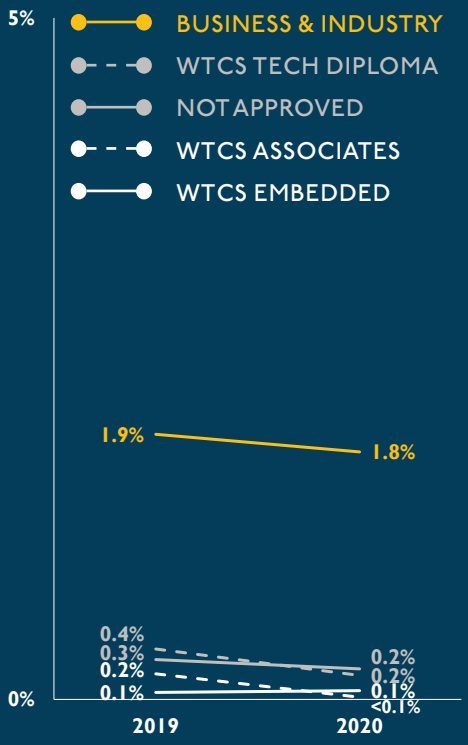


Figure 40: Participation **rates were lowest for Economically Disadvantaged, Special Education, and English learners.**

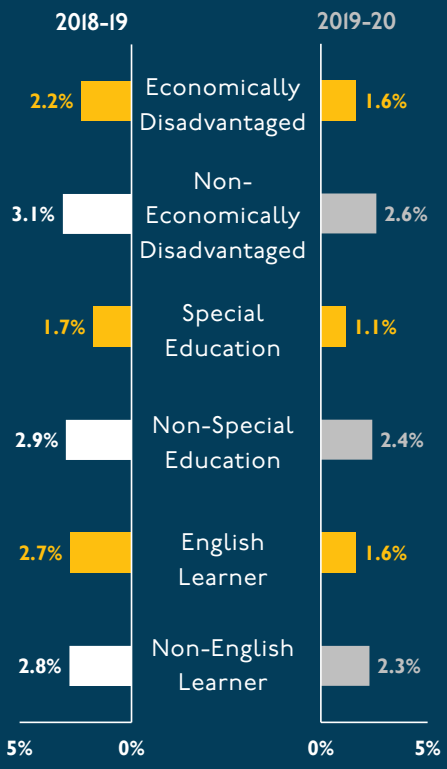


Figure 41: **Participation is higher in 11th and 12th grade** with a slight decrease from 2018-19 to 2019-20 for 11th and 12th grade.

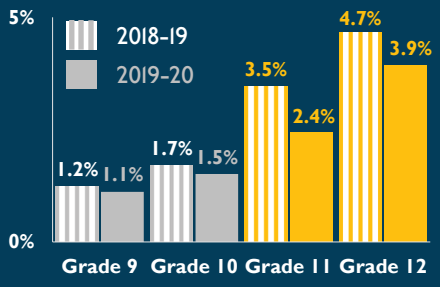


Figure 42: Participation across race/ethnicity showed **American Indian and Black students participate at the lowest rates.**

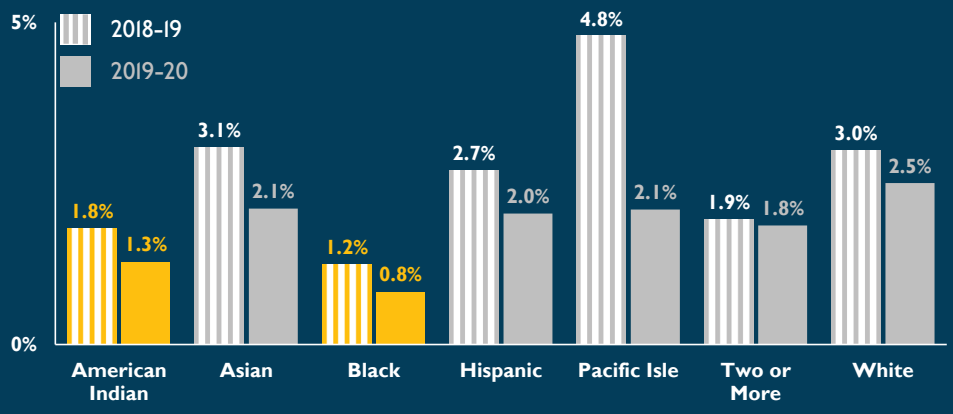


Table 7: Participation varied regionally by school year.

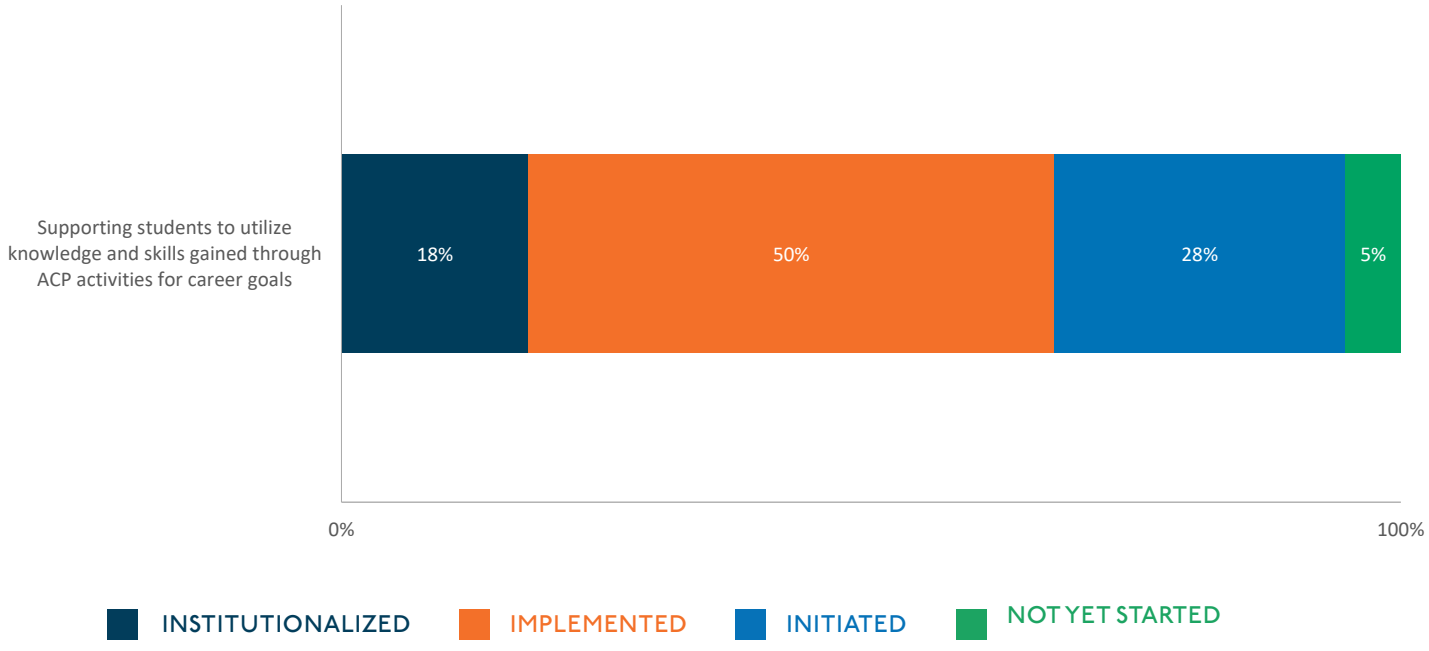
CESA	2018-19	2019-20
1	2.5%	1.9%
2	3.3%	3.2%
3	2.4%	4.1%
4	1.2%	1.0%
5	1.4%	0.7%
6	2.2%	2.3%
7	5.2%	2.9%
8	1.1%	0.7%
9	1.4%	1.9%
10	7.0%	2.0%
11	1.5%	2.4%
12	0.3%	2.1%

Students utilizing knowledge and skills gained through ACP activity participation to set, modify, and update personal, education and career goals.

Results from the school-level survey related to this ACP element, found in Figure 43, show that over two-thirds of respondents thought their school supported students to utilize knowledge and skills gained through ACP activities for career goals at the implemented or institutionalized level.

Figure 43: Implementation of Supporting Students to Utilize Knowledge and Skills Gained through ACP Activities for Career Goals

2020-21



Source: Academic and Career Planning Survey 2020-21

Table 8: Xello Lesson Completion

by Grade, 2019-20

GRADE	STATEWIDE ENROLLMENT	XELLO USERS	LESSON	PERCENT OF XELLO USERS COMPLETING ACTIVITY
6	62482	57778	Interests	16.6%
			School Subjects at Work	18.2%
			Decision Making	12.5%
			Time Management	9.4%
7	63739	60532	Explore Learning Styles	17.8%
			Discover Learning Pathways	15.3%
			Biases and Career Choices	13.0%
			Jobs and Employers	8.2%
8	62455	61006	Skills	21.3%
			Explore Career Matches	16.7%
			Transition to High School	15.4%
			Self-Advocacy	10.1%
9	65849	63788	Personality Styles	18.0%
			Exploring Career Factors	15.6%
			Getting Experience	8.3%
			Study Skills and Habits	11.0%
10	65459	63466	Work Values	15.8%
			Careers and Lifestyle Costs	14.4%
			Workplace Skills and Attitudes	11.8%
			Program Prospects	7.0%
11	63903	62264	Choosing a College or University	11.7%
			Career Demand	10.7%
			Entrepreneurial Skills	7.5%
			Work/Life Balance	6.7%
12	65291	55990	Defining Success	5.5%
			Career Backup Plans	6.2%
			Job Interviews	6.0%
			Career Path Choices	3.3%

A major source of data related to this ACP component is Xello lesson completion. At each grade level, DPI provides a recommended set of Xello lessons for students to complete.[3] Data provided by Xello show the extent that students completed these lessons at each grade level for students using the software. As noted in the methodology section above, limitations associated with Xello records did not allow for linking of these records to other DPI records. As a result, student completion is only measured for schools with any Xello records and not for all ACP schools statewide. Table 8 shows each recommended Xello lesson, the total state enrollment at that grade level, the number of Xello users, and the percentage of Xello users that completed that activity for each grade. As seen from this table, Xello lesson completion was highest in the middle school grades, especially for the Skills, School Subjects at Work, and Explore Learning Styles lessons. While lesson completion remained near middle school levels in 9th and 10th grade, it dropped to lower levels of completion by 12th grade.

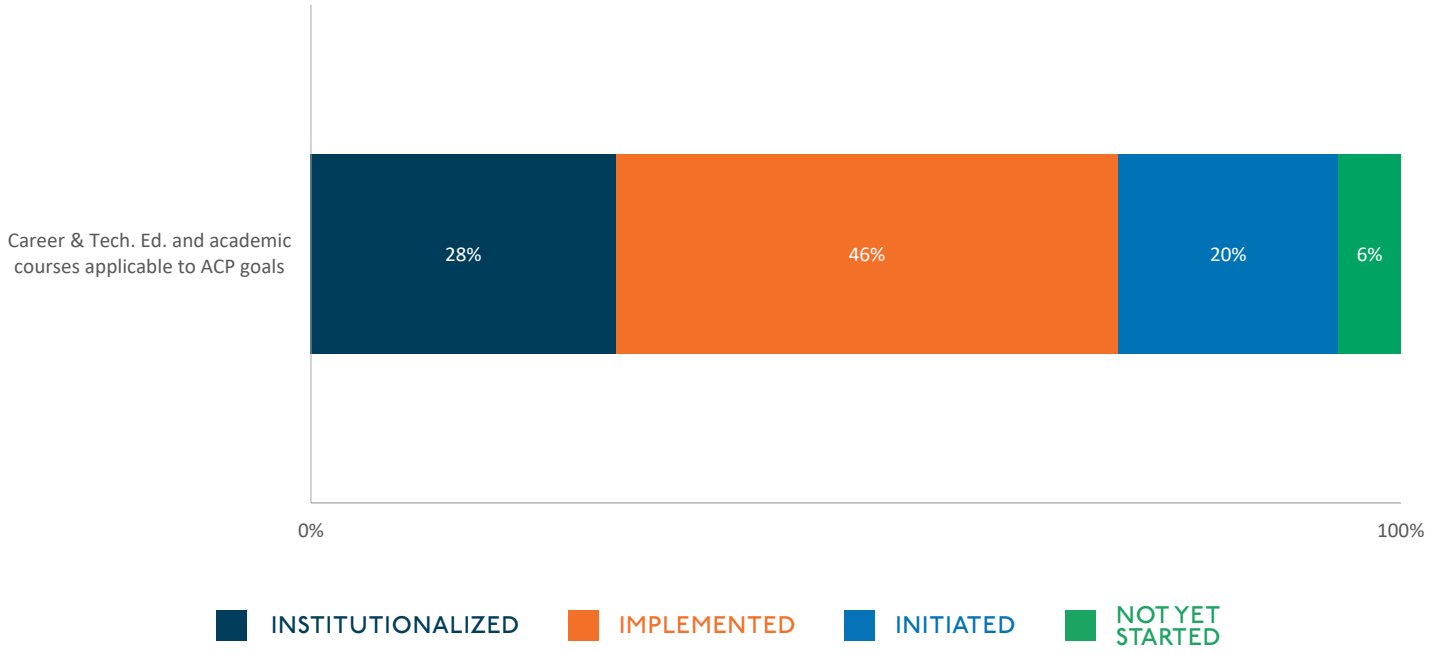
3 Refer to this document for detailed descriptions of the recommended lessons at each grade level.

Students choosing CTE and academic courses applicable to their ACP/career goals.

Most respondents to the school-level survey also thought the students at their school chose CTE and academic courses applicable to their academic and career goals. Figure 44 shows the results from an item on the survey that asked about this ACP element. As seen in this figure, approximately three-quarters of respondents indicated that they support students to choose CTE and academic courses applicable to their goals at the institutionalized or implemented level.

Figure 44: Implementation of Supporting Students to Choose CTE and Academic Courses Applicable to ACP/Career Goals

2020-21



Source: Academic and Career Planning Survey 2020-21

ACP Outcomes

This section of the findings examines Evaluation Question #4 (what, if any, changes have occurred in terms of student outcome data compared to baseline data?) and Evaluation Question #5 (what, if any, associations between ACP elements and outcomes can be measured at school or student levels?). To answer these questions, this report provides results by year of ACP implementation and by levels of ACP implementation. The three short- and medium-term outcomes examined this year include attendance rate, ACT composite score, and four-year high school completion rate. As noted previously, likely due to COVID-19, rates of two other outcomes reported in previous reports, out-of-school suspension rate and AP Exam scores, varied substantially from previous years of data. As a result, this report does not include updated results for these two outcomes, instead providing a brief summary of previous findings. For full information on these findings refer to Academic and Career Planning Evaluation 2019-20.

The four measures of ACP implementation include ACP infrastructural element implementation (Infrastructure); equitable access to all ACP opportunities (Equitable); regular, ongoing, and dedicated time for ACP activities (Dedicated ACP); and ACP student activity component implementation (Student Activities). These measures of implementation come from the 2017-18 through 2019-20 ACP surveys. Impacts presented throughout this section on these four measures show the estimated change in outcome for each level of increase in level of implementation (not yet started, initiated, implemented, and institutionalized). The inclusion of these metrics specifically examines Evaluation Question #5.

As a point of reference for the following outcome impacts, Table 9 provides the statewide average for each outcome for the baseline years (2014-15 through 2016-17).

Table 9: ACP Outcome Baseline Averages

OUTCOME	STATEWIDE AVERAGE 2014-15 THROUGH 2016-17
Attendance Rate Grades 6–8	94.8%
Attendance Rate Grades 9–12	92.8%
ACT Composite Score	19.9
Four-Year High School Completion Rate	90.1%

OUTCOME FIGURES

For each of these outcomes, this report includes a figure of the estimated change (or impact) associated with ACP in each of the three years of implementation 2017-18, 2018-19, and 2019-20.

HOW TO READ

Each of the graphic figures that follow in this section includes a small circle which indicates the estimated impact of ACP on the relevant outcome in each of the three years of implementation and for four measures of ACP implementation.

Outlined circles indicate estimated impacts not statistically significant from zero.

Solid circles indicate estimated impacts statistically significant from zero.

Attendance

The first short-term outcome examined is attendance rate. The analysis conducted separate examinations of attendance rates at the middle school level (Grades 6–8) and at the high school level (Grades 9–12). Figure 41 shows the estimated change in student attendance associated with ACP for students in Grades 6-8. As seen, estimated impacts are small and not statistically significant in Year 1 of ACP and for individual ACP components. The change in student attendance associated with ACP in Years 2 and 3 shows statistically significant results of approximately one-third and three-quarters of a percentage point respectively. While these results are significant, they are also small, with the largest estimated impacts being approximately one day of attendance. These results are likely only significant due to the statistical precision associated with the large, statewide sample size used in the analysis. Figure 42 shows the estimated change in student attendance associated with ACP for Grades 9–12. There are statistically significant results associated with ACP overall and each of the three years of implementation, ranging from 0.4 percentage points in Year 1 to approximately 2 percentage points in Year 3. As noted earlier in the limitations section of the report, results for 2019-20 (Year 3) may be biased due to COVID-19 and should be interpreted with caution

Figure 45: Estimated Impact of ACP on Student Attendance

Grades 6-8

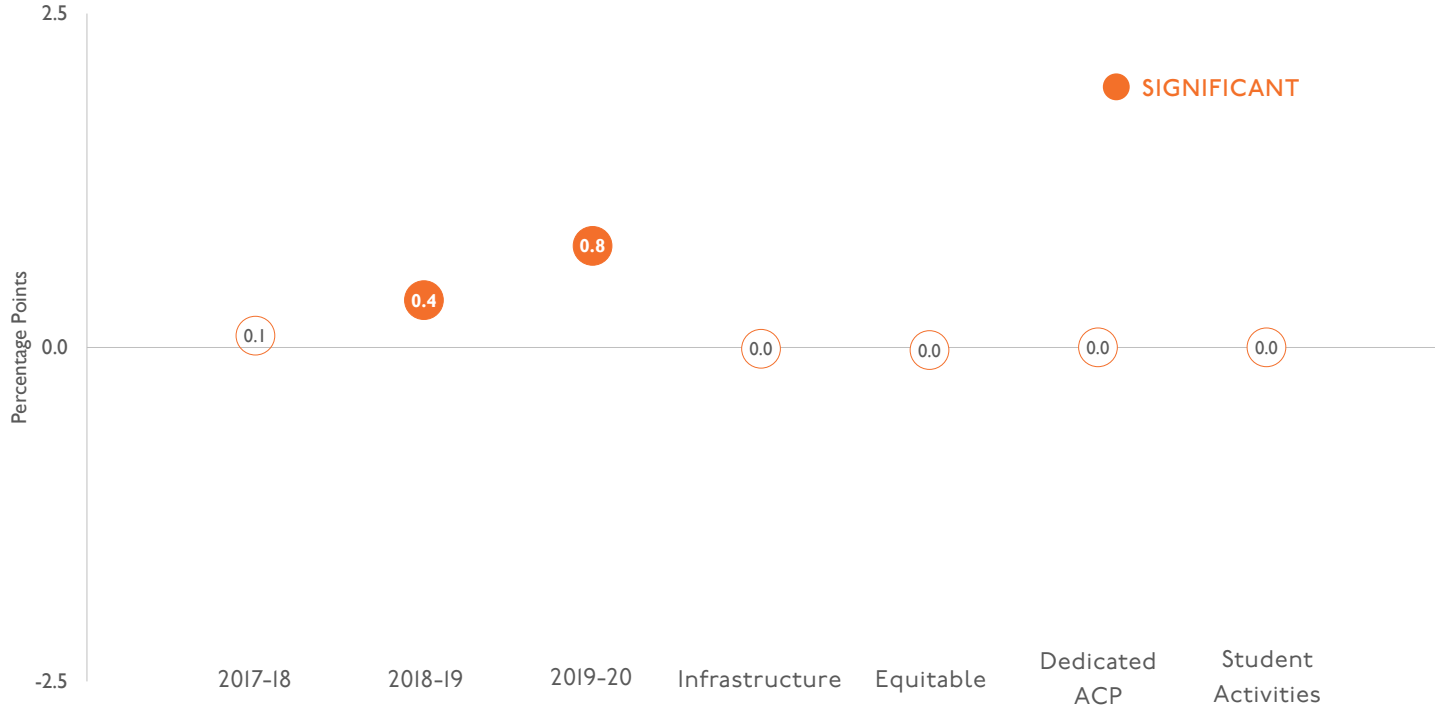
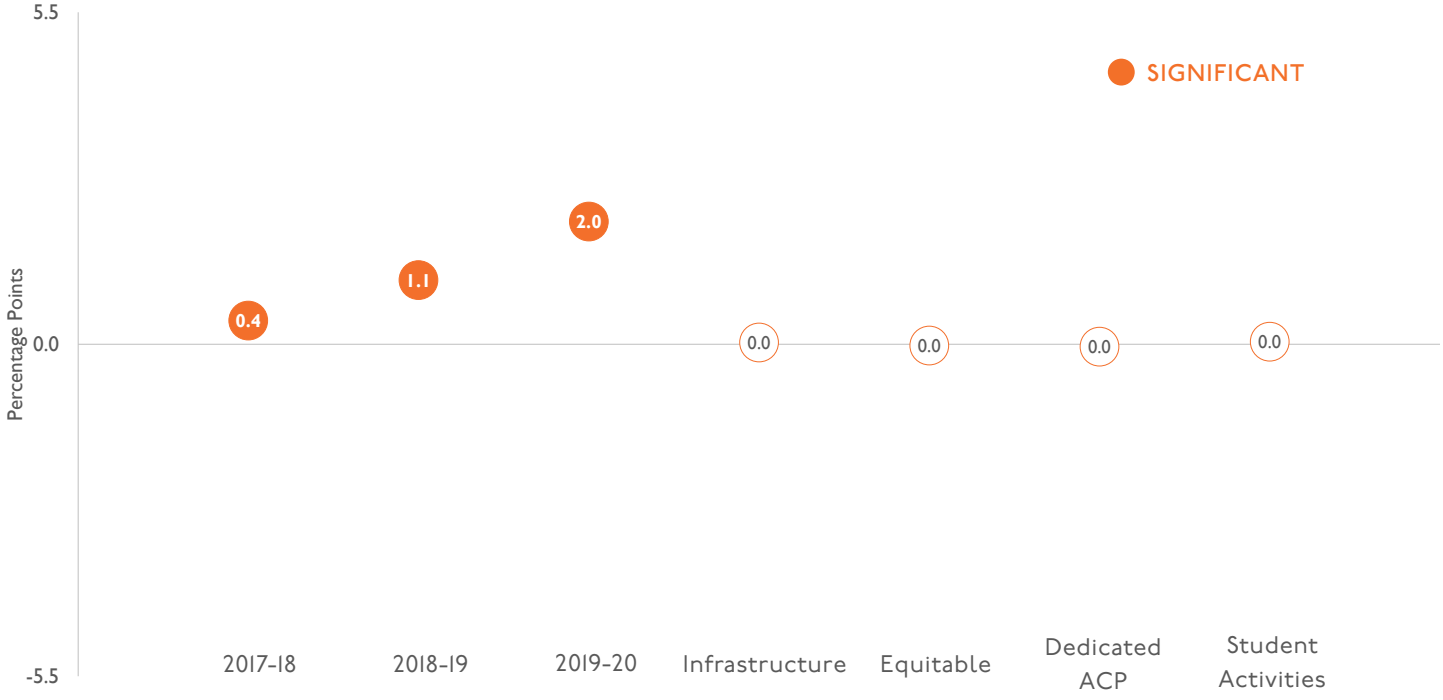


Figure 46: Estimated Impact of ACP on Student Attendance

Grades 9-12



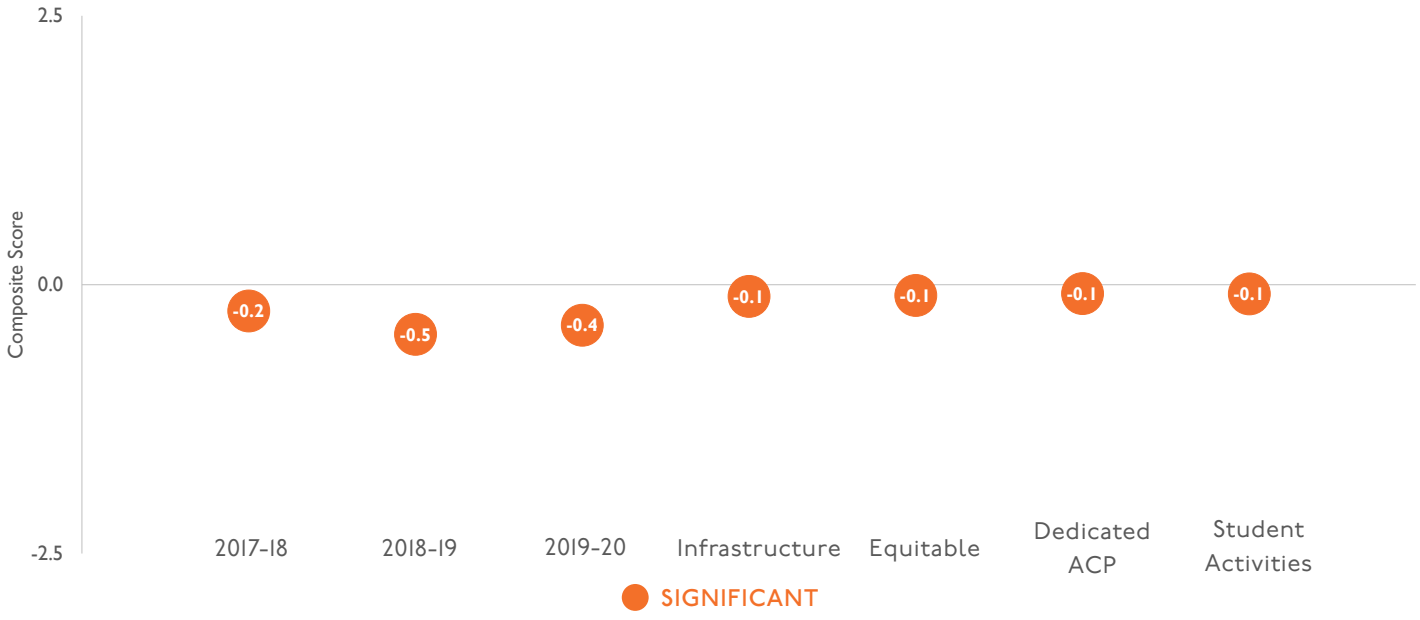
Suspensions

The second short-term outcome, which has not been updated for this report due a high possibility of COVID-19 bias, is student behavior as measured by the out-of-school suspension rate. Previous findings indicated small and positive (indicating a higher rate of out-of-school suspensions) changes associated with ACP, though none of the results were statistically significant from zero.

ACT Performance

Moving to intermediate-term outcomes, Figure 43 shows the estimated change associated with ACP on average ACT composite score. As seen from this figure, there were small, but statistically significant, decreases in average composite score associated with ACP overall in each year of implementation and related to the ACP implementation metrics. While these results are negative, they are also small, with the largest estimated impacts being less than a half of a point on the composite scale. Unlike attendance results, there is a smaller likelihood of COVID-19 bias in the ACT results as the statewide ACT exam in 2019-20 took place prior to many schools transitioning to virtual instruction in mid-March of that school year.

Figure 47: Estimated Impact of ACP on Average ACT Composite Score



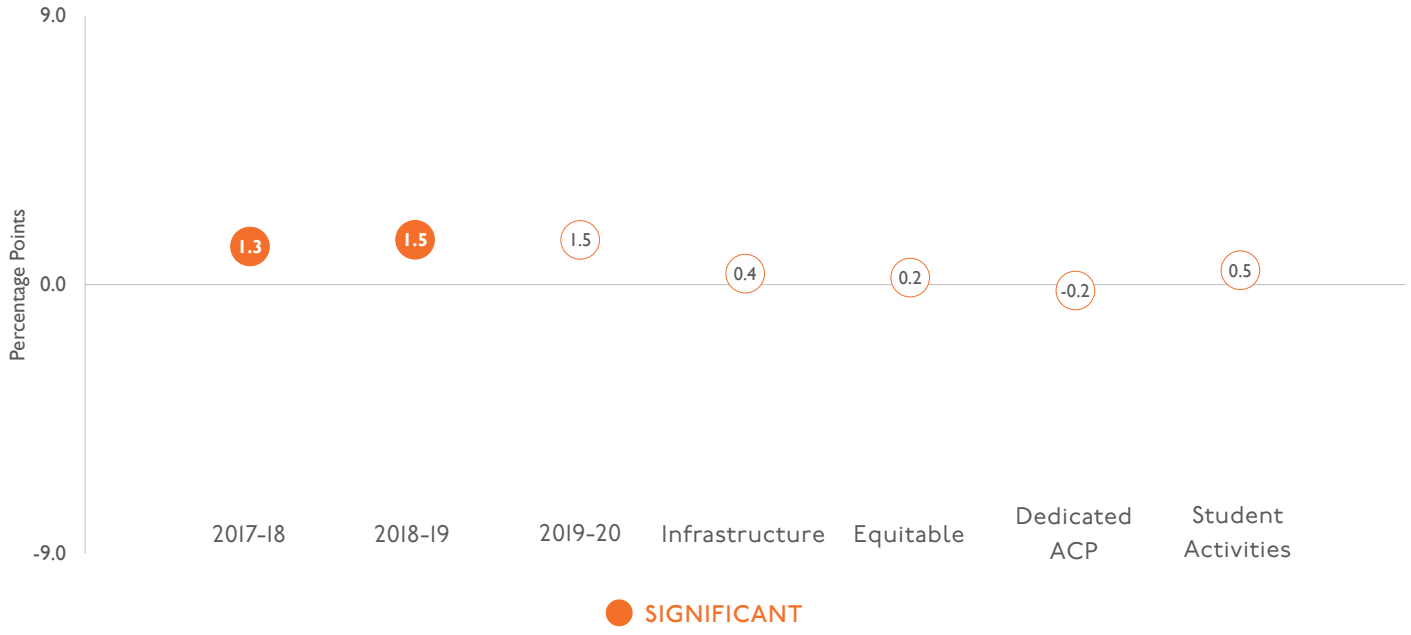
High School Completion

The next intermediate-term outcome examined in this evaluation is four-year high school completion rate. Figure 44 shows the estimated change in high school completion rate associated with ACP overall in each year of implementation as well as with the four ACP implementation metrics. As indicated, there are statistically significant increases in the high school completion rate associated with ACP in Years 1 and 2 of implementation (2017-18 and 2018-19). These estimated impacts represent an increase of approximately 1.3 percentage points in Year 1 and 1.5 percentage points in Year 2. As with attendance, results may be biased in Year 3 due to COVID-19 and should be interpreted with caution.

AP Exam Performance

The final intermediate-term outcome, AP exam performance, has not been updated for this report due to a high possibility of COVID-19 bias. In prior years, this outcome specifically examined the results on the five most popular AP exams: Calculus (both AB and BC), English Language and Composition, English Literature and Composition, Psychology, and United States History. Previous results indicated that estimated impacts were small with only the Psychology score being statistically significant. This estimated impact was a decrease in an AP Psychology score of 0.07 on the standardized scale, or approximately one-tenth of a point on the 1-5 AP scale. As noted in previous reports, an additional limitation for the interpretation of results from the AP score analysis is the pool of students that take AP exams. One of the intended outputs for ACP implementation is increased enrollment in AP courses. When students who may not have previously been inclined to take AP courses start to enroll, it is likely they would have lower average scores on the AP exam as compared to students who would have enrolled in an AP course regardless of ACP. Due to this limitation, there may be downward bias in the estimate of this outcome.

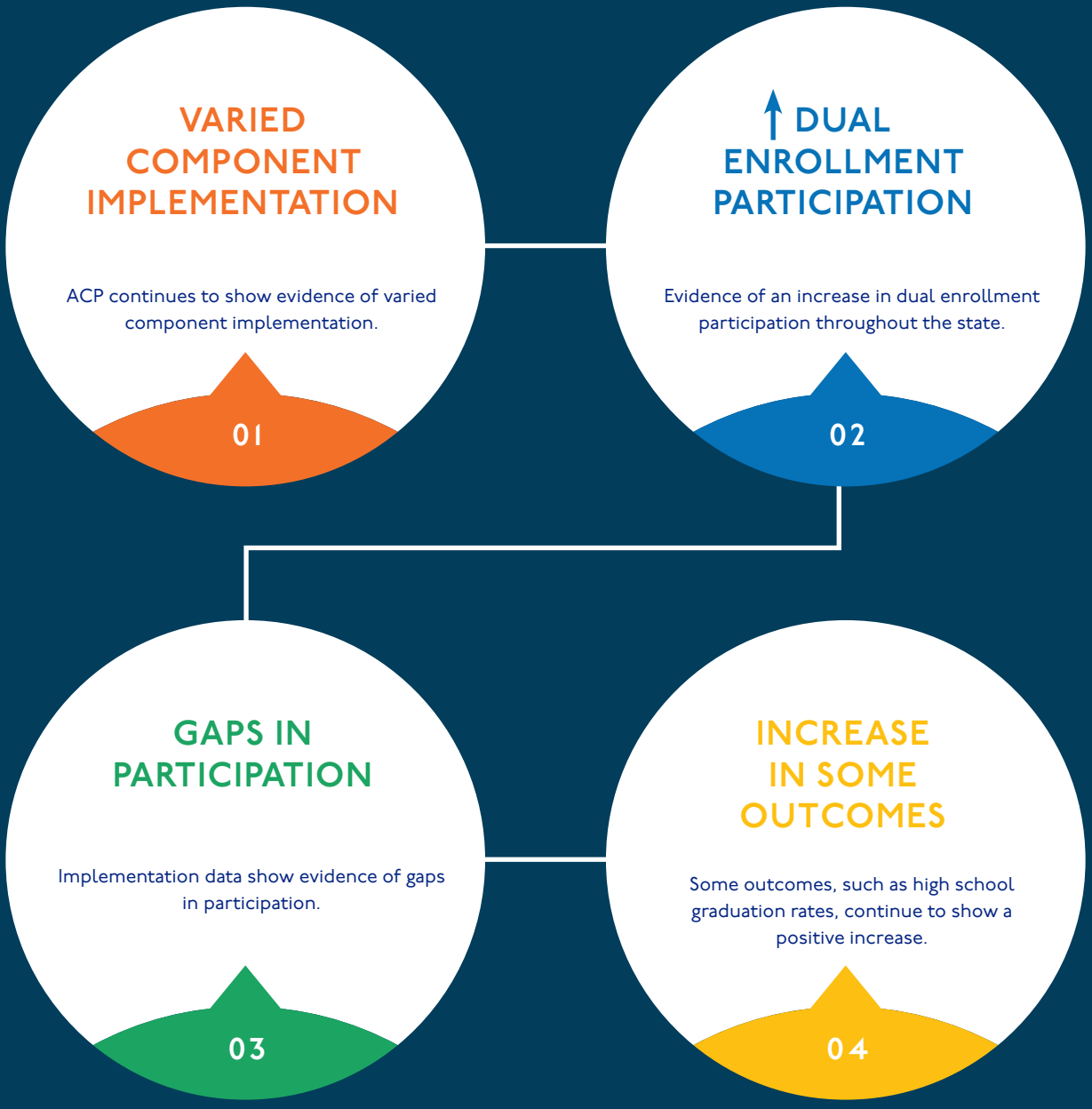
Figure 48: Estimated Impact of ACP on Four-Year High School Completion



Section 3

Key Findings and Recommendations

KEY FINDINGS



Key Findings and Recommendations

In this section, we detail some initial key findings of this year's evaluation, as interpreted by WEC evaluators. The findings are accompanied, where appropriate, by recommendations.

01 ACP continues to show evidence of varied component implementation

Survey data continue to show that districts and schools are in varying phases of planning and implementation across many ACP components. Components with the highest levels of implementation include informed and non-judgmental education and career advising; informing and encouraging students about AP, IB, or dual credit opportunities; and providing supportive and safe student relationships with adults. These areas of ACP continue to show high proportions of schools throughout the state at the institutionalized or implemented stage. However, other components of ACP continue to show lower levels of implementation, including regularly informing and engaging families about their students' ACP and having full staff participation in ACP.

Recommendation: Continue to support schools in the process of building an ACP culture and practices. Leverage the COVID-19 interruption as an opportunity to (re)start, assess, tweak, or even rebuild ACP programs so that they better serve students.

Recommendation: Continue to examine best ways to support schools to increase family and full staff engagement in the ACP process.

02 Evidence of an increase in dual enrollment participation throughout the state

Dual enrollment participation data show increases in participation from 2018-19 to 2019-20 of nearly 1.5 percentage points among high school students. This increase in participation is also seen in the majority of student subgroups including American Indian, Asian, Hispanic, economically disadvantaged, special education, and English learner students. Much of this increase in participation stems from an increase in technical college dual enrollment courses. Not all subgroups experienced this increase, however, with Black and Pacific Islander students showing decreased participation rates.

Recommendation: Continue to track participation in dual enrollment and identify possible trends of any increasing participation gaps.

Implementation data show evidence of gaps in participation 03

Related to the recommendation in the previous key finding, course and career-based learning participation data continue to show gaps not only by various student subgroups but also by region. Areas of ACP with the largest gaps across subgroups include youth apprenticeships, industry recognized credentials, and AP course participation. WEC is still in the process of conducting additional research, delayed due to COVID-19, on the nature of these gaps.

Recommendation: Continue to pursue additional research into the equitable implementation of ACP in terms of access and participation gaps.

Some outcomes, such as high school graduation rates, continue to show a positive increase 04

The third year of outcomes data shows evidence of increases in some short- and medium-term measures and decreases in others. These findings include an associated positive change in four-year high school completion rates and in attendance rates in high school and an associated negative change in composite ACT score. There continue to be limitations to these findings; for example, the possibility of interference from other, co-occurring policy changes and other factors cannot be determined given the statewide roll-out of ACP. Consequently, these outcome estimates should be interpreted with caution.

Recommendation: Continue to track ACP outcomes longitudinally to help verify existing patterns.

Section 4

Appendix A

Appendix A

Technical Methodology

This appendix provides detailed information on the ACP output and outcome measure calculations and demographic subgroups utilized in this report. WEC requested statewide, student-level data from DPI for the school years 2014-15 through 2019-20 related to student demographics and ACP measures of outputs and outcomes. Data sets received from DPI included:

- Student attributes file with information on student demographics, school, and grade level
- Attendance file with information on student absences
- Discipline file with information on out-of-school suspension occurrences
- High school completion file
- ACT results file
- Coursework Completion System file with information on courses taken and AP and IB courses (2014-15 and 2015-16)
- Roster file with information on courses taken and AP and IB courses (2016-17 through 2019-20)
- Career Education Reporting system file with information on career-based learning and dual enrollment (2018-19 and 2019-20)
- AP exam results file with information on tests taken and test scores

Data sets provided also included district and school information for students.

The following sections of this appendix detail the subgroups used for analysis, specific data preparation methods needed for certain data sets, the output measures used to measure infrastructural elements and student activity components, and the outcomes analysis.

Subgroups of analysis

For all implementation measures, this report breaks down results by school year, grade level (where applicable), race/ethnicity, socioeconomic status, disability status, English proficiency status, and CESA. For all reported statistics, the information on grade level, race/ethnicity, economically disadvantaged status, disability status, and English proficiency status came from the student attributes file. DPI defines economically disadvantaged as eligible for free or reduced-price lunch and disability as participation in special education. CESAs are tied to specific schools and not students.

Data Preparation

Several data sets provided for use in the evaluation required additional preparation before analysis could occur. Reasons for this additional preparation included but were not limited to missing values, possible errors, and duplicate records. Certain schools within the attendance file provided information with values outside what is reasonable. Thus, we removed a school when all its students had an attendance rate strictly less than 90 percent.

Implementation measures

This report examined several implementation or output measures deriving from the data sets described above based on available data: career-based learning participation, dual enrollment, AP or IB course enrollment, and IRC participation. Career-based learning participation (specifically youth apprenticeships, State Skills Standards Co-Ops, and non-certified career education programs), dual enrollment, and IRC participation used data from the Career Education Reporting system. These files contained student information including an indicator for whether a student participated in each of the various types of career-based learning, dual enrollment, or IRCs. AP and IB course enrollment used data from the Coursework Completion System and the newer replacement system, Roster. These files contained course level information including an indicator for whether or not a course was an AP or IB course. The metric for participation in these activities used in this evaluation is the percentage of students in at least one activity. Students who were in more than one school are represented once only when we report the statistics at the state level and for subgroups other than CESA. When we computed the statistics for different CESAs, if a student was in two different schools and if those schools had two different values for CESA, the student entered in the computation of the statistics for both CESAs. If all the schools attended had the same value for CESA, the student entered the computation only once. Since DPI changed systems during the period of examination (2014-15 through 2019-20) for AP and IB participation, the evaluation only included records from schools that appeared in all years of data to allow for stability in this measure across data systems. Finally, the evaluation excluded students missing demographic information.

Outcomes Analysis

Short-term outcome measures include attendance rate and out-of-school suspension rate. Intermediate-term outcome measures include ACT composite scores, four-year high school completion rate, and AP exam performance. AP exam performance included scores on the five most popular AP exams: Calculus (both AB and BC), English Language and Composition, English Literature and Composition, Psychology, and United States History.

One concern in evaluating the trends of these outcomes through 2019-20 was the potential bias arising from COVID-19 and the transition to virtual instruction for many schools throughout the state mid-March of the 2019-20 school year. To determine if there was a large disruption to any of these outcomes in 2019-20, we examined the averages of these outcomes across each year. While the attendance, ACT, and high school completion outcomes showed relatively small differences in means in 2019-20 compared to prior years, the out-of-school suspension rate and AP exam outcomes did show differences in means in 2019-20 compared to prior years. Out-of-school suspension rates dropped from around 6.7 percent in 2018-19 to 5.1 percent in 2019-20 in the middle school grades and dropped from 5.9 percent in 2018-19 to 4.4 percent in 2019-20 in the high school grades. Standardized AP exam scores also decreased substantially from 2018-19 to 2019-20, ranging from 0.01 to a 0.15 decrease in standard deviations depending on the subject. As a result of these large changes, the evaluation did not examine these outcomes in this most recent year. Future evaluations will examine the extent to which these outcomes can continue to be examined.

To understand how ACP is associated with the examined short- and intermediate-term outcomes, the evaluation used an interrupted time series methodology. This type of analysis uses the same schools prior to ACP implementation as a comparison group to determine the effect of ACP once it is implemented statewide in 2017-18 and beyond. This methodology is ideal since there are no non-ACP students and schools in the year of implementation that could be used as a comparison. This analytic method uses a pre/post design to follow and compare the same schools both before and after exposure to ACP implementation. The treatment group was all schools in 2017-18 and after (as ACP is statewide). For a comparison group, the evaluation used all of the same schools throughout the state in the years prior to ACP implementation. To account for any long term trends occurring throughout the state, the analysis used three prior years of baseline data on the intended outcomes (specifically 2014-15 through 2016-17). The evaluation then used multivariate regression models to estimate the associated impact of ACP on these outcomes while controlling for a variety of student- and school-level characteristics.

The general model specification for the outcomes analysis was:

$$Y_{igsy} = \gamma \text{ ACP Year}_y + \beta X_{iy} + \pi \text{Location}_{sy} + \theta T_y + \delta_{gs} + \varepsilon_{isgy}$$

In this specification:

- Y_{igsy} is the outcome of interest for student i in grade g, school s, and year y.
- $\gamma \text{ ACP Year}_y$ is an indicator for the year of ACP implementation with values of 0 prior to 2017-18, a value of 1 in 2017-18, a value of 2 in 2018-19, and a value of 3 in 2019-20.
- βX_{iy} is a vector of student-level covariates including gender, race/ethnicity, special education status, economically disadvantaged status, and English learner status.
- $\pi \text{Location}_{sy}$ is a vector of indicators for the locale description of a school including city, suburb, town, and rural.
- θT_y is a continuous time trend.
- δ_{gs} are grade and school fixed effects to control for any unobserved effects that vary by grade and school.

Because of the multi-level nature of the specification, this multivariate regression also clustered the standard errors at the school level.

The analysis also explored associations for levels of ACP implementation. The evaluation identified levels of ACP implementation from the 2017-18 through 2019-20 ACP surveys.[4] Specifically, four different measures of ACP implementation were identified: infrastructural element implementation, equitable access implementation, dedicated ACP time implementation, and student activity component implementation. For each of these implementation metrics, the evaluation combined all relevant survey item responses into a single score with values ranging from 0 (not yet started) through 3 (institutionalized). Implementation scores near 1 indicate the initiated level, and scores near 2 indicate the implemented level. Since not all schools responded to each year of the survey, if a school responded in any one year, the evaluation assigned response values for that school to other missing years. The evaluation did not include schools not responding to any year of the survey in this analysis. For these models, the specification was adjusted to include an interaction between treatment overall (1 indicating treatment year and 0 indicating non-treatment year) and implementation level instead of an ACP Year_y indicator.

Further specific variations on the model specification above for each applicable outcome follow.

For the attendance outcome, since attendance appears differently at the middle school grade levels (6-8) and the high school grade levels (9-12), the evaluation also separated the analysis to examine each separately.

For the high school completion outcome, for each student, the outcome is binary (1 if the student had at least one out-of-school suspension, 0 otherwise; 1 if the student completed high school within four years, 0 otherwise). As a result, a linear regression is no longer feasible and the evaluation used a logit regression. The form of the logit

4 Refer to the Academic and Career Planning Evaluation Implementation Year School-Level Survey Results, Academic and Career Planning 2018-19 Evaluation Survey Results, and Academic and Career Planning Survey 2019-20 reports for further details.

regression is:

$$\ln\left[\frac{Pr(Y_{igsy})}{1-(Y_{igsy})}\right] = \gamma \text{ACP Year}_{y} + \beta X_{iy} + \pi \text{Location}_{sy} + \theta T_{y} + \delta_{gs} + \varepsilon_{isgy}$$

To assess the robustness of findings, the evaluation tested two alternative specifications. The first alternative specification allowed for each school within the analysis to have their own specific time trend. This specification provided interaction terms for the continuous time trend with each school fixed effect. This evaluation tested this model to account for any variation in the overall trend in the outcomes across the state between schools. The second alternative specification dual clustered the standard errors at both the student and school levels. The evaluation tested this model to account for students appearing multiple times within the same analysis. Both alternative specifications produced similar results to the main specification presented above.

Multiple Comparisons Correction

Since this evaluation report includes the results from multiple estimates of the impact of ACP for several outcomes, there is an increased likelihood for false positive results that would be statistically significant due to random chance rather than actual program impact. For example, a 0.05 significance level implies that 5 percent of statistically significant estimates are produced by random chance. The Benjamini-Hochberg procedure corrects for these multiple comparisons by accounting for the total number of statistical tests as well as the strength of the estimates, as measured by p-values.[5] In this report the evaluation adapts this procedure to provide corrected confidence intervals for each of the results presented in the report. The formula[6] used for this correction is:

$$CI_{c} = \gamma \pm t_{\alpha/2,df}\left(\gamma \Big/ t_{(pN_r)/(R_r)2,df}\right)$$

where:

- CI_c is the corrected confidence interval.
- γ is the estimate of impact.
- $t_{\alpha/2,df}$ is the t-score on the t-distribution table associated with an alpha of α (in this case 0.05) and df degrees of freedom.
- $t_{(pN_r)/(R_r)2,df}$ is the t-score on the t-distribution table associated with an alpha of $(pN_r)/(R_r)$ and df degrees of freedom.
- p is the p-value of the estimate derived from the model.
- N_r is the total number of results across all models.
- R_r is the numeric rank of results across all models; for example, the result with the lowest p-value has a rank of 1.

5 Benjamini, Y. & Hochberg, Y. (1995). Controlling the false discovery rate: A practical and powerful approach to multiple testing. Journal of the Royal Statistical Society: Series B (Methodological), 57(1), 289-300.

6 For the high school completion outcome, the formula uses z-score and the standard normal distribution instead of the t-score and t-distribution.

WEC

Supporting PreK-12