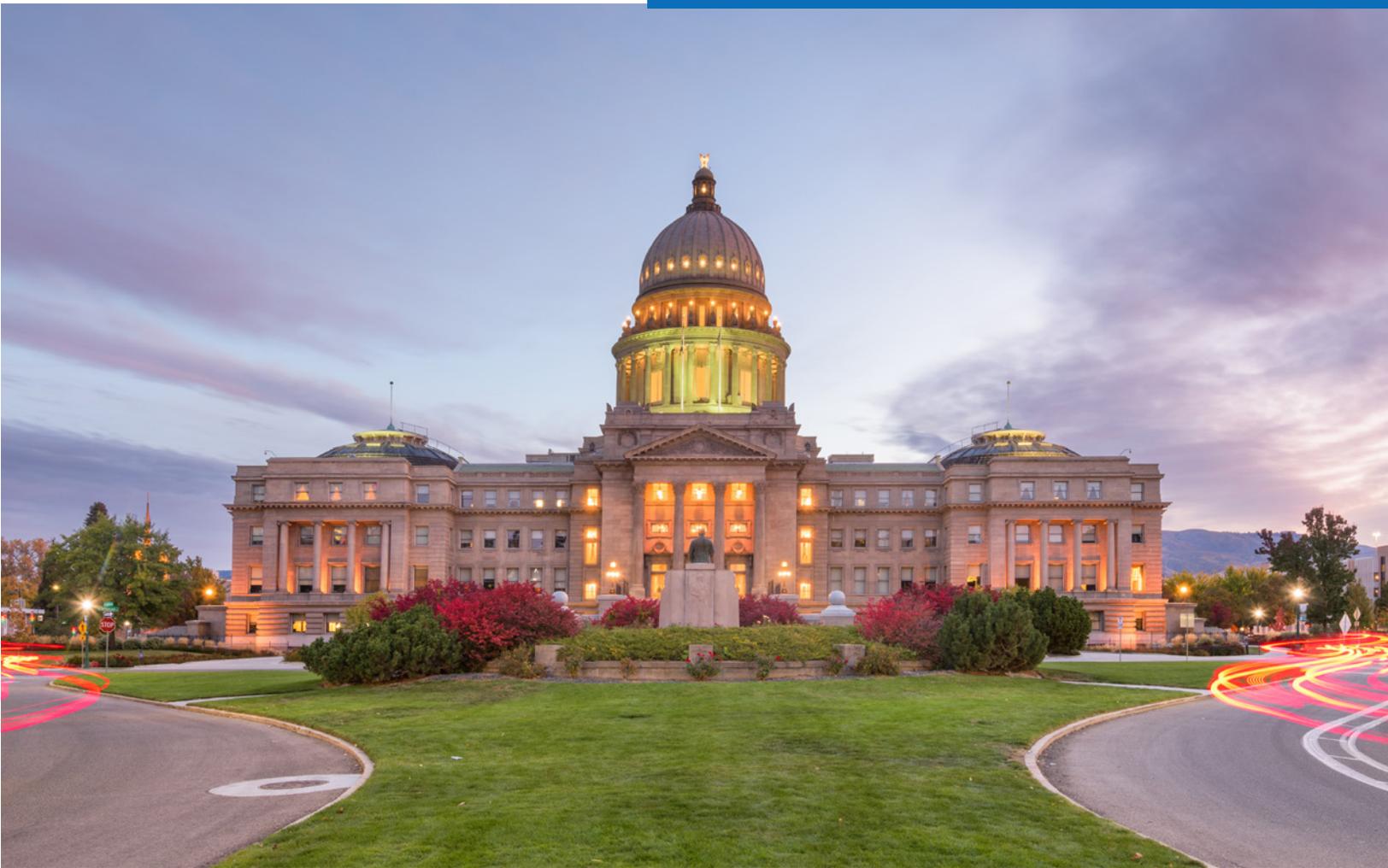


NOVEMBER 24, 2021



Evaluation of Idaho's

# DUAL CREDIT FUNDING

through

# ADVANCED OPPORTUNITIES

AUTHORS

**PEACE BRANSBERGER**

Senior Research Analyst  
*Western Interstate Commission for Higher Education*

**JASON TAYLOR**

Associate Professor,  
Department of Educational Leadership and Policy  
Director of Transfer Pathways,  
Office of Undergraduate Studies  
*University of Utah*

**PATRICK LANE**

Vice President, Policy Analysis and Research  
*Western Interstate Commission for Higher Education*

**COLLEEN FALKENSTERN**

Senior Research Analyst  
*Western Interstate Commission for Higher Education*

CONTACT

**PATRICK LANE**

plane@wiche.edu | 303.541.0266  
*Western Interstate Commission for Higher Education*

ACKNOWLEDGEMENTS

This report was completed with the invaluable assistance of numerous groups and individuals. Although the evaluation was completed independently, staff from the State Board of Education provided substantial assistance in obtaining necessary data, clarifying details, and answering questions. Their professionalism and speed in responding to WICHE's queries made this final report possible.

DISCLAIMER

*The research presented here utilizes data from Idaho's State Longitudinal Data System (SLDS) and the Idaho State Department of Education (SDE) Advanced Opportunities database. Any errors are attributable to the Western Interstate Commission for Higher Education.*

# Executive Summary

Idaho's dual credit programs, with a unique state funding model under Advanced Opportunities, have seen substantial growth in student usage in recent years.

The Western Interstate Commission for Higher Education (WICHE) analyzed six key topics related to the state's dual credit model:

- Fiscal impact of using Advanced Opportunities funds for dual credit students specifically
- Number of credits earned by dual credit students using Advanced Opportunities funds
- Rates of students earning dual credits who go on to attend postsecondary educational institutions measured from fall semester following high school graduation
- Retention rates of students earning dual credits in high school from their first fall to spring terms at their postsecondary institution
- First semester GPA of students earning dual credits in high school at a postsecondary institution (fall after high school graduation)
- Appropriateness of using Advanced Opportunities funds for dual credit students

The first five bullet points are addressed using data from the Idaho State Longitudinal Data System and the Advanced Opportunities program, data publicly available to or produced by WICHE, and additional published research. For the last key topic — the appropriateness of using Advanced Opportunities funds for dual credit — WICHE draws conclusions based on its original analyses of Idaho data, as well as other compelling and rigorous research on dual credit where relevant.

This executive summary presents the key factual findings specific to these topics, followed by WICHE's conclusions based on the best evidence available. It is important to note that the analysis of Idaho data here generally represents **correlational connections**, that is, an association between two variables that may or may not have a **causal relationship**. Understanding whether one variable causes changes in another — i.e. whether participating in dual credit causes greater college-going and college outcomes — is the ultimate goal of an evaluation.

WICHE has aimed to strike a balance between drawing substantive conclusions and acknowledging caution where further research and data are needed. While it is true that additional data, time, resources, and research capacity would improve the state's empirical understanding of dual credit, WICHE recognizes its responsibility to make judgments based on the available evidence, rather than deferring until the evidence is fully conclusive and the causal relationship is clear. In the report conclusions and at the end of this summary, WICHE identifies some potential paths for continued evaluation of and research into dual credit in Idaho that may further refine and improve the program. WICHE believes that the totality of evidence presented throughout this report, including analysis of data from Idaho and evidence from other research, supports these conclusions even though the research is not yet able to identify causal impacts within the state.

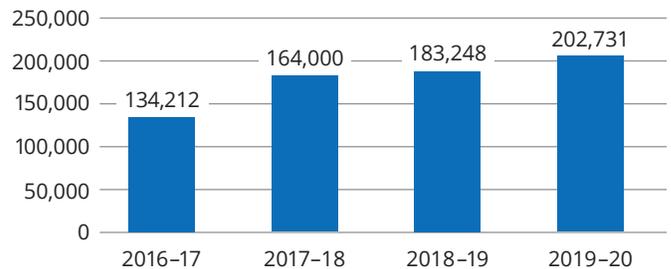
# FINDING 1 *The number of postsecondary credits earned by graduating public high school students continues to increase.*

This finding is consistent with other research and reports on Idaho’s dual credit programs. The 2019–20 cohort is the first high school graduating cohort to have had access to the full \$4,125 in Advanced Opportunities funding for all four years of high school, so it may be expected that growth in the number of credits (and the related cost to the state) may level off in coming years. Credit earning has increased over time, as shown in in Figure E1. Some very preliminary evidence of this levelling off is found in Figure E3 as the cost in FY 21 has decreased compared to FY 20, but WICHE’s analysis generally is only through the 2019–20 school year.

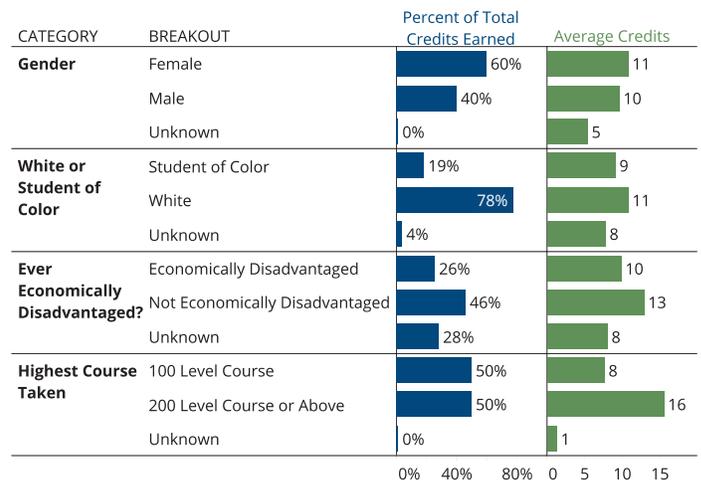
The level of credits in Figure E1 also underreport the total credits earned by Idaho students as these numbers do not include courses taken through private and out-of-state providers. WICHE was provided data for the 2019–20 school year that included these providers and comparisons with that data suggest an additional 13% more credits were earned from these providers. Spending data included in Finding 2 include these providers.

Looking more closely at credit earning across different subgroups and types of courses from 2016–17 to 2019–20 (limited to those who earned dual credit from public postsecondary providers in Idaho), WICHE’s analysis shows that females earn more dual credits than males, that credit earning was concentrated in grades 11 and 12, and that white students were slightly overrepresented in credits earned compared to students of color. Additionally, students who were classified as economically disadvantaged earned fewer dual credits than those who were not. Figure E2 summarizes some of these findings, with additional detail, including full demographic descriptions of the populations studied, in the report body and appendices.

**FIGURE E1. Dual Credits Earned by Year, 2016–17 to 2019–20**



**FIGURE E2. Dual Credits Earned by Group, 2016–17 to 2019–20**



## FINDING 2 *State spending on dual credit has increased substantially but appears to be generating substantial student savings compared to program costs.*

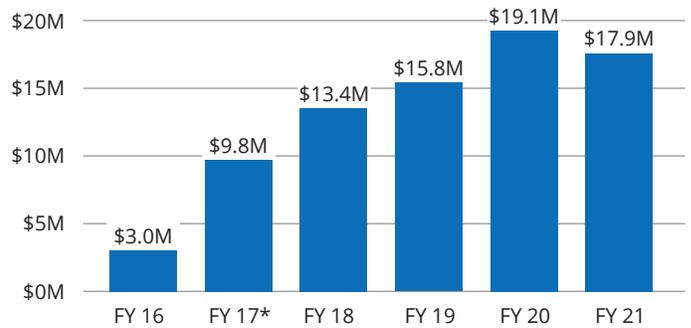
With the growth in the number of credits earned by students, state investment in dual credit has also increased, as seen in Figure E3.

While this cost is significant and certainly bears scrutiny by policymakers, WICHE has also taken the first steps in quantifying monetary benefits to students through tuition savings. This is by no means a formal cost-benefit analysis, but does begin to identify how some of the benefits to students may offset some of these costs. WICHE’s estimates intentionally take conservative approaches to assigning student benefits and are imperfect due to insufficient information about the net costs borne by students, but Figure E4 still shows that these benefits that accrue to those students who go on to postsecondary education outweigh state costs. It is important to note that the spending and benefit figures in Figure E4 are for high school graduating cohorts rather than for all students participating by fiscal year (as in Figure E3), so the numbers are not directly comparable.

Further research should assess the student savings for those engaged in Career and Technical Education dual credit courses who pursue non-credit, workforce-oriented credentials.

WICHE does not attempt to quantify impacts on Idaho’s economy and credential completion, but these are crucial components of understanding the total fiscal impact. Such work will require additional years of data and more complex analyses. Summaries of rigorous research from other states on the return on investment to the state are included in the report body. These studies have shown strong returns to dual credit investment across a number of fiscal, economic, and social dimensions. Recommendations provided on future evaluation activities suggest how such analyses in Idaho could proceed.

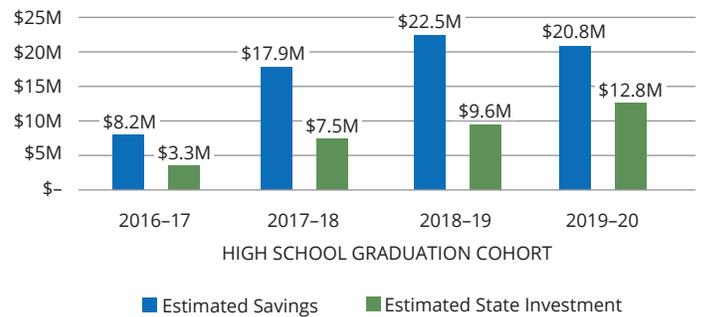
**FIGURE E3. State Spending on Dual Credit by Year**



Source: Idaho State Department of Education Advanced Opportunities Program Totals, <https://www.sde.idaho.gov/student-engagement/advanced-ops/>.

\*FY17 report not available, but data retrieved from Boise State University, Idaho Policy Institute, Advanced Opportunities Evaluation 2020 for AY 2016–17.

**FIGURE E4. Student Savings and State Cost by Cohort.**



## FINDING 3 *Go-on rates for dual credit students outpace those of non-participants.*

The college go-on rates for dual credit students are higher than those of non-participants in total and consistently across different sub-populations. Again, as in other results, this is a correlation and does not necessarily imply causation. This finding comes within a state context of declining go-on rates and potentially major disruptions due to the COVID-19 pandemic that also appear to be decreasing the number of high school students who enroll in college directly after high school. Across the years studied, the go-on rate for dual credit participants was about 27 percentage points higher than for non-participants. There is also evidence that students who completed more credits, finished certain courses (math and English), and completed more advanced courses were more likely to matriculate into college than those who did not.

Importantly, dual credit students who were categorized as economically disadvantaged had comparatively greater go-on rate differences over non-dual credit students compared to those who were not economically disadvantaged. Should this finding continue to hold true in research examining causal impacts, it would suggest that increasing dual credit participation by low-income students could help close college access gaps.

Additionally, the analysis shows that go-on rates for students of color participating in dual credit programs are essentially the same as for white students participating in dual credit. While this is a correlational analysis, it is an important suggestive finding.

WICHE also developed an advanced quantitative model to begin understanding what student and course characteristics lead dual credit students to go on to college, controlling for as many variables as possible. This model finds that female dual credit students are predicted to have higher than average go-on rates, as are dual credit students who are Black, American Indian/Alaska Native, Asian, Multiracial, and Hispanic. Additionally, earning higher numbers of dual credits as well as completing English dual credit courses are strong predictors of going on to college. Completing both math and English dual credit courses is also associated with an increased likelihood of going on to college. With additional data elements, this model could be refined to help the state identify factors that boost college going among dual credit participants, and potentially identify strategies for incentivizing these behaviors. These results should be considered in the context of dual credit participation, with many of the groups listed above that stand to potentially reap significant benefits by participating in dual credit (through higher go-on rates, for example) being less likely to take dual credit courses.

## **FINDING 4** *For dual credit completers who enroll in college, postsecondary retention GPAs are higher than non-participants.*

Among college students who enrolled directly from high school, those who participated in dual credit in high school had higher first semester GPAs than their counterparts who did not earn dual credits, and dual credit participants were more likely to be retained in the spring semester. Over the four years studied, about 63% of dual credit students had first-semester GPAs above 3.0, compared to about 47% of non-dual credit participants.

Retention rates for dual credit participants were about seven percentage points higher than for non-dual credit participants at the beginning of the study period and the gap slightly increased over the additional years studied by WICHE. This does not include a precipitous drop in the retention of non-dual credit students who graduated as part of the 2019–20 cohort. Among the nearly 600 non-dual credit students in this cohort who attended private or out-of-state colleges, fewer than 50 were retained in spring 2021. Given the size of this decline, WICHE believes further investigation is warranted and is hesitant to draw conclusions.

# Key Conclusion

**Using Advanced Opportunities funds to continue to support dual credit is an appropriate strategy. This conclusion is WICHE’s opinion based on the totality of evidence from the available data and research from other states.**

To assess the appropriateness of using state funds to support dual credit, WICHE examined three key questions:

- What evidence from Idaho’s data do we have that this is a good use of funds, or could be improved?
- What evidence from other literature and research do we have that this may be a good use of funds?
- What specific questions/analyses should be answered/completed to bring additional certainty to the appropriateness analysis?

Idaho’s policy of funding dual credit through Advanced Opportunities is enormously complex and its impacts can be difficult to separate from other policies, contextual idiosyncrasies, economic conditions, and other confounding factors. It is also difficult to definitively isolate the impacts of dual credit from outcomes caused in part by the types of students that are more likely to take dual credit courses.

Instead of waiting until the evidence is conclusive, and we have addressed numerous data nuances and angles of research to arrive at a conclusive causal finding, WICHE views its mandate for this evaluation as bringing together the best available evidence — including data made available to WICHE from Idaho’s State Longitudinal Data System and other research completed elsewhere — to draw conclusions. This includes correlations from the data about Idaho Advanced Opportunities that are suggestive of positive relationships between earning dual credit and positive student outcomes, as well as research from other states that identifies causal impacts of dual credit participation.

Reaching a conclusion on the appropriateness of state-funded dual credit is obviously a subjective matter. It is clear that — to some extent — dual credit funding benefits students without economic need and who might be very

likely to go on to postsecondary education (and succeed once there) whether or not dual credit is available to them. But additional evidence — especially research from other states — identifies dual credit as leading to improved student outcomes and producing a positive return on investment for the state, as well as positive financial benefits for students.

Drawing on the findings above, WICHE has reached the following conclusions.

- 1. There are two key components of Advanced Opportunities to consider. One is the requirement that school districts offer at least one of its programs. The second is the funding mechanism, which essentially provides tuition-free dual credit opportunities. It is likely that Advanced Opportunities' funding mechanism has a substantial impact on increased dual credit earning by Idaho students. WICHE does not evaluate how the mandate to provide at least one program affected dual credit participation.*
- 2. Based on analysis of data from Idaho and other research that has attempted to isolate the impact of dual credit, it seems likely that Idaho's dual credit programs are increasing go-on rates.*
- 3. Based on analysis of data provided by Idaho, it seems likely that dual credit participation is associated with higher collegiate GPAs.*
- 4. Based on analysis of data provided by Idaho and additional research, it is likely that dual credit in Idaho increases postsecondary persistence.*
- 5. Based on analysis of data provided by Idaho, combined with publicly available tuition information, as well as other states' research on the costs and benefits of dual credit programs, it is very likely that the state's dual credit program — as funded through Advanced Opportunities — generates a substantial positive return on investment and provides substantial financial benefits to students and their families.*

As noted throughout the executive summary, the analysis of Idaho data does not by itself support causal conclusions that earning dual credit in Idaho leads to improvement in student outcomes. But WICHE has also used available research on other programs to reach these conclusions. While these conclusions are drawn from the totality of evidence available, it is clear that further research could identify causal impacts in Idaho.

# Key Recommendation

**Idaho should engage in an intentional and targeted continuous research and evaluation effort to build evidence about the dual credit program and identify opportunities to improve student outcomes.**

With the size and complexity of Idaho’s dual credit programs and its funding approach, WICHE believes that it is appropriate to carry out ongoing evaluations and research, and that this effort should be backed by modest resources to ensure that dual credit is making as positive an impact on student outcomes as possible. Although general reports on program usage and trends are useful, it may provide greater benefits to focus limited staff time and research resources on providing deeper analyses of key questions about causality and to identify potential pathways to improve the effectiveness of the program.

This level of understanding can only be gained if research on and evaluation of dual credit in Idaho is viewed as an ongoing process that is never “accomplished” rather than a singular event. Idaho has robust data resources and expertise to enable thoroughly detailed and complex research that can address some of the uncertainty about the causal nature of Idaho’s dual credit programs and identify programmatic improvements that can increase their effectiveness. Carrying this research out likely requires modest regular allocations of funding to prioritize and address key research questions.

This research should have two major goals: first, it should seek to continue to build the base of evidence about dual credit and Advanced Opportunities in Idaho; second, it should work to identify programmatic improvements that schools, districts, colleges and universities, the State Board of Education, the State Department of Education, and legislators can make to increase the effectiveness of the program and improve student outcomes.

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# Introduction

In 2016, the Idaho legislature combined a series of state programs aimed at accelerating students through the education pipeline into an initiative known as Advanced Opportunities. Under this program, the state allocates \$4,125 to each public high school student to use for a variety of supplemental academic pursuits, including Advanced Placement or International Baccalaureate exams, Professional Certification Exams, College Level Examination Program exams, overload courses, early graduation incentives, and dual credit courses.<sup>1</sup> While these programs existed prior to being brought together under the Advanced Opportunities umbrella, this unique funding model grants students agency to pursue the options that best fit their academic needs.

Understanding how this important policy is impacting student outcomes is crucial for Idaho policymakers, as the overall Advanced Opportunities budget represents a substantial state investment of \$21.4 million in FY 2021.<sup>2</sup>

The goals of the program fit closely with broad efforts to improve student outcomes in Idaho. The Idaho State Board of Education (SBOE) lists several key priorities under its FY 2022–2027 Strategic Plan, including increasing access to the state’s educational system for all Idahoans and improving educational readiness for postsecondary education and the workforce.<sup>3</sup> The means to reach these priorities include broadening participation in Advanced Opportunities and increasing postsecondary credits earned in high school, measured by the number of high school students graduating having already completed an associate degree.<sup>4</sup>

One of the key goals of state-supported dual credit in Idaho is to increase the rate at which high school students pursue postsecondary education, known as the “go-on rate.” Additionally, policymakers are keenly interested in the fiscal impact of supporting dual credit through the Advanced Opportunities program, as the cost of higher education for students and their families has grown substantially in recent years. To address these and other issues, the legislature has requested an independent evaluation of the dual credit programs under Advanced Opportunities.<sup>5</sup>

The Western Interstate Commission for Higher Education (WICHE), a regional higher education compact of 15 U.S. Western states (including Idaho), two territories, and two freely associated states, was awarded a competitively bid contract to carry out an independent evaluation of dual credit

1. WICHE acknowledges that some use terms like “dual enrollment,” “dual credit,” and “concurrent enrollment” with specific meanings about the location and modality of courses. For the purposes of this report, “dual credit” follows the definition from Idaho State Board of Education policy III.y, which defines the term as an opportunity for high school students to simultaneously earn high school and postsecondary credit. See <https://boardofed.idaho.gov/board-policies-rules/board-policies/higher-education-affairs-section-iii/iii-y-advanced-opportunities/> for full details.
2. Idaho Department of Education, “Advanced Opportunities: Annual Totals FY 2021,” 2021, accessed November 6, 2021 from <https://www.sde.idaho.gov/student-engagement/advanced-ops/files/reporting/FY2021-Advanced-Opportunities-Program-Totals.pdf>.
3. Idaho State Board of Education, “FY2022-2027 Idaho K-20 Public Education - Strategic Plan,” 2021, accessed November 6, 2021 from <https://boardofed.idaho.gov/wp-content/uploads/2021/01/FY22-K-20-Strategic-Plan-Final.pdf>.
4. *ibid.*
5. See Senate Bill 1202 (2021) for additional detail. The legislation includes language stating, “The dual credit program shall have an independent, external evaluation that updates data and includes analysis of dual credit utilization and key performance indicators of student achievement,” accessed November 15, 2021 from <https://legislature.idaho.gov/sessioninfo/2021/legislation/S1202/>.

programming in the state of Idaho. In this report, WICHE presents findings and data on the following topics:

- Fiscal impact of using Advanced Opportunities funds for dual credit students
- Number of credits earned by dual credit students using Advanced Opportunities funds
- Rates of students earning dual credits who go on to attend postsecondary educational institutions measured from fall semester following high school graduation
- Retention rates of students earning dual credits in high school from their first fall to spring terms in their postsecondary institution
- First semester GPA of students earning dual credits in high school at a postsecondary institution (fall after high school graduation)
- Appropriateness of using Advanced Opportunities funds for dual credit students

Dual credit is widely viewed in postsecondary education circles as an intervention with significant potential for improving student outcomes — including high school graduation rates, postsecondary go-on rates, and postsecondary completion.<sup>6</sup> Initial evidence from other states shows that the intervention may improve affordability for students, with research showing shorter time to degree and fewer student loans for those receiving dual credit.<sup>7</sup> Like any intervention, however, the potential for improvements towards policy objectives must be verified through detailed and rigorous evaluation and research.

Previous evaluations of and reports on dual credit in Idaho have shown strong growth in dual credit earning by students since the Advanced Opportunities program began providing substantial student funding in the 2016–17 school year. Evaluations and reports also indicate some concern that the benefits of Idaho’s dual credit programs and funding may be accruing to students who would have been likely to progress to and fare well in postsecondary education without the additional support.<sup>8</sup> With a full cohort of public high school students now having had access to dual credit through Advanced Opportunities, it is possible to use data from Idaho’s State Longitudinal Data System to measure the rates at which students are earning dual credit, the likelihood of dual credit students pursuing postsecondary education compared to non-dual credit students, and their initial success once matriculating.

This report begins with further history of the Advanced Opportunities program and dual credit offerings in Idaho, followed by a brief discussion placing this evaluation into the broader context of Idaho’s attainment goals and workforce demand. Then, a brief analysis of other research on dual credit and state funding is presented, followed by a review of previous evaluations and reports on Idaho’s dual credit and Advanced Opportunities programs. From here, the report presents the empirical findings on the key questions detailed above, using data from the Idaho State Longitudinal Data System and other sources to draw a series of conclusions aimed at evaluating the appropriateness of supporting dual credit through Advanced Opportunities.

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6. Brian P. An and Jason L. Taylor, “A review of empirical studies on dual enrollment: Assessing educational outcomes,” *Higher Education: Handbook of Theory and Research* (2019): 99–151; What Works Clearinghouse, “WWC Intervention Report — Dual Enrollment Programs,” Institute of Education Sciences, U.S. Department of Education, 2017.

7. Thomas Earl Hughes, *The impact of high school dual enrollment participation on bachelor’s degree attainment and time and cost to degree*, Old Dominion University, 2016.

8. “Advanced Opportunities Evaluation 2020,” Boise, ID: Boise State University, Idaho Policy Institute (2020); Senator Dave Lent and Rod Gramer, “Advanced Opportunities Report to the Governor’s Subcommittee on Budgets,” July 29, 2019.

# Background on Advanced Opportunities and Dual Credit

In 2016, partly to increase postsecondary attainment and improve affordability for students, the Idaho legislature passed legislation that consolidated and streamlined sections of Idaho Code pertaining to Advanced Opportunities.<sup>9</sup> Among other things, the legislation created a contiguous program of funding ways for students to earn college credits while still in high school. It is designed to increase postsecondary credit accumulation, improve college-going rates, reduce costs to students and their families to complete postsecondary credentials, and increase career readiness among high school students in career and technical education courses.

Most of the components of the Advanced Opportunities programs were in existence prior to the 2016 bill, but the funding available to all students to offset costs was a new feature, as was allowing students the opportunity to use the funds as they see fit. As is discussed in greater detail throughout this report, following the expansion of the Advanced Opportunities program in 2016, dual credit usage in Idaho has grown significantly.

## IDAHO DUAL CREDIT HISTORY AND PREVIOUS EVALUATIONS

Prior to the full launch of the Advanced Opportunities program in 2016, there were a variety of state programs that provided some level of financial support for students taking dual credit courses. Ten years ago, in the 2011–12 school year, almost 18 percent of 11th and 12th graders participated in dual credit courses, a number that has grown significantly since.<sup>10</sup> Opportunities for earning dual credit in Idaho have existed for decades, but state support for these programs has steadily grown in recent years beginning with piecemeal programs before the current funding regime was fully implemented in 2016.

In addition to detailed annual reports by staff from the State Board of Education, multiple other evaluations of and reports on Idaho's dual credit and Advanced Opportunities programs have been completed.<sup>11</sup> These reports have provided a variety of summary statistics and generally present a relatively consistent story: dual credit accumulation by high school students in Idaho has steadily grown, with a sharp increase in usage following the passage of the Advanced Opportunities legislation in 2016.

These reports also generally show higher go-on rates for dual credit participants, reduced time to complete credentials, as well as differential usage rates by key student demographics including the location of high schools, gender, socio-economic status, and race and ethnicity.

## EXISTING RESEARCH ON DUAL CREDIT

Dual credit has been a popular policy intervention over the past 20 years across the country with the promise of earning postsecondary credits while still in high school being very appealing to policymakers. As the practice has grown, research and evidence has grown too, and it can be very informative in considering the impact of dual credit in Idaho.

9. WICHE acknowledges that multiple pieces of legislation related to Advanced Opportunities have passed in Idaho since 2010. This report focuses in particular on the 2016 legislation because it dramatically reshaped funding for dual credit (as well as other offerings funded under the program.)

10. Brandi Holten and Ashley Pierson, "Getting Ahead with Dual Credit: Dual-Credit Participation, Outcomes, and Opportunities in Idaho," 2016, Education Northwest, accessed November 1, 2021 from <https://educationnorthwest.org/sites/default/files/resources/rel-dual-credit-idaho.pdf>.

11. See for example: Idaho State Board of Education, "Dual Credit Report," 2021, accessed November 17, 2021 from <https://boardofed.idaho.gov/resources/dual-credit-report-2020/>; Holten and Pierson, 2016; "Advanced Opportunities Evaluation 2020," 2020; Lent and Gramer, 2019; Max Eden, "Advanced Opportunities: How Idaho is Reshaping High Schools by Empowering Students," 2020, Manhattan Institute, accessed October 15, 2021 from [https://media4.manhattan-institute.org/sites/default/files/how-idaho-reshaping-high-schools\\_ME.pdf](https://media4.manhattan-institute.org/sites/default/files/how-idaho-reshaping-high-schools_ME.pdf).

### ***What does research say about the relationship between dual credit and college outcomes?***

The What Works Clearinghouse report<sup>12</sup> reviewed the most rigorous dual credit studies and found that dual credit increases:

- College enrollment
- College credit accumulation
- College completion

In other words, the most rigorous and robust quantitative research shows that dual credit students are more likely to enroll in college, accumulate college credit, and complete college compared to observationally similar groups of students that do not participate in dual credit. Despite these positive outcomes overall, the research is mixed on the extent to which dual credit helps reduce gaps between important sub-populations in college-going rates and college outcomes.

The What Works Clearinghouse report also synthesized studies that show dual credit improves key high school outcomes, including academic achievement in high school and high school graduation. Although the focus of the WICHE report and analyses is on high school graduates, the Advanced Opportunities program could have positive impacts on high school outcomes that should be assessed and considered.

It is important to recognize that the What Works Clearinghouse has strict criteria for including research and evaluations. The findings cited above meet these criteria and use advanced quantitative methods to isolate the impact of dual credit from other factors, including that the types of students who are likely to participate in dual credit are also likely to have more successful outcomes.

### ***What does research say about how and why dual credit influences college outcomes?***

In a comprehensive synthesis and analysis of dual credit research, An and Taylor<sup>13</sup> recently identified six primary mechanisms by which dual credit influences students' college going outcomes, including:

1. Dual credit increases students' college readiness academically
2. Dual credit develops students' academic momentum based on several dimensions (i.e., interaction with peers and professors, self-efficacy)
3. Dual credit increases students' academic motivation and aspirations
4. Environmental aspects of the dual credit course (i.e., location, instructor, curriculum, etc.) influence dual credit students' outcomes
5. Dual credit helps students understand and learn and practice values, attitudes, and behaviors of college students, which helps dual credit students prepare for college
6. Dual credit students practice and increase their academic engagement

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12. U.S. Department of Education, Institute of Education Sciences, What Works Clearinghouse, "Transition to College intervention report: Dual Enrollment Programs," 2017, accessed November 1, 2021 from <https://whatworks.ed.gov>.

13. An and Taylor, 2019.

Several qualitative and quantitative studies suggest that dual credit provides students an opportunity to learn college norms and expectations. Dual credit experiences can help students prepare for college, understand what is needed to be successful in college-level work, and even help increase students' aspirations to be in college. Even if dual credit programs serve many students who are already college-bound, research shows that dual credit can still help college-aspiring students better prepare for college, helping ease the transition to college and support students while they are in college.

## OTHER MODELS OF STATE FISCAL SUPPORT

Although Idaho's Advanced Opportunities funding model is unique in the nation for essentially giving students a self-directed allocation to fund a range of supplemental education offerings, many other states also provide cost-free dual credit opportunities to students. Of course, across states and localities, policies and requirements are complex.<sup>14</sup> One analysis finds that in 27 states, students can access dual credit courses without costs, either through state funding, a combination of state and district funding, or other approaches.<sup>15</sup> As dual credit participation has grown, concerns about funding have followed.<sup>16</sup>

Providing students with cost-free dual credit opportunities may increase participation. Existing research is limited and there is relatively little evidence that accounts for state and district funding models, as well as the many different factors that can affect participation. There are suggestive data and research — including information presented below from Idaho — that indicate funding dual credit for students may increase participation. But further rigorous quantitative work is needed to supplement the existing research, which includes suggestive, but mixed findings.<sup>17</sup>

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14. Education Commission of the States, "Dual/Concurrent Enrollment Policies 2019," 2019, accessed November 1, 2021 from <https://reports.ecs.org/comparisons/dual-concurrent-enrollment-policies-2019-14>.

15. Jennifer Zinth, "Funding for Equity: Designing State Dual Enrollment Funding Models to Close Equity Gaps," 2019, College in High School Alliance, accessed November 6, 2021 from <https://static1.squarespace.com/static/589d0f90ff7c507ac483988e/t/5d9dd5f1903eb63f750f7e29/1570625034693/FundingForEquity-SinglePage-WithCover.pdf>.

16. Jennifer Zinth, "State Approaches to Funding Dual Enrollment," 2015, Education Commission of the States, accessed November 1, 2021 from <http://www.ecs.org/clearinghouse/01/18/92/11892.pdf>.

17. Havalá Hanson, *Paving the Road to College: Impacts of Washington State Policy on Improving Equitable Participation in Dual Credit Courses*, University of Alaska Fairbanks, 2019, accessed November 6, 2021 from [https://scholarworks.alaska.edu/bitstream/handle/11122/10898/Hanson\\_H\\_2019.pdf?sequence=1&isAllowed=y](https://scholarworks.alaska.edu/bitstream/handle/11122/10898/Hanson_H_2019.pdf?sequence=1&isAllowed=y).



# Sample and Methodology

WICHE was provided a variety of de-identified student data under strict security protocols to carry out this analysis. The data included:

- Information on payments issued by Idaho under the Advanced Opportunities program for fiscal year 2020. This information is from the Advanced Opportunities portal and includes data on students that participated in dual credit through any provider.
- Dual credit course information for Idaho students who participated in dual credit coursework from the 2016–17 to 2019–20 academic year. This information included demographic data on the students' gender, race and ethnicity, and socio-economic status; high school graduating cohort of students who were seniors; and the courses enrolled indicating possible and earned credits, course description and course grade, and whether the course was provided through a two- or four-year Idaho public postsecondary dual credit provider.
- Postsecondary outcomes for Idaho public high school graduates of 2016–17 to 2019–20 school years, including postsecondary matriculation through three years past high school graduation, retention to the first spring term, and first term grade point average; demographic data on the students' gender, race and ethnicity, and socio-economic status; and type of institution of the first enrollment.

While it is almost always true that additional data can improve the depth and rigor of an evaluation, the data provided by Idaho enabled a series of analyses that begin to answer the key research questions for this work. The data also helped the WICHE research team identify further areas for research that will be useful as Idaho continues to work to improve its dual credit programs.

WICHE has provided a series of descriptive statistics in subgroupings that will be useful for policymakers working to understand the impact of the program. Additionally, the research team completed an inferential model aimed at better understanding why some dual credit participants go on to college while others do not. This model controls for numerous student and dual credit course characteristics that may affect the likelihood that a dual credit student goes on to postsecondary education. Finally, WICHE developed a model that estimates student savings from participating in dual credit using a combination of data provided by Idaho along with other data and research.

## CORRELATION, CAUSATION, AND BEST AVAILABLE EVIDENCE

Throughout this evaluation, the data analysis regularly shows that students who participated in dual credit had better outcomes, whether considering go-on rates, college GPA, or postsecondary retention rates. While these analyses suggest that dual credit is impactful, it is crucial to understand that these are generally correlations between two variables, such as dual credit participation and go-on rates. One of the fundamental rules of data analysis is that correlation is not causation, so these analyses do not prove that taking dual credit courses is causing higher go-on rates. In fact, it is reasonably well established in other research that the types of students who are likely to take dual credit courses are also already more likely to go on to college than students who do not participate in dual credit. But some research, from other states and programs, also uses advanced quantitative models to try to isolate the causal impact by controlling for these student characteristics that make dual credit students more likely to have positive outcomes. As discussed in greater detail throughout, that research does find positive causal impacts for students who earn dual credit.

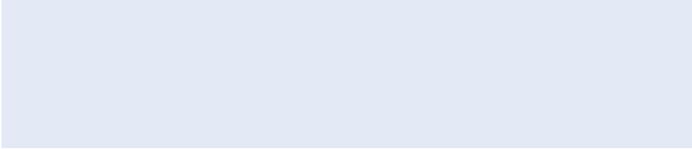
While the correlational findings drawn from the Idaho data are suggestive of positive impacts, more advanced quantitative work is necessary before concluding that Idaho's dual credit programs cause these positive impacts. Toward the conclusion of this report, WICHE has identified some potential analytic approaches that could help Idaho policymakers better understand the causal impact of Advanced Opportunities and dual credit. These approaches would include models that take into account a wide range of student characteristics and account for the nuances specific to Idaho's dual credit programs, including geography and regional differences, varying implementations by schools and districts, and students' different postsecondary pathways.

In reaching the conclusions of this report, WICHE has relied on the totality of available evidence, including the analyses from the Idaho data and other research that does attempt to isolate the causal impact of dual credit. WICHE believes that these conclusions are sound and based on the best available evidence, but further research and study is certainly warranted.

## SCOPE OF THIS REPORT

This report is by no means an exhaustive analysis of dual credit in Idaho. It is focused on a series of key questions and the data provided to WICHE are limited to the least amount of information necessary to answer such questions, which is a best practice for data privacy and security. In this work, WICHE relies on data provided by the State Board of Education from Idaho's State Longitudinal Data System and Advanced Opportunities data from the State Department of Education. Throughout the report, WICHE also utilizes existing published research on dual credit programs, publicly available data, and WICHE's own reports on a variety of topics to shed light on the performance of dual credit programs in Idaho.

WICHE's analysis is limited to six key areas of investigation: the fiscal impact of dual credit, the number of credits earned by students, go-on rates, retention rates, first semester GPA, and the overall appropriateness of using Advanced Opportunities funds for dual credit students. For the final area of investigation — the appropriateness of funding dual credit through Advanced Opportunities — WICHE's conclusions are essentially about the impact and performance of dual credit in Idaho and based on the information available to make such an assessment.



While it can take years of arduous research to reach concrete conclusions on complex programs like Idaho's dual credit offerings, WICHE recognizes that policymakers do not have this luxury. The research team has attempted throughout to balance research rigor by including context and caveats and drawing conclusions on each topic, even though in some cases, further study is clearly warranted. ***In short, WICHE has answered all of the research questions by using the best available evidence (which includes other research and evaluation).***

Offering detailed programmatic recommendations based on these data and analyses is beyond the scope of this report. Instead, WICHE limits its recommendations to identifying a plausible roadmap for continuing to use the state's substantial data resources and analytic capacity to ask and answer key questions that could potentially lead to ongoing improvement of dual credit to positively impacting key student outcomes for all Idahoan students.

# Fiscal Impact

Understanding the complete fiscal impact of dual credit programs and state support through Advanced Opportunities requires attempting to answer a series of questions about the following topics:

1. **Direct state expenditures:** With the data provided, WICHE created estimates for total spending in the 2019–20 school year and spending on those students who earned dual credit from Idaho public postsecondary institutions in school years 2016–17 through 2018–19.
2. **Estimated savings for students attending postsecondary education:** One identified purpose of Idaho’s support of dual credit is to save students and their families money by allowing them to earn postsecondary credit without paying tuition.<sup>18</sup> WICHE has prepared an initial model to estimate total student savings below, but it is limited by data availability. Calculating precise student savings is complex, requiring, for example, more clarity about exact prices paid by students once they enroll in postsecondary education. This model should be seen as the first step in an ongoing analysis to determine student savings.
3. **Estimated savings for students attending postsecondary CTE or non-credit programs:** Dual credit through Advanced Opportunities also provides students with the opportunity to earn dual credit for CTE programs. This is an important pathway that provides benefits to students, employers, and Idaho’s economy. With the data provided, WICHE cannot assess these benefits. Although this appears to be a relatively small portion of total dual credit earning, it warrants further analysis.
4. **Additional fiscal impacts:** If funding for dual credit provided through Advanced Opportunities causes increases in college-going and degree completion (as seems evident from other research), additional financial benefits could accrue to Idaho through increased tax revenue, decreased spending on social services, and improved workforce development. Modelling these benefits is beyond the scope of this report.

The growth in dual credit participation and credit-earning by Idaho students (described in further detail in the subsequent section) has obviously led to increased costs to the state. Another key question for legislators is what future state spending for dual credit would look like. Using some basic assumptions that future usage will be similar to that of the 2019–20 high school graduating cohort — which had access to Advanced Opportunities-funded dual credit for all four years of high school — WICHE has prepared a basic estimate of potential growth using projections of future high school populations in Idaho.

## STATE SPENDING ON DUAL CREDIT

WICHE has analyzed Advanced Opportunities state spending data to calculate total state spending for the 2019–20 academic year, but for the sake of consistency and to show trends, reports fiscal year data from the State Department of Education in Table 1. Additional detail on spending in FY 2020 is presented in Appendix B.

18. For example, see statements by Sen. Thayne, one of the legislative architects of Advanced Opportunities, here: Steven Thayne, “Education Innovation in Idaho Program,” 2016, Education Commission of the States, accessed November 6, 2021 from <https://ednote.ecs.org/education-innovation-in-idaho-program/>.

WICHE’s analysis for the 2019–20 school year, which differs only slightly from the fiscal year information presented in Table 1, shows that payment was made for dual credit courses taken by over just 29,200 students in FY 2020, amounting to \$18.8 million for just more than 230,000 credits. Eighty-seven percent (87%) of the payments were for dual credit courses from Idaho public postsecondary institutions. Overall, in FY 2020, an average of 8 credits, 3 courses and \$644 was paid per participating student.

Previous evaluations show similar steep increases in state Advanced Opportunities spending for dual credit courses, corresponding closely to the substantial growth in dual credit earning by Idaho students discussed above.

### FUTURE DUAL CREDIT USAGE

Idaho has clearly invested increasing state dollars to support students’ completion of dual credit, but a key question for policymakers is the potential future usage of dual credit programs in Idaho through Advanced Opportunities. This is a complex consideration and depends to a great extent on whether dual credit opportunities will continue to grow or begin to plateau. Additionally, the total number of courses taken — and the related cost to the state — also depends on the size and makeup of future high school populations.

Adhering to a set of assumptions about the future rates at which public high school students complete dual credit, it is feasible to create a heuristic model that shows how many credits future students are likely to earn by applying those assumptions to projections of future high school populations in Idaho.

The model presented in Figure 1 shows the number of credits that would be earned by future high school cohorts compared to the cohort entering 12th grade in the 2019–20 school year. This model adjusts for the projected mix of students by race/ethnicity using data from WICHE’s *Knocking at the College Door* projections<sup>19</sup> and assumes that future cohorts would earn the same number of credits per 12th grade public high school student as did the 2019–20 cohort, which represents the first cohort to have access to Advanced Opportunities funding for dual credit for all four years of high school. Based on the changing mix of students, this model suggests the potential growth in dual credits earned by about 15% by the 2029–30 cohort. Obviously, changes such as increasing numbers of schools offering dual credit, greater emphasis on dual credit, or improved outreach about and preparation for dual credit opportunities could alter those projections.

**TABLE 1. State Support for Dual Credit Courses**

Fiscal Year	State Spending on Dual Credit
FY 2016	\$3.0M
FY 2017	\$9.8M
FY 2018	\$13.4M
FY 2019	\$15.8M
FY 2020	\$19.1M
FY 2021	\$17.9M

Sources: Idaho State Department of Education Advanced Opportunities Program Totals, <https://www.sde.idaho.gov/student-engagement/advanced-ops/>. FY17 report not available, but data retrieved from Boise State University, Idaho Policy Institute, *Advanced Opportunities Evaluation 2020 for school year 2016–17*.

19. Western Interstate Commission for Higher Education, *Knocking at the College Door: Projections of High School Graduates, 2020*, accessed November 1, 2021 from <https://knocking.wiche.edu>.

**FIGURE 1. Estimated Future High School Graduating Cohort Dual Credit Accumulation**

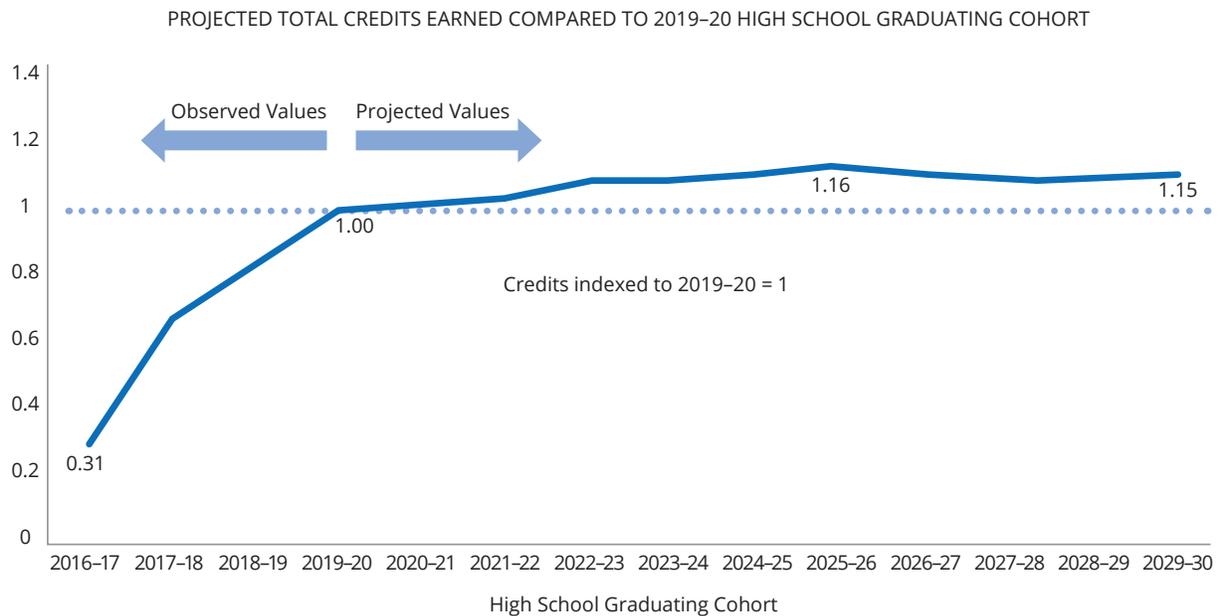


Figure 1 indexes the 2019–20 cohort equal to 1, so changes can be interpreted as percentages of dual credit accumulation of each cohort compared to 2019–20 graduates. This relatively straightforward projection model, then, shows that the 2016–17 cohort accumulated only 31% as many dual credits as the 2019–20 cohort, while the 2029–30 cohort would be expected to accumulate about 15% more credits. As stated earlier, this is based on an assumption that future credit earning rates by race and ethnicity stay the same going forward. The changes in credit accumulation, then, are due to changes in Idaho’s projected high school population.

### FINANCIAL IMPACT ON STUDENTS AND FAMILIES

One major benefit of dual credit programs is the potential to increase the affordability of postsecondary education. Credits earned by students while in high school in Idaho are essentially tuition-free to students, leaving only expenses for fees and other ancillary costs.<sup>20</sup> If students earn meaningful credits in high school that contribute to their degree, and those credits cost less than the student would have to pay after matriculating to postsecondary education, they would accrue savings. As a quick example, the weighted per credit average for Idaho four-year institutions is \$205. This means that a student completing a three-credit course that counts towards their degree would save more than \$600 if they enroll in postsecondary education, assuming the student paid full tuition.

20. Textbooks are another potential savings for students, should costs for dual credit course materials be less than those for materials in a traditional postsecondary course. According to State Board of Education staff, many students taking dual credit courses receive free course materials through a variety of means, including Open Educational Resources. A more refined analysis of student savings would attempt to incorporate this as a potential avenue for additional savings.

To estimate the cost savings by students, WICHE constructed a model that requires significant assumptions and should be viewed as a preliminary estimate that can be refined with more robust data, but is intended to begin empirical conversations about student savings due to earning dual credit.

To create this model, WICHE has used data from Idaho’s State Longitudinal Data System on the number of credits earned by students and to calculate the go-on rates by cohort. The number of credits students bring with them to their postsecondary institution are multiplied by the estimated per credit costs (which vary by institutional type), discounting where appropriate for federal aid through Pell Grants and potential receipt of the Idaho Opportunity Scholarship, estimates of tuition discounting by institutions, and an estimate for the percentage of dual credits accepted by their postsecondary institution based on research from the field.

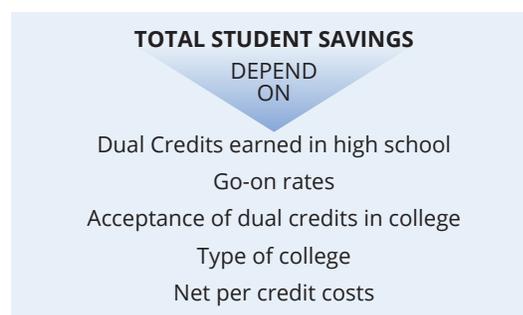
Savings are not calculated for students who do not matriculate to postsecondary institutions, even though some of these students may have pursued postsecondary education and training through Career and Technical Education (CTE Options) and should be included in a full accounting of total savings. Available data did not permit that analysis here.

The model (summarized in Figure 2 with results in Figure 3) shows substantial student savings. It is important to note that this model only includes students who earned dual credit from one of Idaho’s public postsecondary institutions because information from private and out-of-state providers was not available or included in the data used for this modeling. WICHE’s analysis of the Advanced Opportunities payment data estimates these other providers accounted for about 13% of total dual credits funded through the program in FY 2020.

As would be expected based on the data presented in subsequent sections on the number of dual credits accumulated by Idaho public high school graduates, the total student savings generated by student completion of dual credits has grown substantially over the four years between the 2016–17 and 2019–20 graduating high school classes.

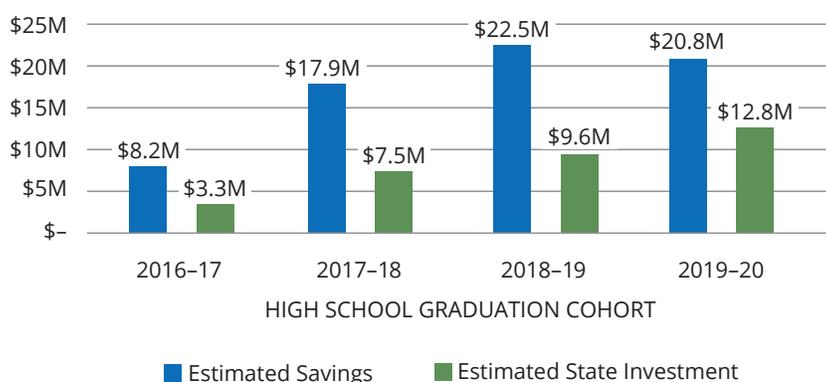
Using the series of assumptions summarized above (and detailed in Appendix A), WICHE estimates that Advanced Opportunities will generate more than \$20 million in student savings on tuition for the 2019–20 high school graduating cohort. This is up from about \$8 million in student savings for the 2016–17 high school graduating cohort.

**FIGURE 2. Summary of Student Savings Model**



Because the analysis of state spending presented in the previous section has been carried out by academic year rather than by high school graduating cohort, comparing annual state costs to student savings is not fully appropriate, but can give policymakers a sense of the fiscal impact of state spending. As another rough comparison, using the \$75 per credit state support level for all of the credits earned by the 2019–20 graduating high school cohort, state spending on dual credit for this cohort is estimated to be just under \$12.8 million.<sup>21</sup>

**FIGURE 3. Comparing Student Savings and State Costs for Dual Credit by High School Graduating Cohort<sup>22</sup>**



Given the complexities of calculating students’ actual per credit costs with the numerous financial aid opportunities, work study programs, and other policies and programs that may impact estimates of savings, this model must be considered a guide more than exact calculations. Still, WICHE has aimed to make conservative assumptions and the data suggest strong savings generated in total for students. To reiterate discussion from above, this model also does not account for savings generated by students earning CTE dual credits and using them in postsecondary education and training that is not reflected in calculated go-on rates, so it likely understates the total student savings generated.

21. Note: WICHE calculated this by multiplying credits earned by the cohort by \$75. This approach is different from actually calculating state spending for the 2019–20 academic year (which includes students from multiple cohorts). Given the increase in state funding from \$65 to \$75 per credit in recent years, this likely overstates the total state spending on this cohort.

22. This chart is drawn from WICHE analysis of Idaho SLDS data, also using information from several reports including:

- Western Interstate Commission for Education, “Tuition and Fees in the West, 2021,” 2021, Boulder, CO, accessed November 15, 2021 from <https://www.wiche.edu/policy-research/data-resources/tuition-fees/>.
- National Association of College and University Business Officers, “2019 NACUBO Tuition Discounting Study,” 2020, Washington, DC, accessed November 6, 2021 from <https://www.nacubo.org/Press-Releases/2020/Before-COVID-19-Private-College-Tuition-Discount-Rates-Reached-Record-Highs>.
- College Board, “Trends in College Pricing,” 2021, Washington, DC, accessed November 8, 2021 from <https://research.collegeboard.org/trends/college-pricing>.
- National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Fall Survey, 2017–2020, accessed November 6, 2021 from <https://nces.ed.gov/ipeds/use-the-data>.
- National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Institution Characteristics, 2016–2020, accessed November 6, 2021 from <https://nces.ed.gov/ipeds/use-the-data>.
- National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS), Student Financial Aid, 2017–2019, accessed November 6, 2021 from <https://nces.ed.gov/ipeds/use-the-data>.

A more complete analysis would also:

- Account for students that may go on to postsecondary education beyond the time horizon used here. Although this may be a small percentage of students, their savings may accrue later.
- Incorporate potential opportunity cost savings due to reduced time to degree. This should include potential savings due to being able to increase hours worked more quickly.
- Include estimates of the impact on affordability. These savings to students would also have substantial impact on students' total out-of-pocket costs, potentially reducing student loan debt. As the focus of this evaluation is on fiscal impact, postsecondary affordability is not addressed, but that would be appropriate for future research.
- Add costs and savings for additional fees and other costs. Different courses and programs of study may have different fee structures and additional course costs, such as textbooks. A more complete model could account for those. With Idaho's substantial investment in open educational resources (low- and no-cost textbooks), it could be that students have more opportunities to reduce their out-of-pocket costs for course materials.

Finally, it is important to understand that these estimates of student savings do not imply that this is somehow lost revenue for postsecondary institutions. It could be, for example, that earning dual credit in high school makes students more likely to persist and complete degrees, earning (and paying for) more postsecondary credits. This has been documented with other postsecondary policies, such as prior learning assessment, where those who receive credit from institutions through this approach end up staying longer and completing more credits, resulting in revenue gains for institutions.<sup>23</sup>

Other research can be useful in fully understanding the return on investment to Idaho. Two states (Colorado and Texas) have conducted robust return-on-investment (ROI) studies on dual credit, and both studies have found that dual credit programs lead to robust returns on the state's investment. The Colorado study estimated that the state's dual credit program (called "concurrent enrollment") would lead to the following returns:<sup>24</sup>

- Increased tax revenue due to increased income as a result of higher college graduation rates for concurrent enrollment students
- Reduced Medicaid and corrections expenditures due to decreased use of state services among concurrent enrollment students<sup>25</sup>
- Increased lifetime earnings among concurrent enrollment students as a result of higher college graduation rates

23. Rebecca Klein-Collins, Jason Taylor, Carianne Bishop, Peace Bransberger, Patrick Lane, and Sarah Leibrandt, "The PLA Boost: Results from a 72-Institution Targeted Study of Prior Learning Assessment and Adult Student Outcomes," *Council for Adult and Experiential Learning* (2020), accessed November 6, 2021 from <https://www.wiche.edu/wp-content/uploads/2020/10/PLA-Boost-Report-CAEL-WICHE-Revised-Dec-2020.pdf>.

24. Robert Reichard, "Colorado concurrent enrollment return on investment and cost model," APA Consulting (2020), accessed November 10, 2021 from <https://files.eric.ed.gov/fulltext/ED608037.pdf>.

25. Increased tax revenues are dependent on the ability of the local labor market to employ more workers with additional degrees. See for further discussion James Dean Ward, Benjamin Weintraut, and Elizabeth Davidson Pisacreta, "It's Complicated: The Relationship between Postsecondary Attainment and State Finances," *Ithaka S+R* (2021), accessed November 17, 2021 from <https://sr.ithaka.org/wp-content/uploads/2021/01/SR-Issue-Brief-Its-Complicated-Relationship-between-Postsecondary-Attainment-State-Finances-011921.pdf>.

The Texas study was a cost analysis using a specific cost and benefit methodology which provided an estimate of how much more or less it cost to provide dual credit compared to traditional high school education in relation to the relative benefits of dual credit. After a complex analysis of the costs and benefits from data in five community college settings, the study found:<sup>26</sup>

- Benefit of shortened time-to-degree: A benefit-to-cost ratio of 1.18. Translated into practical terms, the study found: “Each dollar invested in dual credit returns \$1.18 from students spending less time in college and entering the workforce earlier”
- Monetary benefits of completing a two-year degree: A benefit-to-cost ratio of 4.98, meaning the individual monetary benefits of receiving a two-year degree exceed the costs by almost 400%
- Social benefits from increased tax revenue and decreased spending: A benefit-to-cost ratio of almost 2.0

## FISCAL IMPACT OF DUAL CREDIT: CONCLUSIONS

The fiscal impact of funding dual credit through Advanced Opportunities is complex. Several broad conclusions that can be drawn from the data above and other research include:

- State spending on dual credit has grown significantly since the full adoption of Advanced Opportunities.
- Spending increases may be likely to level off as the expansion in dual credit opportunities has reached the point where all cohorts from 2019–20 forward will have had access to Advanced Opportunities funding for all four years of their high school careers.
- Idaho’s projected future high school demographics could contribute to a modest 15% increase in the number of credits accumulated per graduating high school cohort over the next 10 years, assuming the rate at which students take and earn dual credit courses does not change from the 2019–20 graduating cohort.
- Dual credit appears to generate substantial savings for students, some of which have been estimated here. Although this research is unable to estimate other benefits to Idaho, research from other states suggests that there are numerous potential benefits and positive economic and social returns on the state investment.

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26. Trey Miller, Holly Kosiewicz, Courtney Tanenbaum, Drew Atchison, David Knight, Beth Ratway, Scott Delhommer, and Jesse Levin, “Dual credit education programs in Texas: Phase II,” American Institutes for Research (2018), accessed November 10, 2021 from <https://www.air.org/sites/default/files/Dual-Credit-Education-Programs-in-Texas-Phase-II-July-2018.pdf>.

# Dual Credit Earning

WICHE analyzed dual credit activity and outcomes to the greatest detail possible using available data. Portions of the analysis are included in the sections below, while more comprehensive data are provided in the appendices. WICHE’s analysis was undertaken independently from State Board of Education staff but did rely on clarifications and data definitions from SBOE. Generally speaking, the results presented below are consistent with previously published reports and represent, in WICHE’s judgment, a fair representation of the association between dual credit participation and various postsecondary outcomes. WICHE does not attempt to replicate previous studies in the findings reported here. Due to minor adjustments in data preparation and the treatment of some isolated cases, there may be minor differences between the results in this report and other published analyses of Idaho’s dual credit programs.

Given the differences outlined in the “Data Sources” box, WICHE presents information about dual credit activity funded under Advanced Opportunities in FY 2019–20 and across all students from 2016–17 to 2019–20 separately by data source below. One can expect slightly different numbers of students, courses, and credits between the two summaries and data sources for 2019–20, the one year that is similar across the datasets.

## DATA SOURCES FOR DUAL CREDIT ACTIVITY AND POSTSECONDARY OUTCOMES

WICHE was provided three data sources to quantify and describe dual credit earning and postsecondary outcomes, with differences in the file and data definitions. Dataset 1 and 2 could not be joined or completely overlapped so it is not possible to fully synthesize or compare the results across those two sources.

This roughly illustrates how the data sources correspond or differ:

Data Sources for Describing Dual Credit				
Dual credit activity in academic year:	2016–17	2017–18	2018–19	2019–20
<b>Dataset 1: Advanced Opportunities payments data</b>	n/a	n/a	n/a	<ul style="list-style-type: none"> <li>Fiscal Year 2020 payments</li> <li>All providers</li> <li>Not able to distinguish credit that was <i>earned</i>, or not</li> </ul>
<b>Dataset 2: Dual credit course activity records</b>	<ul style="list-style-type: none"> <li>Dual credit activity in all four academic years 2016–17 to 2019–20</li> <li>Dual credit activity with Idaho postsecondary public institutions, but not including other providers (13 percent of credits paid in FY 2020)</li> <li>Courses for which credit was earned, or not, can be distinguished for defining “number of credits earned”</li> <li>Includes some activity (presumed minimal) not paid by AO (incl. retakes, etc.)</li> </ul>			
<b>Dataset 3: Postsecondary outcomes for public high school graduates</b>	<ul style="list-style-type: none"> <li>Public high school graduates from school years 2016–17 to 2019–20</li> <li>Definition of “dual credit student” is public high school graduate who participated in dual credit from an Idaho postsecondary public institution; not able to distinguish among “non-dual credit graduates” those who may have had dual credit activity but not through an Idaho public postsecondary institution</li> <li>Postsecondary enrollment tracked three years past high school graduation for 2016–17 and 2017–18 cohorts, two years for 2018–19 cohort, and one year for 2019–20 cohort; fall-to-spring retention for immediate enrollees; first-term GPA</li> </ul>			

## DUAL CREDITS PAID UNDER ADVANCED OPPORTUNITIES IN FISCAL YEAR 2020 (“AO-FUNDED DUAL CREDITS”)

Payment was made under Advanced Opportunity for dual credit courses taken by over just 29,200 students in FY 2020, amounting to \$18.8 million for just more than 230,000 credits. Eighty-seven percent (87%) of the payments were for dual credit courses from Idaho public postsecondary institutions. Overall in FY 2020, an average of 8 credits, 3 courses and \$644 was paid per participating student.

In addition to the data elements received (the provider, a course description, the school name, district name and grade in school (grade 7 to 12) of the participating student), WICHE used the provided school and district name to match to publicly available data, in order to further characterize the dual credits funded under Advanced Opportunities in FY 2020 (“AO-funded”) by some school characteristics.<sup>27</sup> Figure 4 presents a summary of dual credits funded by Advanced Opportunities in FY 2020 in terms of the percent of credits and the average credits per student within each category (see Appendix Table B-1 for full detail about the number of students and the total and average credits, courses and amounts paid, by category).<sup>28</sup>

**AO-Funded Dual Credits by Student Grade, FY 2020.** Forty-two percent (42%) of AO-funded dual credits in FY 2020 were for students in the 11th grade, 36% for students in the 12th grade, 18% for students in the 10th grade, and 4% for students in seventh to ninth grade (virtually all ninth grade in this category).

**AO-Funded Dual Credits by School Type, FY 2020.** The vast majority of dual credits funded by Advanced Opportunities in FY 2020 was for students attending a traditional public school (called “regular schools” in the data used). For example, only 6% of the total was for students who attended school in an independent charter district school.<sup>29</sup> However, there was a slightly higher average number of AO-funded dual credits per charter district school student in FY 2020 (10 credits), compared to 8 credits among the overwhelming majority of students attending a non-charter school (92% of credits paid for). Additionally, 96% of AO-funded dual credits in FY 2020 were taken by students attending a traditional high school, with a per-student average of 8 credits. A comparatively very small number of AO-funded dual credits overall were for students attending an “alternative education” or “career, technical or vocational education” school (4,918 credits, 2% of AO-funded dual credits in FY 2020, and 618 students). But, these students had a slightly higher average number of credits, 9 credits compared to 8 credits among students overall.

27. Specifically, WICHE matched to school directory information that states report to the U.S. Department of Education’s Common Core of Data for public schools. Note that because the dimensions of analysis were not explicitly present in the raw data and WICHE had to manipulate the data to categorize, there can be some imprecision and the categorizations are not comprehensive of all possible ways it might be relevant to analyze the data.

28. The AO-funded credits described in this section could be described as “AO-funded credits attempted”; data were not available to specifically report credits earned from the Advanced Opportunities portal payments data.

29. Twenty-five percent (25%) of AO-funded dual credits in 2019–20 that were to students with charter district schools were among exclusively or primarily virtual schools (using the U.S. Department of Education Common Core of Data classification). Comparatively, less than 1% of credits paid in 2019–20, overall, were to students at primarily or exclusively online schools.

**AO-Funded Dual Credits by School District Locale, FY 2020.** Almost half (46%) of AO-funded dual credits in FY 2020 were for students from school districts in rural or town areas (24% and 22%, respectively). However, the largest plurality of credits in 2019–20, by school district locale, was students in suburban school districts (37%). Seventeen percent (17%) of credits were among students in city school districts.<sup>30</sup> In FY 2020, Advanced Opportunities paid for an average of 7 dual credits for students in city school districts, while the program paid for an average of 8 credits for students in rural, town and suburban school districts.<sup>31</sup> Further analysis of full Advanced Opportunities participation (including options beyond dual credit and across years) may help identify the implications of this variation by geographic locale.

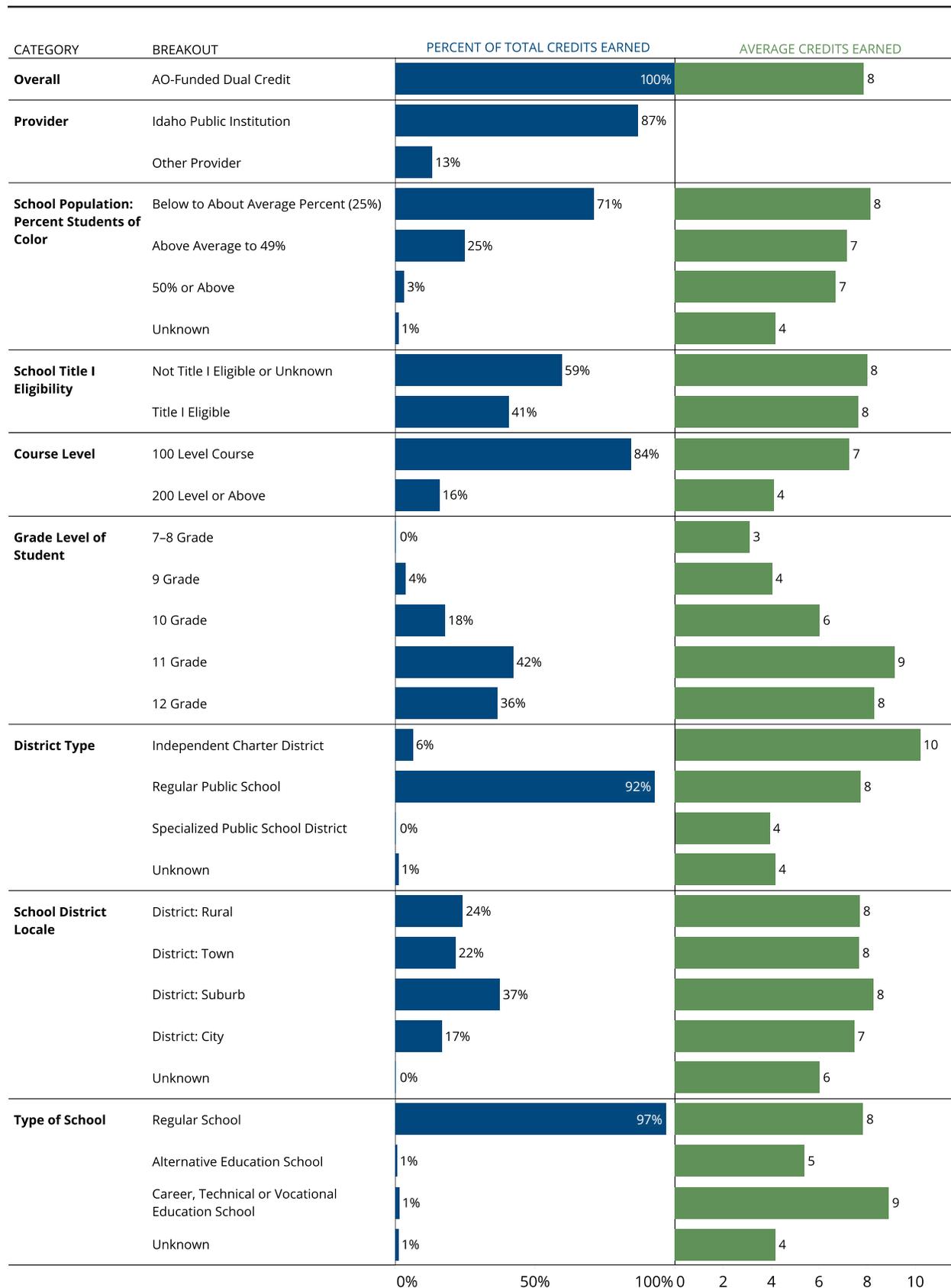
**AO-Funded Dual Credits by Title I Eligibility, FY 2020.** Forty-one percent of AO-funded dual credits in FY 2020 (41%) were to students at Title I eligible schools, and 59% to students at schools that were not Title I eligible. AO-funded dual credits appear slightly skewed to students at schools that were not Title I eligible, compared to the distribution of Idaho public high school students in 2019–20 (45% at Title I eligible schools). However, there was no difference in the average number of credits paid per student (8 credits) at either type of school.

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30. Per NCES “locale” classifications, which are assigned in cooperation with the U.S. Census Bureau as “a general geographic indicator that describes the type of area where a school is located.” See Education Demographic and Geographic Estimates at <https://nces.ed.gov/programs/edge/Geographic/LocaleBoundaries>. The distribution of all Idaho public high school students (grades 9 to 12) in 2019–20 was 32% rural, 20% town, 25% suburban, and 24% city.

31. Three percent (3%) of AO-funded dual credits in 2019–20 were with students with a primarily or exclusively virtual school. These credits were distributed across students in rural, suburban and city school districts.

**FIGURE 4. Dual Credit Course Payment Activity, FY 2020 (From Advanced Opportunities Portal Data)**



**AO-Funded Dual Credits by School Population, FY 2020.** Across Idaho in 2019–20, 75% of students were white non-Hispanic and 25% were students of color. And this was the typical student distribution at almost two-thirds (63%) of Idaho public high schools in 2019–20.<sup>32</sup> Comparatively, in FY 2020, 71% of AO-funded dual credits were for students at schools with this typical student population in race/ethnicity terms, and the average number of AO-funded dual credits for students at these schools was 8 credits. The other 29% of AO-funded dual credits in FY 2020 were for students at schools with above average rates of students of color, and the per-student average AO-funded dual credits at these schools was 7 credits.<sup>33</sup> By these measures, AO-funded dual credits in FY 2020 were slightly skewed to schools with lower populations of students of color, possibly due in part to the fact that some districts with higher numbers of students of color emphasize Advanced Placement courses over dual credit.

**AO-Funded Dual Credits by Type of Course, FY 2020.** Among the AO-funded dual credits in FY 2020, 84% of funding was for 100-level courses. Correspondingly, the average number of AO-funded credits per student was higher for 100-level courses (7 credits) than 200 or higher-level courses (4 credits). (See the section “Credits Earned by Type of Course, 2016–17 to 2019–20” below, for a further discussion of credits by type of course.)

## DUAL CREDIT ACTIVITY AND CREDITS EARNED IN ACADEMIC YEARS 2016–17 TO 2019–20

Figure 5 summarizes dual credit activity associated with 66,789 students (unduplicated)<sup>34</sup> who participated in dual credit course(s) from an Idaho public postsecondary provider between 2016–17 and 2019–20, in terms of the percent of credits and the average credits per student within each category (see Appendix Table B-2 for full detail about the number of students and the total, average and median credits, and courses with earned credit, by category). Not included in the summaries in this section are the students who took dual credit courses from an institution other than the Idaho public postsecondary institutions (in FY 2020, this was approximately 13% of the dual credit activity funded under Advanced Opportunities). In this section, “credits earned” are defined by the number of credits reported as posted to the student’s postsecondary transcript by the postsecondary dual credit provider.

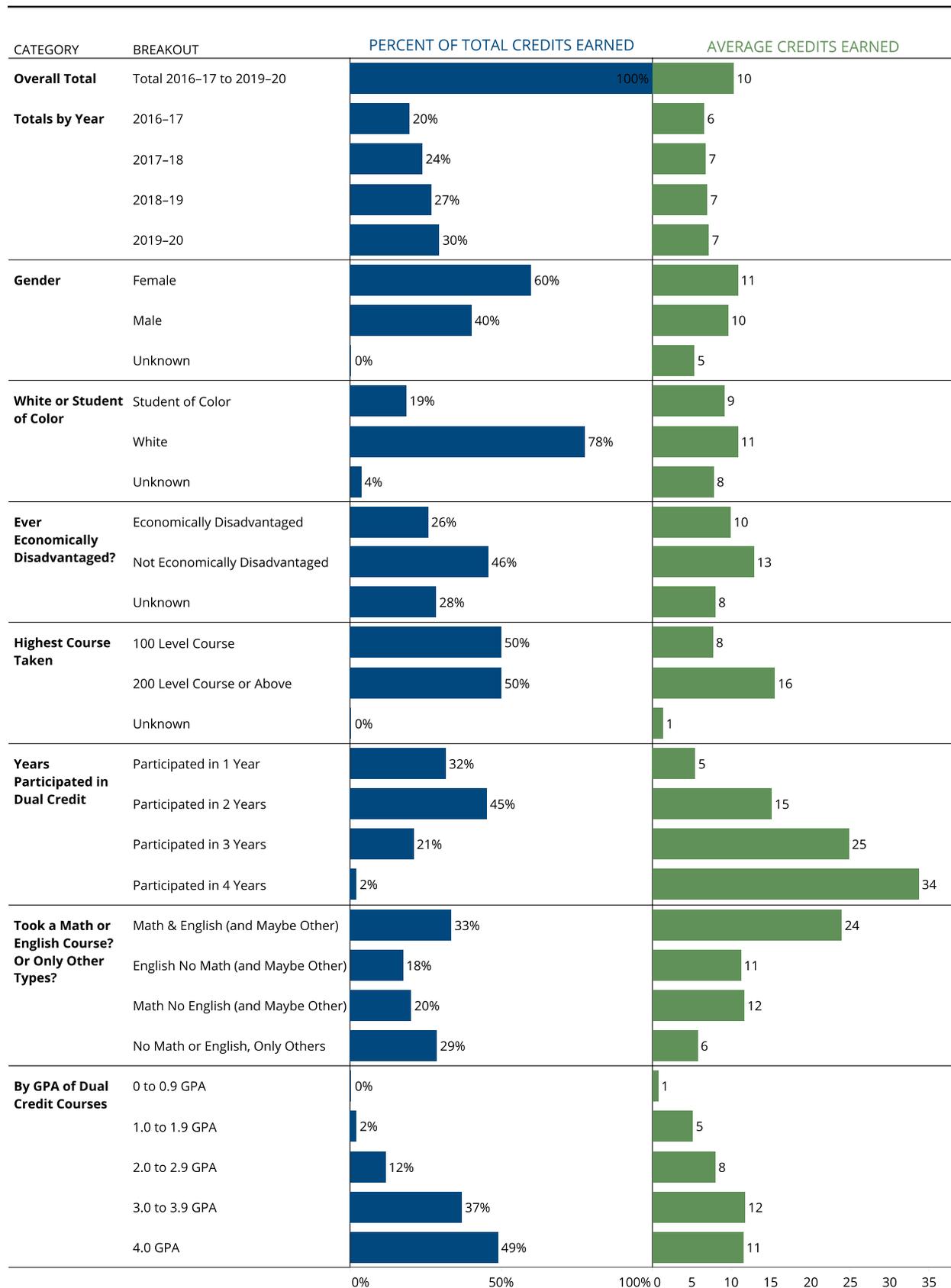
From school year 2016–17 to 2019–20, almost 684,200 credits were earned by students, and the annual number of credits increased more than 50% between 2016–17 (134,212 credits) and 2019–20 (202,731 credits). And, the number of credits earned during the 2019–20 academic year (202,731 credits), and students taking courses (28,465 students), roughly compares to the trends described in terms of dual credits paid in FY 2020 (above).

32. WICHE analysis of student membership counts reported by the state department of education to the U.S. Department of Education Common Core of Data. The vast majority of students of another race or ethnicity (‘students of color’) were Hispanic (72%).

33. Only 3% of AO-funded dual credits in FY 2020 were for students at what might be considered ‘high-minority’ schools, with a student population that was 50% or more non-white. Across Idaho in 2019–20, there were 24 such Idaho public high schools, representing about 5,400 students.

34. Students who participated in more than one year are only counted once. Due to data availability, slightly more detail was available for seniors/graduates who participated in dual credit (64% of the total), than for the dual credit participants who were ‘not yet high school seniors’ by 2019–20 and students from school settings other than public high schools, e.g., private schooled or homeschooled (36% of the total). WICHE’s analysis of high school students and graduates indicates that private school students may have been 3% to 4% of Idaho high school graduates between 2016–17 and 2019–20. WICHE does not have an estimate of Idaho homeschooled children of high school age. (Western Interstate Commission for Higher Education, *Knocking at the College Door: Projections of High School Graduates, 2020*, at <https://knocking.wiche.edu>.)

**FIGURE 5. Dual Credits Earned from Idaho Public Postsecondary Institutions, 2016–17 to 2019–20 (From Dual Credit Course Data)**



The average dual credit student between 2016–17 and 2019–20 earned 10 credits. Of course, this represents credits accumulated across potentially four years for some students (see sections below). The average student earned 6 to 7 credits per year and earned 95% of credits they attempted.

**Credits Earned by Tenure of Dual Credit Students, 2016–17 to 2019–20.** The average dual credits student between 2016–17 and 2019–20 participated in dual credit in at least two academic years (45% of dual credits were among students participating across two years). But given the limited time frame, the average ‘tenure’ will be influenced by the number of years students were eligible for dual credit funded by Advanced Opportunities (students in the 2016–17 and 2017–18 graduating cohorts were only eligible for one to two years of their total high school careers) and the presence of seventh to eleventh graders in these trends. From the payments data (above), 78% of dual credit activity in FY 2020 was with 11th and 12th graders. The average dual credit participant in the 2019–20 graduating cohort participated for two years; the 2019–20 graduating cohort was the first to be eligible for AO-funded dual credit for all four years of high school. More years will have to pass to discern whether the average tenure might increase.

**Credits Earned by Student Gender, 2016–17 to 2019–20.** Sixty percent (60%) of credits earned were earned by female students. Female students earned 11 credits, on average; male students earned 10 credits, on average. Male students did begin earning more credits over the years analyzed, with the median credits earned increasing from 6 in 2016–17 to 7 in 2018–19.

**Credits Earned by Student Race/Ethnicity, 2016–17 to 2019–20.** Seventy-five percent (75%) of credits earned between 2016–17 and 2018–19 were among students who were white; 25% were among students of color.<sup>35</sup> In 2019–20, 19% of credits earned were earned by students of color, whereas in 2019–20, students of color were 25% of Idaho public high school students. Across the four years between 2016–17 and 2019–20, the average dual credit student who was white earned 11 credits, and the average student of color earned 9 credits.<sup>36</sup> These results on outcomes by race and ethnicity match national trends and data in other states, which prompt the need to identify ways to equalize access to and participation in dual credit, but further analysis should examine how availability of dual credit opportunities, which vary by district, may impact these findings.

**Credits Earned by Economically Disadvantaged Status, 2016–17 to 2019–20.** Results by whether a student was economically disadvantaged or not only describe those who were part of a public high school graduating cohort (for comparison, 36% of dual credits were earned by students who were not public high school seniors at some point during these four years).<sup>37</sup> WICHE did not have the data to compare credit earning patterns to the overall rate at which Idaho high school students were economically disadvantaged or not over these four years. Therefore, interpretations about credit-earning by this student characteristic are limited. But the data indicate that students who

35. Specifically, 12% of the credits earned between 2016–17 and 2019–20 were by Hispanic students, 3% by multiracial students, 2% by Asian students and 1% by students who were Black, American Indian/Alaska Native, or Native Hawaiian/Other Pacific Islander. Note: for this analysis, WICHE used the student-level race/ethnicity data to classify students by the Federal definitions for aggregated education reporting, whereby students are classified as Hispanic, single-race non-Hispanic or non-Hispanic multiracial.

36. Note: the average credits attempted to earned ratio was 95% among white dual credit participants and 92% among dual credit participants of other races or ethnicities.

37. “Economically disadvantaged” refers to whether a student had ever been eligible for free or reduced price lunch or a qualified measure outside of the National School Lunch Program at any time between ninth and twelfth grade. This data element was only available for students assigned to a public high school graduating cohort, in part because students ‘ever’ economically disadvantaged or not would have differing reference points for students in seventh to eleventh grade and may not be available for non-public school students.

are economically disadvantaged may be less likely to earn dual credits. Among the dual credit participants with this data element, those who were economically disadvantaged earned, on average, 10 credits. Those who were not economically disadvantaged earned, on average, 13 credits (and economically disadvantaged students had a slightly lower rate of dual credits attempted compared to credits earned, 93%, compared to 96% for students who were not economically disadvantaged). Similar to data on race/ethnicity, these results match findings from other states and warrant further analysis to identify opportunities to improve access to dual credit for low-income students.

**Credits Earned by Type of Course, 2016–17 to 2019–20.** Half of the credits earned between 2016–17 and 2019–20 were by students whose highest course was a 100-level course, who earned an average of 8 credits. Students whose highest course was 200-level or above earned 16 credits, on average. This pattern corresponds with what is described in the “Credits Earned by Tenure of Dual Credit Students” section above, and how different students in this sample will have had varying amounts of time to take courses during these four years.

The data were not available for WICHE to analyze course and payment activity in greater detail that may be relevant to the objectives of Advanced Opportunities or course characteristics that have been found to be associated with dual credit or college success, such as whether the course was a general education course, academic or CTE in nature, or other course characteristics (see Appendix Table B-3 for the range of subjects/departments among the dual credit students).<sup>38</sup>

However, it was possible to isolate students who took math or English courses. English and math courses were among the most common courses taken for dual credit, and they often serve as key gateway courses for college students. Seventy-one percent (71%) of credits earned between 2016–17 and 2019–20 were among students who took at least one math or English course, or a combination of math and English courses, in addition to possibly other types of courses. Students who took at least one math and one English course earned, on average, 24 credits (in total). Students who took math but no English earned 12 credits, on average. And students who took English but no math earned 11 credits, on average. The average credits earned among the 29% of credits that were earned by students who did not take a math or English course was 6 credits.

**Credits Earned by Dual Credit GPA, 2016–17 to 2019–20.** Eighty-six percent (86%) of the credits earned between 2016–17 and 2019–20 were among students whose dual credit course average GPA was 3.0 or above,<sup>39</sup> and these students earned 11 to 12 credits, on average. Students with a 2.0 to 2.9 GPA earned 8 credits, on average (12% of the credits earned). The average credits for students with a dual credit course average GPA less than 2.0 was much lower (1 to 5 credits, on average).<sup>40</sup>

38. It was not possible with the provided data to identify and categorize the course data in the general education matriculation (GEM) framework (<https://boardofed.idaho.gov/resources/common-course-listing/>).

39. WICHE converted the alpha dual credit course grade values (including plus and minus grades) to A=4, B=3, C=2, D=1 and all other values, including course withdrawal, incompletes and other unknown or miscellaneous codes were set to 0. The “dual credit course average GPA” was computed as a simple (unweighted) average of these converted numeric grades across all of the student’s dual credit courses.

40. Note, dual credit GPA and number of credits earned, particularly those at the lower end of the spectrum, can reflect a number of circumstances, including student choice to retake a course or to not take further dual credit courses. But it can also reflect the requirement that students who fail a dual credit course must pay for and pass the equivalent course to receive further Advanced Opportunities funding for dual credit, which may limit further participation.

## OTHER DATA ON IDAHO DUAL CREDIT USAGE

Idaho data reported to the federal government can also provide a high-level view of dual credit usage in Idaho over a longer time period. Using postsecondary enrollment data from the Integrated Postsecondary Education Data System (IPEDS), which is maintained by the U.S. Department of Education, it is possible to produce long-term trend lines that — while not exact metrics for dual credit usage — represent general trends. These data show postsecondary enrollments by age, and it is a reasonable approach to use postsecondary students under the age of 18 as a proxy for dual credit enrollment. Certainly some 17-year-olds are enrolled as regular students, but for the purposes of examining general trends, this is an accepted methodology.

Despite the apparent growth in students under 18, gaps in the federal data collection of dual credit serve as a significant barrier to being able to accurately depict dual credit access and outcomes, but this information is still suggestive of dual credit usage. This further highlights the need for state-level data analysis and evaluation of programs like Advanced Opportunities in order to develop better-informed policy decisions related to dual credit.

As can be seen in Figure 6, in the 2007–08 academic year, almost a decade prior to the full enactment of Advanced Opportunities, Idaho’s fall term postsecondary enrollments of students under the age of 18 looked fairly similar to regional and national trends. At the time under 18 enrollment was about 6% of fall enrollments in the state, which was slightly higher than the regional and national averages of 5%. Starting in 2011–12, the trends in Idaho began to diverge from regional and national trends as the number of students in Idaho postsecondary education under the age of 18 began to increase — both numerically and as a share of total fall enrollments in the state.

This corresponds to policy developments that began to provide additional funding for students to take dual credit courses. Since 2011–12 the regional and national share of enrollments from students under 18 increased slightly while the share of Idaho students under 18 began to increase rapidly. This increase has continued over the past decade with the largest increase in the share of the total occurring between 2015–16 and 2017–18, when the share of enrollments increased 8 percentage points (16% to 24%), corresponding with the implementation of Advanced Opportunities funding for dual credit.

Importantly, this shift in the postsecondary enrollment of Idaho students under the age of 18 — again, a proxy for dual credit students — corresponds with the beginning of substantial state support for dual credit in 2011 through the Dual Credit for Early Completers and the “8-in-6 Program.”<sup>41</sup>

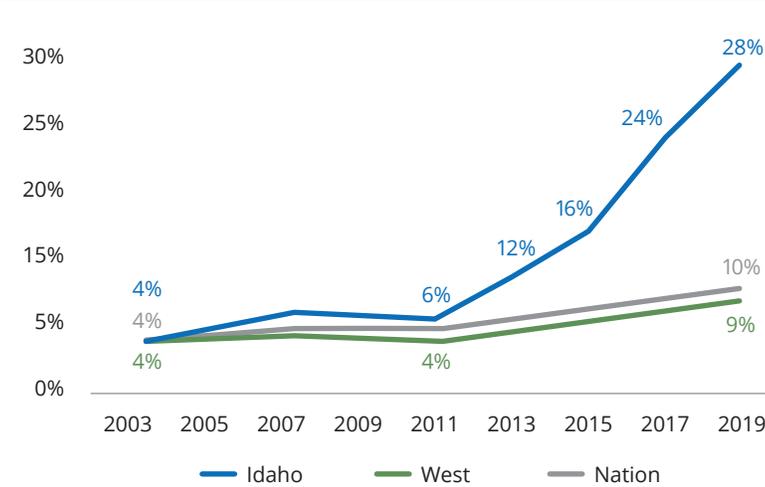
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41. Idaho State Department of Education, “Idaho’s Dual Credit for Early Completers and 8-in-6 program,” 2012, accessed November 9, 2021 from <https://educationidaho.blogspot.com/2012/04/learn-more-about-idahos-dual-credit-for.html>.

In 2019–20 over a quarter of fall term postsecondary enrollments in Idaho were among students under 18 (28%), significantly higher than the share nationally (10%) and in the Western region (9%).

When viewing these data by sector, the general trends follow similar patterns and further highlight the importance of the two-year sector in educating students under the age of 18. As shown in Table 2, the share of undergraduates under 18 has increased at both two- and four-year institutions in Idaho and resulted in over one-third of fall enrollments at two-year institutions being among students under the age of 18. Compared to the nation and the region, students under 18 as a share of students at Idaho institutions far outpaces the growth of the region and nation across both sectors.

**FIGURE 6. Students Under 18 as a Share of Fall Postsecondary Enrollments**



**TABLE 2. Students Under 18 as a Share of Postsecondary Fall Enrollments by Sector**

		2003	2005	2007	2009	2011	2013	2015	2017	2019
Public, 2-year	Idaho	13%	6%	12%	10%	9%	10%	20%	31%	35%
	West	5%	6%	6%	6%	5%	6%	7%	9%	12%
	Nation	5%	6%	7%	7%	7%	8%	11%	13%	16%
Public, 4-year or above	Idaho	2%	4%	5%	4%	3%	13%	14%	20%	24%
	West	3%	3%	4%	4%	3%	3%	4%	5%	6%
	Nation	2%	2%	3%	3%	3%	3%	4%	4%	5%

Another important trend to highlight is the increasing share of all enrollments under the age of 18 that come from Idaho both regionally and nationally. For example, in 2011–12 Idaho enrollments under the age of 18 was 2.1% of the regional total and 0.5% of the national total. By 2019–20, Idaho students under 18 accounted for 5.6% of regional enrollments under 18 and 1.5% of national enrollments under 18. These are also much higher than the share of total enrollments regionally and nationally that come from Idaho, highlighting the importance of further understanding under 18 enrollments in Idaho.

# Postsecondary Outcomes

In this section, WICHE reports about postsecondary enrollment patterns among Idaho’s public high school graduates from school years 2016–17 to 2019–20 for those who earned dual credits and those who did not. While the dual credit course data summarized in the previous sections may include students from other school settings who took dual credit (e.g., private, homeschool), this section only covers public high school graduates (Table 3).<sup>42</sup> The sample includes:

- 41,189 public high school graduates who participated in dual credit from an Idaho public institution<sup>43</sup>; and
- 34,495 public high school graduates with no dual credit activity. This segment of graduates are Idaho public high school graduates for whom no dual credit activity was found in the data available. WICHE notes, however, that some of these graduates may have participated in dual credit provided by an institution other than the Idaho public postsecondary institutions (in FY 2020, this was about 13% of dual credit activity under Advanced Opportunities), or from some other setting.

As can be seen in Table 3, in each year since 2016–17 a greater portion of each graduating class has participated in dual credit opportunities (increasing from 41% in 2016–17, to 62% in 2019–20). Further, each subsequent graduating class has had the opportunity to participate in dual credit for more of their high school career. 2016–17 graduates would have only been eligible for one year of dual credit funded under Advanced Opportunities, while 2019–20 graduates were the first cohort of high school graduates that could have benefited from ninth to twelfth grade. One could expect differing patterns in overall postsecondary enrollment across these four years as dual credit participation expanded. For much of the analysis below, WICHE describes what is seen across all four cohort years.

**TABLE 3. Dual Credit Participation of Idaho Public High School Graduates, By Graduating Class**

Graduating Cohort	Participated in Dual Credit from an Idaho Public Institution	Did Not Participate	Overall	Percent Dual Credit Participants
2016–17	7,120	10,267	17,387	41%
2017–18	10,183	8,428	18,611	55%
2018–19	11,396	7,986	19,382	59%
2019–20	12,490	7,814	20,304	62%
<b>Total</b>	<b>41,189</b>	<b>34,495</b>	<b>75,684</b>	<b>54%</b>

42. The Advanced Opportunities-funded credits described by these data may also include students who are primarily homeschooled or attending a private school but took a dual credit course through a public high school. This was not distinguishable in the data but is estimated to be negligible in terms of the reported results. See annual fiscal year program total reports at <https://www.sde.idaho.gov/student-engagement/advanced-ops/>.

43. 1,097 students who participated in dual credit and were in one of the four senior cohorts reported under dual credits activity were indicated as ‘not a graduate’ in the data (e.g., students who may have transferred out, completely dropped out, or graduated beyond five years in high school). They were excluded from the analyses of postsecondary outcomes for high school graduates.

## IMMEDIATE COLLEGE-GOING RATES OF IDAHO PUBLIC HIGH SCHOOL GRADUATES

“Immediate college-going” or the “go-on” rate refers to high school graduates who go on to attend postsecondary educational institutions in the fall semester following high school graduation. Go-on rates were, on average, 27 percentage points higher among Idaho public high school graduates who participated in dual credit than those who did not (Table 4).

**TABLE 4. When Idaho Public High School Graduates Enrolled in Postsecondary Education, By Graduating Class**

Graduate Cohort	Participated in Dual Credit from an Idaho Public Institution			Did Not Participate			Overall		
	Immediately	Within 2 years	Within 3 years	Immediately	Within 2 years	Within 3 years	Immediately	Within 2 years	Within 3 years
2016–17	68%	76%	81%	39%	48%	53%	51%	59%	64%
2017–18	61%	68%	74%	32%	40%	43%	48%	56%	60%
2018–19	55%	65%		27%	34%		43%	52%	
2019–20	49%			22%			38%		
<b>Total</b>	<b>57%</b>			<b>30%</b>			<b>45%</b>		

Notes: Those who enrolled in the subsequent spring term after their high school graduation are included in the ‘Within 2 years’ rates; those who enrolled in the spring term approximately two years after their high school graduation are included in the ‘Within 3 years’ rates. 2018–19 graduates could only be tracked for 2 years, and 2019–20 graduates only for one year. See Appendix Table B-4 for student numbers.

The higher go-on rates among those participating in dual credit courses diminished slightly over the four graduating classes, from a 29 percentage point difference for 2016–17 graduates to 27 percentage points for 2019–20 graduates. Meanwhile, immediate college enrollment rates have gone down across all Idaho public high school graduates between 2016 and 2020, whether dual credit participants or not.<sup>44</sup> However, immediate college-going rates of dual credit participants have declined at a lower average annual rate than high school graduates who did not participate in dual credit (10% and 18% average annual declines, respectively).

The reasons for the decline in go-on rates for Idaho high school students are complex and beyond the scope of this report. Reasons could include additional focus on certifications and workforce-oriented career pathways; student dissatisfaction with learning options resulting from the COVID-19 pandemic; and economic pressures.

44. Virtually the same immediate college-going rates as WICHE found in this evaluation were reported by Kevin Richert in “Instead of going on, Idaho high school graduates stayed home”, IdahoEdNews.org, January 5, 2021, accessed November 17, 2021 at <https://www.idahoednews.org/higher-education/instead-of-going-on-idaho-high-school-graduates-stayed-home/>.

## LATER ENROLLMENT IN POSTSECONDARY EDUCATION AMONG IDAHO HIGH SCHOOL GRADUATES

For the public high school cohorts examined for this evaluation, the overall immediate go-on rate for dual credit participants was nearly 30 percentage points higher than non-dual credit students, representing a much larger rate difference than when comparing later matriculation rates. Across three of the cohorts (2016–17 to 2018–19), about 8 percentage points more high school graduates went on to enroll in postsecondary education within two years of high school graduation. And about 13 percentage points more of the graduates in the 2016–17 and 2017–18 cohorts enrolled within three years of high school graduation. But the later enrollment rates for dual credit participants did not differ meaningfully from graduates who had not participated in dual credit. Of course, only two of these graduating cohorts can be tracked for three years past their high school graduation at this point; it will be important to monitor later enrollment after several more years have elapsed.

## VARIATION IN IMMEDIATE COLLEGE-GOING (“GO-ON”) RATES BY STUDENT CHARACTERISTICS AND DUAL CREDIT PARTICIPATION

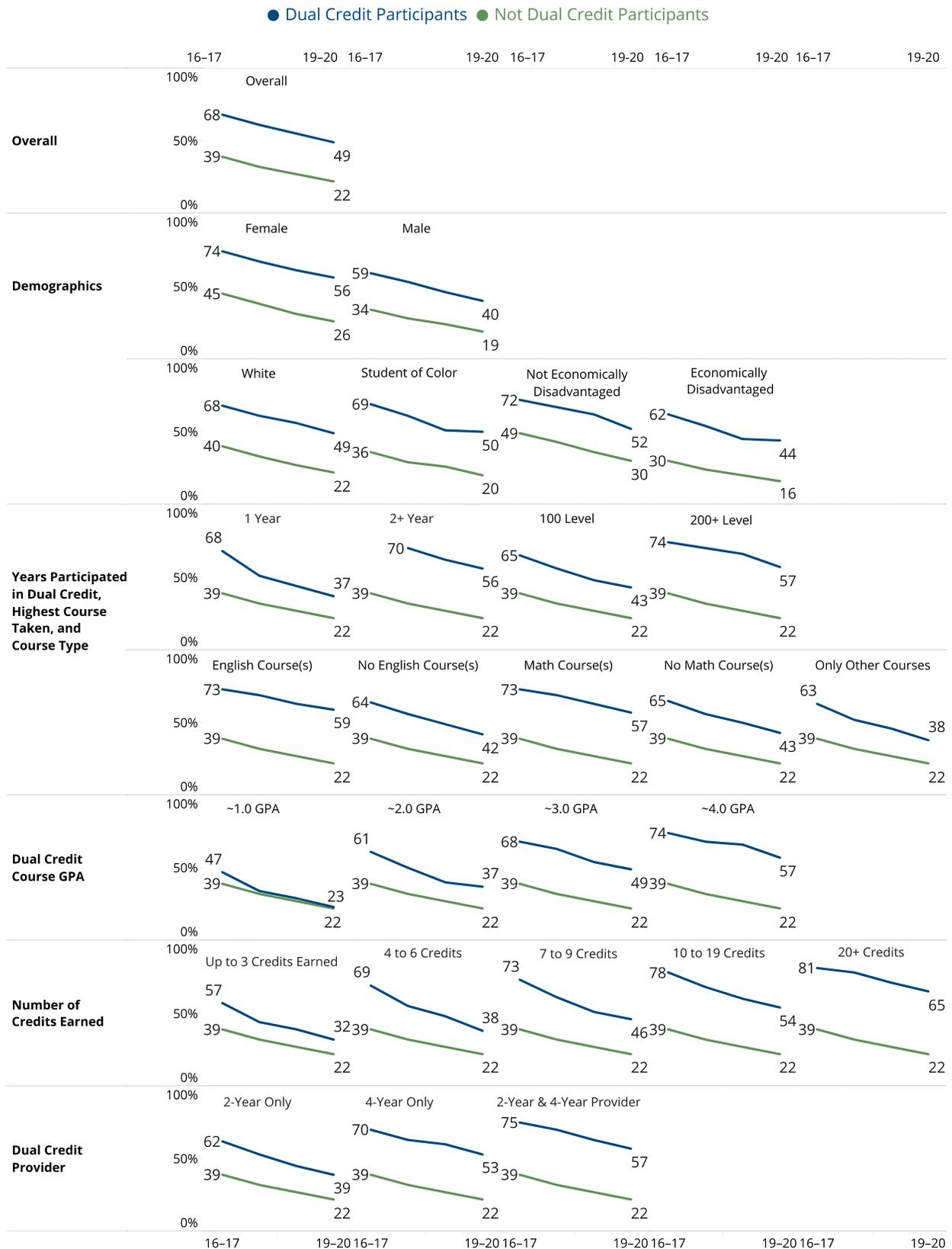
WICHE investigated whether and how college-going behavior by dual credit students varies among Idaho public high school graduates by type of student and by patterns of dual credit participation. This section describes some of those patterns, and the inferential analysis results below refers to these relationships in more complex terms.

Several aspects of the apparent interaction of dual credit participation and college-going are worth noting, including:

- Some dual credit course-taking patterns appear to be associated with more positive college-going outcomes; and
- The go-on rate for dual credit students has not declined as much over these four years as it has for non-dual credit students.

Figure 7 on the next page illustrates that across every dimension analyzed, dual credit participants were more likely to enroll in postsecondary education than graduates who did not participate in dual credit. At the same time, immediate college-going declined over these four years among all types of students. But it appears that participating in dual credit was associated with lower rates of go-on decline. Overall, go-on rates declined 28% from the 2016–17 to 2019–20 graduating cohorts among dual credit participants, and 44% among graduates who did not participate in dual credit (Appendix Table B-6). And just as certain types of dual credit activity have a higher positive association with go-on rates, some types of dual credit course-taking appeared to be associated with reductions in go-on rate declines.

**FIGURE 7. Immediate College-Going (“Go-On”) Rates for Idaho Public High School Graduates, 2016–17 to 2019–20, by Student and Dual Credit Characteristics**



Drawing conclusions about the changes in go-on rates over time should be done with caution because the number of students participating has expanded substantially over the same time period. At a conceptual level, it is likely that as dual credit opportunities reached more students, more students who are less likely to go on to college due to other factors took these courses.

**Go-On Rates by Gender.** Overall, more Idaho female students have participated in dual credit courses (see Appendix Table B-2). While male dual credit graduates had higher go-on rates (48%) than graduates without dual credit (26%), male dual credit participants' go-on rates still lagged female dual credit go-on rates (63%). Male dual credit graduates also had a lesser go-on rate increase over non-dual credit graduates compared to females with dual credit (22 and 27 percentage points increases, respectively).

**Go-On Rates for White or Students of Color.** Go-on rates were virtually the same for graduates of color with dual credit (56%) and white graduates with dual credit (57%). Graduates of color with dual credit had a slightly greater go-on rate difference over graduates of color without dual credit compared to white graduates with dual credit (28 percentage point difference compared to 26 percentage points).<sup>45</sup> There was similar parity across racial/ethnic backgrounds in how go-on rates of dual credit students declined less than non-dual credit students.

**Go-On Rates by Economically Disadvantaged or Not.** Economically disadvantaged students appear to particularly benefit from dual credit in terms of college enrollment.<sup>46</sup> Economically disadvantaged dual credit graduates' go-on rates (50%) were below the overall average of 57% and lower than dual credit graduates who were not economically disadvantaged (62%). But economically disadvantaged dual credit graduates showed a relatively greater go-on rate difference over graduates who had not participated in dual credit, compared to dual credit graduates who were not economically disadvantaged, 27 percentage point difference compared to 21 percentage point difference (in part, this reflects the otherwise very low go-on rates (23%) for economically disadvantaged non-dual credit graduates.) Economically disadvantaged dual credit students' go on rates also declined less than similar students who did not earn dual credit over the years examined. Economically disadvantaged graduates without dual credit showed the greatest declines in go-on, among the dimensions we investigated, with only 16% of non-dual credit graduates going-on by 2019–20 compared to 44% of economically disadvantaged graduates with dual credit.

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45. This pattern is also found by specific student race or ethnicity, with some variation by year.

46. "Economically disadvantaged" refers to whether a student had ever been eligible for free or reduced price lunch or a qualified measure outside of the National School Lunch Program at any time between ninth and twelfth grade (and is therefore not specifically an indicator of their Pell grant eligibility or other definitions of socioeconomic status in college).

**Go-On Rates by Dual Credit Course-Taking Patterns.** More intensive patterns of dual credit participation appear to be associated with some of the highest observed go-on rate differences compared to non-dual credit graduates. Some of the highest go-on rates and difference in go-on rates over non-dual credit peers were seen with dual credit students who:

- Took a **200-level course or higher** (65% go-on, 34 percentage points higher than graduates without dual credit)
- Earned credits in **Math or English** (64-65% go-on, 34-35 percentage points higher than non-dual credit graduates)
- Had a **GPA around 4.0** in their dual credit courses (65% go-on, 35 percentage points higher than non-dual credit graduates); dual credit graduates with a GPA around 3.0 in their dual credit courses went on at 57%, 27 percentage points higher than non-dual credit students--equivalent to the overall dual credit go-on rate difference
- Took **dual credit for 2 or more years** (62% go-on, 31 percentage points higher than graduates without dual credit)<sup>47</sup>
- Earned **10 or more dual credits**. Dual credit graduates who earned 10 to 19 dual credits went on at 63%, 32 percentage points higher than non-dual credit graduates. Dual credit graduates who earned 20 or more dual credits had the highest go-on rate of all dimensions investigated: 71%, which was 40 percentage points higher than non-dual credit graduates.

Correspondingly, dual credit graduates with any of the above course-taking patterns also had lower declines in go-on rates between 2016 and 2020. In particular, dual credit graduates who earned credits in English or earned 20 or more credits had among the lowest go-on declines (18% and 19% respectively), and greatest difference compared to the go-on declines among non-dual credit graduates.

What is seen from these patterns is not surprising, since a key goal of dual credit is incentivizing students to continue with college through accumulation of credit that reduces the credits students and families must pay for to obtain a postsecondary credential and increases students' preparation for college. In this way, what we see in the data may indicate that dual credit participation is indeed incentivizing college go-on. On the other hand, several studies show that dual credit students are more likely to be high-achieving, White, and of higher socioeconomic status and are likely more inclined to go to college anyway.<sup>48</sup> With the data available, it is not possible to disentangle whether dual credit is leading students to enroll in college who otherwise would not have gone on, or whether students who intended and were prepared to attend college are using dual credit and potentially reducing their costs for college, as is one intention of Advanced Opportunities.

47. Although 2016–17 graduates may have taken multiple years of dual credit, the data available to WICHE began with the 2016–17 school year, so this could not be assessed for this cohort.

48. Samuel D. Museus, Brenda R. Lutovsky, and Carol L. Colbeck, "Access and equity in dual enrollment programs: Implications for policy formation." *Higher Education in Review*, 4 (2007): 1–19. Ashley Pierson, Michelle Hodara, and Jonathan Luke, "Earning College Credits in High School: Options, Participation, and Outcomes for Oregon Students. REL 2017–216," *Regional Educational Laboratory Northwest* (2017), Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest. Josh Pretlow, and Heather D. Wathington, "Expanding dual enrollment: Increasing postsecondary access for all?" *Community College Review*, 42, no. 1 (2014): 41–54.

## INFERENCE MODEL: COLLEGE-GOING BEHAVIOR OF DUAL CREDIT STUDENTS

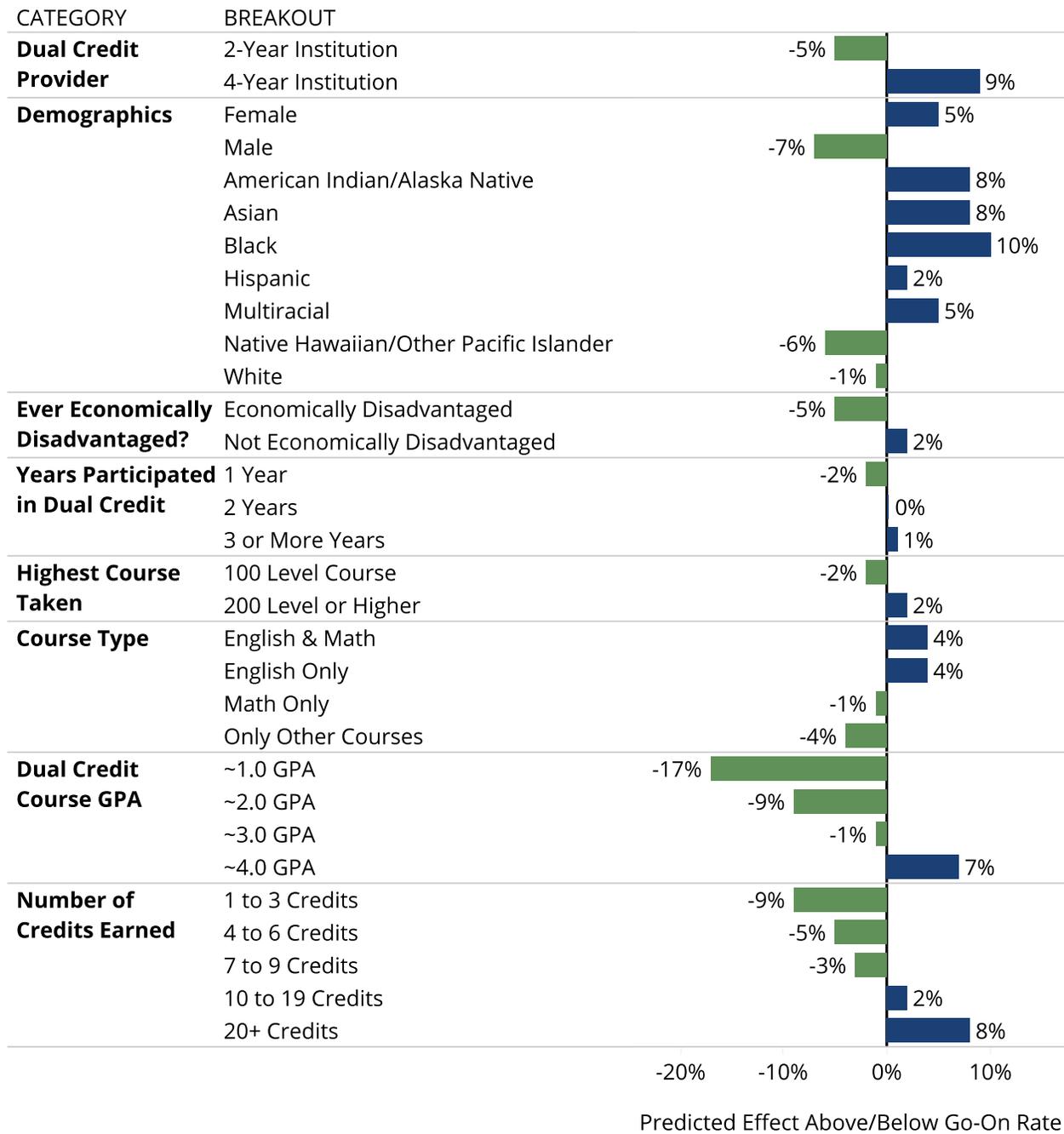
In this section, we describe the results of logistic regression modeling that identifies the factors that most predict the college-going outcomes of those students who participated in dual credit programs. It is important to note that the model is only an estimate based on a subsample of dual credit students (2018–19 and 2019–20 cohorts)<sup>49</sup>, and estimates are among and for dual credit students only. If more variables on students' backgrounds were available, the estimates could change. The predictive model described below accounts for about 10% of the variance in college-going rates. In other words, about 90% of the differences in college-going rates for dual credit students are explained by variables that are not available in the model. At this point, these findings should be considered suggestive and not a call to action. Future research with additional data elements could produce actionable information for policymakers. The model is included to show the potential for evaluation to better understand some of the outcomes of the dual credit program. Some of the characteristics examined below are also likely associated with a general likelihood of going to college, so further data and analysis is necessary to tease out the actual causal impacts.

On the next page, Figure 8 reports the factors that are positively and negatively associated with the immediate go-on rate relative to the average predicted go-on rate for dual credit students. The numbers in the chart are compared to the average go-on rate predicted through the model; the percentages in these figures are not directly transferable to the actual go-on rates described previously and roughly relate to the change in likelihood that an individual goes on to college, while compared to the average, holding other factors constant.

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49. The inferential analysis also excluded a subset of students who earned zero credits and a subset of outliers which were considered influential observations in logistic regression diagnostics. The final model includes approximately 23,301 dual credit students.

**FIGURE 8. Predicted Effect Above or Below Average Dual Credit Go-On Rate**



Note: Percentage differences in this figure are compared to the average go-on rate predicted through the model; the percentages in these figures are not directly transferable to the actual go-on rates described previously and roughly relate to the change in likelihood that an individual goes on to college, while compared to the average, holding other factors constant.

### Race, Gender, Economically Disadvantaged, and Dual Credit Provider

- Dual credit students who are Black, American Indian/Alaska Native, Asian, Multiracial, and Hispanic are predicted to have higher than average go-on rates at 10%, 8%, 8%, 5%, and 2%, respectively.
- Female dual credit students are predicted to have go-on rates that are 5% higher than average.
- Dual credit students who are categorized as economically disadvantaged are predicted to have go-on rates that are 5% lower than average.

Students who receive dual credit from a dual credit provider that is a public four-year college or university are predicted to have go-on rates that are 8% higher than average.

### Dual Credit Course-Taking Patterns

- One of the largest predictive factors of dual credit students' go-on rates is the number of dual credit courses. Students taking **20 or more dual credits** have a predicted go-on rate that is 8% higher than average.
- Students who take dual credit **English and math or take English dual credit (but not math)** have predicted go-on rates that are 4% higher than average.
- Participating in dual credits in a **single year or for multiple years** or taking dual credits **above or below the 200-level** had relatively small predictive effects (+/-2%) on the go-on rate.
- Students with the highest **dual credit GPAs** (4.0) are predicted to have go-on rates that are 7% higher than average, whereas students with the lowest dual credit GPAs are predicted to have go-on rates that are 17% lower than average.

## FALL-TO-SPRING RETENTION OF IMMEDIATE GO-ON PUBLIC HIGH SCHOOL GRADUATES

In this section, WICHE reports the patterns of fall-to-spring retention among 33,882 Idaho public high school graduates who enrolled in postsecondary education the fall semester immediately following their high school graduation (or the summer term), for graduates from school years 2016–17 to 2019–20.

First-year fall-to-spring term retention was 12 percentage points higher, on average across the cohorts, for those who participated in dual credit (Table 5). While retention went down slightly in the 2019–20 cohort, which experienced the first year of COVID-19 impacts, there was substantially less decrease in retention among dual credit participants. The retention rate declined 29% for non-dual credit students, whereas the retention rate only declined 5% for dual credit students in the 2019–20 cohort. Although WICHE cannot isolate the effect of dual credit on retention, this large retention rate gap may be a result of what existing dual credit literature suggests: by starting college in high school, dual credit can build and strengthen students' college aspirations, motivation, and commitment. Given recent college enrollment declines among high school graduates in Idaho and drops in retention, dual credit may be an effective strategy to help students stay in college once they enroll. This conclusion is based on suggestive data from Idaho and other research showing increases in credential completion due to participation in dual credit programs.<sup>50</sup>

50. See for example An and Taylor, 2019; What Works Clearinghouse, 2017.

Like the findings with go-on rates, several more intensive dual credit-taking behaviors are associated with higher first-year fall-to-spring retention rates (Figure 9, next page). Taking a 200-level course or higher, having earned credits in Math or English, participating in dual credit for 2 or more years, earning 10 or more dual credits, and having a higher dual credit GPA were

associated with higher-than-average difference in first-year fall-to-spring retention rates over non-dual credit graduates (14 to 17 percentage points higher retention than non-dual credit graduates).

Differences in the retention rates for dual credit participants compared to non-dual credit students varied slightly when comparing male and female dual credit participants, and those who were white compared to students of color. But, on average, the difference in retention rates over non-dual credit graduates for each of these subgroups was at least what is seen overall (12%). Meanwhile, economically disadvantaged dual credit students had slightly greater retention rate differences over non-dual credit peers compared to dual credit participants who were not economically disadvantaged (13% and 11%, respectively).

Overall, first-year fall-to-spring retention rates were six percentage points lower for the 2018–19 cohort of non-dual credit graduates compared to 2016–17, while first-year fall-to-spring retention remained the same for dual credit participants over these three years.

First-year fall-to-spring retention dropped only six percentage points among dual credit students for spring 2021, but 40 percentage points among non-dual credit graduates for spring 2021. This finding is driven almost exclusively by a massive and unexplained drop in the retention of non-dual credit students attending Idaho private or out-of-state institutions. Fewer than 50 of almost 600 non-dual credit students attending these institutions were retained in spring 2021. Although the COVID-19 pandemic may have severely impacted students, the size of this decline warrants further explanation before drawing any conclusions.

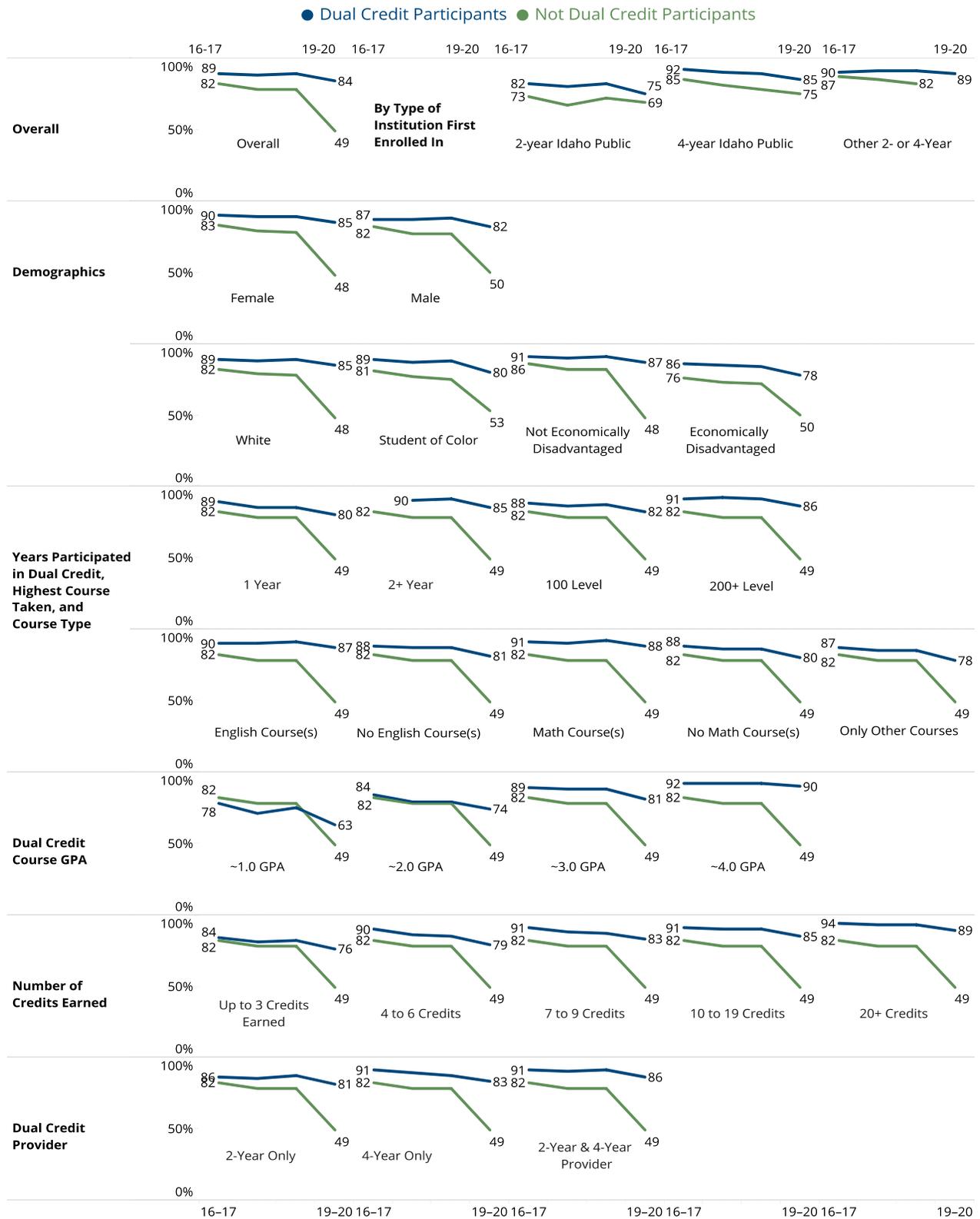
Like other measures, dual credit students with more intensive dual credit course-taking patterns had first-year fall-to-spring retention rate differences over their non-dual credit peers that were higher-than-average (see Appendix Table B-7). However, in spring 2021, the otherwise strong retention rate differences for dual credit participants did not hold up as well for students of color or students who were economically disadvantaged.

**TABLE 5. Fall-to-Spring Retention Rates by Public High School Graduating Cohort**

Graduating Class	Participated in Dual Credit from an Idaho Public Institution	Did Not Participate	Overall	Difference for Graduates Who Participated in Dual Credit
2016–17	89%	82%	86%	7%
2017–18	88%	78%	85%	10%
2018–19	89%	78%	86%	11%
2019–20	84%	49%	76%	35%
Total	87%	75%	83%	12%

Note: The 49% rate for 2019-20 graduates who did not participate in dual credit is driven by a massive and unexplained drop in the data of the number attending Idaho private or out-of-state institutions; interpret with caution.

**FIGURE 9. Fall-to-Spring Retention Among Immediate Go-on High School Graduates Who Participated in Dual Credit and Not, by Graduating Cohort 2016-17 to 2019-20**

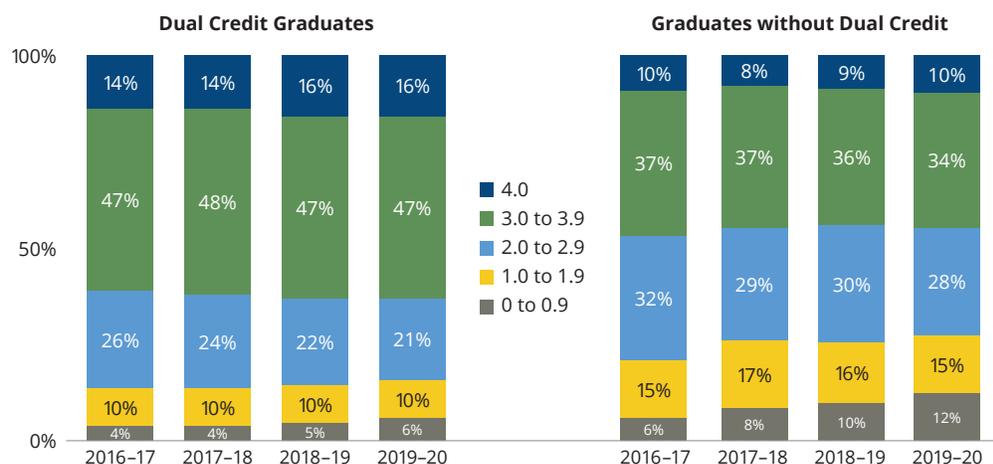


Note: Too few students in the “Other 2- or 4-year” category to display the 2019-20 retention rate.

## FIRST SEMESTER GPA OF PUBLIC HIGH SCHOOL GRADUATES

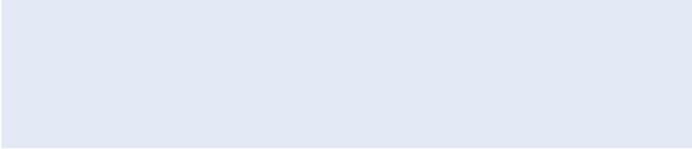
First term GPA results are available for almost 23,200 Idaho public high school graduates who went on immediately after high school and enrolled at an Idaho public postsecondary institution (16,080 students who participated in dual credit from an Idaho public postsecondary provider, and 7,131 who did not).<sup>51</sup> Figure 10 shows the distribution of GPA by graduating cohort year. The overall average first-term GPA was 3.0 among students who had participated in dual credit, 15% higher than the average GPA of 2.6 among those who had not. The average GPA among students who had not participated in dual credit had declined slightly from 2.7 GPA in 2016–17 to 2.5 GPA in 2019–20. The average GPA among those who had participated in dual credit remained steady at 3.0 GPA over this timeframe.

**FIGURE 10. First Semester GPA of Idaho Public High School Graduates Who Enrolled in the Immediate Fall Term (“Go-on” Students)**



Appendix Table B-8 provides detailed GPA results by type of student and dual credit-taking patterns. Overall, the GPA differences for male dual credit students (14%) compared to male non-dual credit students were slightly higher than for females (12%). Black and multiracial students who participated in dual credit had the highest GPA differences compared to non-dual credit students, among the GPA differences by student race or ethnicity (17% and 16%, respectively). On the other hand, dual credit students who were American Indian/Alaska Native and Native Hawaiian/Other Pacific Islanders had virtually no difference in first-term average GPA compared to non-dual credit students. Dual credit students who were economically disadvantaged and those who were not had almost equally higher average first term GPAs than non-dual credit peers (13% and 14% higher GPA, respectively).

51. A valid GPA value was missing for 12% of immediate go-on students.



Like other findings in this report, dual credit students with more intensive dual credit course taking patterns had higher-than-average first-semester GPA differences compared to non-dual credit students. The GPA difference seen among dual credit participants increased the more years students had participated in dual credit: 10% higher average GPA for those with one year of dual credit participation compared to those who did not participate in dual credit; 16% higher with two years; and 19–21% higher, on average, for those who participated three or four of the years. Students whose highest dual credit course was 100-level had a slightly below average GPA difference from non-dual credit students (11%), while students who took a 200-level or higher dual credit course had an average GPA that was 18% higher than non-dual credit students. Students who took a Math or English dual credit course had average GPAs from 12% to 22% higher than non-dual credit students. The GPA difference for students who only took some other type of course (7%) was about half the overall average difference for dual credit participants. Students with a dual credit GPA of 4.0 had the greatest positive difference in their first-term college GPA compared to non-dual credit students (27%), a far higher difference than even students who had a dual credit 3.0 to 3.9 GPA (8%). Students with dual credit GPAs lower than 3.0 had lower average college first-term GPAs than non-dual credit students.<sup>52</sup>

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52. Note: the trend of higher average college first-term GPAs with dual credit participants can be related to the basic requirements for dual credit participation (e.g., minimum GPA, school recommendation or approval of readiness for college-level coursework), as well as the likelihood that dual credit students were higher-achieving students overall.

# Conclusions: Appropriateness of Using Advanced Opportunities Funds for Dual Credit Students

To examine the appropriateness of Idaho's approach to supporting dual credit through Advanced Opportunities, WICHE considers three key questions:

1. What evidence from Idaho's data do we have that this is a good use of funds, or could be improved?
2. What evidence from other literature and research do we have that this may be a good use of funds?
3. What specific questions/analyses should be answered/completed to bring additional certainty to the appropriateness analysis?

This section amounts to the conclusion and findings of this evaluation. WICHE considers each of these questions in examining the possible impact of dual credit on student outcomes throughout this section.

Like any complex policy innovation and implementation across diverse school districts and institutions of higher education, it is impossible to draw concrete conclusions without exhaustive study. Being able to confirm the causal impact of dual credit in Idaho as funded by the Advanced Opportunities model would require more comprehensive data, more time, and additional research resources to isolate the program's effects from those of other policy interventions and contextual factors.

However, while such ironclad evidence would be ideal, that is not the reality of the situation. WICHE understands our role here to use our best judgement and ***the totality of the evidence that is currently available*** to draw conclusions for policymakers to use in the allocation of limited resources. The conclusions that follow include numerous caveats but represent our best judgment to address the questions above.

Additionally, although WICHE was not tasked with offering programmatic recommendations (i.e. specific actions that Idaho could take to improve Advanced Opportunities and the implementation of the dual credit program), we have included an extensive discussion of a realistic and strategic approach to continuously evaluate this program. Given the size of the overall investment in Advanced Opportunities and dual credit specifically, and the difficulties noted above in conclusively answering all questions, WICHE recommends an approach that prioritizes key questions and would focus on creating a multi-year research plan. Such a plan would, over time, not only build a substantial evidence base about dual credit, but also would regularly produce adjustments and improvements that make Advanced Opportunities a more effective and efficient program that better serves Idaho's students.

Using these data, WICHE has drawn a series of conclusions — with varying levels of certainty — that may be useful to Idaho policymakers.

## DUAL CREDIT ACCUMULATION

There is compelling evidence that dual credit usage in Idaho has increased substantially since the 2016–17 academic year when the Advanced Opportunities program began providing funding that covers tuition costs for virtually all public high school students enrolled in dual credit programs. The data show substantial growth in each high school cohort’s accumulation of credits since then, which one would expect as each successive year since 2016 has allowed the graduating cohort to have more access to dual credit with Class of 2020 graduates having dual credit for all four years of high school. Additionally, using national and regional data, it is reasonably clear that other states have not experienced this same steep growth, making it less likely that this growth is due to some other factors.

Two parts of the policy are worth considering. First is whether access to dual credit courses, made possible by Advanced Opportunities’ mandate that schools offer at least one of the eligible programs, increases credit earning by itself, or whether the funding mechanism that covers student costs is driving the increase. While both components of the policy likely contribute, based on research from other states and examining other reports on and evaluations of dual credit in Idaho, as well as the sharp increase in enrollment by students under the age of 18 that coincides with increased funding, it appears that even in regions of the state where dual credit may have been widely available prior to the full funding provided through Advanced Opportunities, there has been substantial growth in usage.

- ***Based on these findings, and other research and information reviewed by WICHE, it is reasonable to conclude that both components of the policy are impactful, and that Advanced Opportunities’ funding mechanism likely has a substantial impact on increased dual credit earning by Idaho students.***

## COLLEGE GO-ON RATES

College go-on rates in Idaho have declined in recent years and are a crucial metric of concern to Idaho policymakers as well as the State Board of Education. While it is obvious that go-on rates for dual credit students outpace those of non-dual credit recipients, the key question here is whether students who are more likely to attend college anyway are more likely to participate in dual credit programs where available. If so, as is evident to some extent in other research, summary statistics showing higher go-on rates for dual credit participants overstate the impact of the intervention.

Using advanced analytic techniques to control for some of these characteristics was not feasible with the data available (although, as is discussed in greater detail below, given more time and research resources, it would be possible to develop a research approach that would help isolate the impact of dual credit and Advanced Opportunities on go-on rates). The data are suggestive that there may be an impact, however.

Additionally, other research has attempted to isolate the impact of dual credit. These studies have found that dual credit programs increase college going rates when controlling for student characteristics. This means that even though the types of students who participate in dual credit programs are more likely to go on to college than those who do not participate, dual credit programs increase college going.

- ***Based on the suggestive Idaho data and other research that has attempted to isolate the impact of dual credit, it seems likely that Idaho's dual credit programs are increasing go-on rates.***

Further research that would strengthen the evidence base is discussed below. In particular, future research should use advanced analytic techniques to compare the outcomes of the types of students who enroll in dual credit courses to those that do not before and after the full implementation of Advanced Opportunities.

## **UNDERSTANDING DUAL CREDIT STUDENTS' COLLEGE GOING BEHAVIOR**

Understanding what characteristics, course choices, and credit accumulation patterns of dual credit students may lead them to go on to college is an important step to identify programmatic choices that Idaho schools and policymakers can make to increase go-on rates. If, for example, research that is able to draw causal conclusions that show that a particular postsecondary class or a certain number of credits accumulated greatly increases the odds that a dual credit student goes on to college, policymakers could create incentives for students and school districts to do those things.

The WICHE research team created a model that attempts to identify factors that are associated with increased college going among dual credit students while controlling for other student characteristics. The model does not yet include all possible factors due to data availability, but it does provide some important conclusions and identify a fruitful path for additional research. The model suggests that some specific course-taking patterns are predictive of the go-on rate, particularly related to English and/or math dual credit courses. These patterns, along with other general education dual credit course-taking patterns identified in the 2021 State Board of Education dual credit report, suggest that the state should assess the extent to which students' dual credit courses or package of dual credit courses align with degree programs and pathways.<sup>53</sup> Dual credit programming and course-taking has expanded and grown via Advanced Opportunities, and it is important to assess how the growth in dual credit courses can contribute toward a meaningful and relevant credential pathways.

- ***Based on this model, there are several factors worth further investigating as potentially amplifying the impact of dual credit and Advanced Opportunities, such as earning more credits and taking English dual credit. However, because important factors that impact college going rates were not able to be included, WICHE does not recommend taking actions based on the initial findings of this model.***
- ***Future research should continue to expand and refine this model by adding additional important variables, including school and district characteristics, student high school preparation information, and other student demographic information.***

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53. Idaho State Board of Education, 2021.

## POSTSECONDARY GPA

Dual credit participants who enrolled in college averaged between 10% and 15% higher GPAs in their first college semester compared to non-dual credit participants. This continues the theme of comparative statistics showing better outcomes for dual credit participants. The evidence here is strongly suggestive, but WICHE acknowledges that more complex models that can control for student and school characteristics may suggest other results. The consistency of the findings across different student demographics and other characteristics, as well as research showing dual credit can help improve student preparation for postsecondary education, leads WICHE to conclude that dual credit may help increase postsecondary GPAs.

- ***Based on evidence from data provided by Idaho, it seems likely that dual credit participation is highly associated with higher collegiate GPAs***
- ***Further research should attempt to isolate the impact of dual credit from confounding factors***

## POSTSECONDARY RETENTION

Data show that students who take dual credit and immediately matriculate to college persist to the spring semester more often than those students who do not take dual credit courses. Like with GPA, this finding is consistent across a range of student demographics and other factors available to WICHE for analysis.

Other rigorous research has found that dual credit participation positively impacts college completion rates even when isolating the impact of the program from student and school characteristics. Implicitly, this suggests that dual credit is also likely to have a positive impact on persistence between semesters.

Additionally, in analyzing the data, WICHE notes that, in general, postsecondary persistence in Idaho dropped dramatically in the 2019–20 school year for non-dual credit participants, due almost exclusively to a massive and unexplained drop in retention among students attending non-public and out-of-state colleges. Given the anomalous nature of this drop, WICHE recommends further investigation.

- ***Based on the data provided by Idaho and additional research, it is likely that dual credit in Idaho increases postsecondary persistence.***
- ***Further research is warranted to isolate the impact of dual credit from other confounding factors.***

## FISCAL IMPACT

WICHE has documented the substantial state investment in providing Idaho students with dual credit opportunities through Advanced Opportunities. That investment has grown — as would be expected — as more students have more access to dual credit courses. But, it is important to consider this spending as an investment and to understand the benefits to students, to Idahoans in general, and to state revenues in both the immediate and long-term.

WICHE's model for estimating the benefits to Idaho's students attempts to assess the financial impact of accumulating postsecondary credits while in high school. This benefit is realized when these high school students proceed to college and do not have to pay for those accumulated credits. Although not the sole aim of the Advanced Opportunities program, improving postsecondary affordability for students and their families was one of the goals of legislative architects.

This model — which can be further refined with more detailed information on actual postsecondary costs — estimates a strong financial benefit for students that attend postsecondary education purely when considering tuition costs that need not be paid. A more refined model, following examples cited below, would also account for increased degree completion rates and shorter time to degree. The model also does not consider financial benefits to the state due to the potential accumulating improvements on student outcomes from dual credit accumulation, but this should be a priority for future research.

As noted on the previous page, two states have carried out more complex ROI modelling and found compelling evidence that funding dual credit leads to positive results for both students and the state.

- ***Based on the data from Idaho, combined with publicly available tuition information, as well as other states' research on the costs and benefits of dual credit programs, it is highly likely that the state's dual credit program — as funded through Advanced Opportunities — generates a positive return on investment for the state and provides substantial financial benefits to students and their families.***
- ***WICHE recommends that future research conduct a robust return-on-investment analysis on the Advanced Opportunities program, including one that considers the costs of the program.***

## APPROPRIATENESS OF FUNDING DUAL CREDIT THROUGH ADVANCED OPPORTUNITIES

As noted at the beginning of this section, Idaho's policy of funding dual credit through Advanced Opportunities is enormously complex and its impacts can be difficult to separate from other policies, contextual idiosyncrasies, economic conditions, and other confounding factors. WICHE views its mandate for this evaluation as bringing together the best available evidence — including data made available to WICHE from Idaho's State Longitudinal Data System and other research completed elsewhere — to draw conclusions.

In an assessment of the appropriateness of Advanced Opportunities funding dual credit activity, it is useful to consider two alternative approaches and the potential outcomes of the alternative approaches:

- No funding for Advanced Opportunities dual credit: If the state did not fund Advanced Opportunities dual credit, it is likely that dual credit participation would have trended along the regional or national averages, as displayed in Figure 6. Or perhaps, dual credit participation would have increased at a slower rate based on the rate of increase in dual credit participation between 2011 and 2016, although much of that increase is likely due in part to earlier iterations of Idaho’s funding for dual credit programs. Either way, it is likely that dual credit participation would have increased at a slower rate, which would have downstream impacts on go-on rates and college retention rates.
- Funding for other college-going programs and policies: The state could have prioritized funding for other programs that support college preparation and access such as Advanced Placement or financial aid. It is difficult to retrospectively predict the outcomes of such funding approaches. That said, the most rigorous and independent studies that examine the long-term impacts of dual credit and Advanced Placement participation find little differences in college outcomes between the two programs.<sup>54</sup>

Reaching a conclusion on the appropriateness of state-funded dual credit is obviously a subjective question. It is clear that, to some extent, dual credit funding benefits students without economic need and who might be very likely to go on to postsecondary education (and succeed once there). But, additional evidence, including research from other states, identifies dual credit as linked to various student success outcomes and as likely to have a positive return on investment for the state and positive benefits for students. Considering the two potential hypothetical situations above, and evidence related to them, leads WICHE to draw these overall conclusions.

- ***Based on the totality of evidence presented throughout this evaluation, as well as additional research cited on these questions, WICHE believes that Idaho’s approach to funding dual credit through Advanced Opportunities is appropriate.***
- ***WICHE recommends a comprehensive, but cost-effective, long-term research program to continually improve the evidence about the linkages between dual credit in Idaho and student outcomes and to identify opportunities for improving the efficiency of state policy.***

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54. Brian P. An, “The influence of dual enrollment on academic performance and college readiness: Differences by socioeconomic status,” *Research in Higher Education*, 54 (2013), 407–432. Cecilia Speroni, *Determinants of Students’ Success: The Role of Advanced Placement and Dual Enrollment Programs*, New York: National Center for Postsecondary Research (2011), Teachers College, Columbia University.

# Future Research and Evaluation

As mentioned repeatedly in the previous section, with the size and complexity of Idaho's dual credit programs and its funding approach, WICHE believes that it is appropriate to carry out ongoing evaluations and reporting, and that this effort should be backed by sufficient resources to ensure that the dual credit is making as positive an impact on student outcomes as possible. Although general reports on program usage and trends are useful, it may provide greater benefits to focus limited staff time and research resources on providing deeper analyses of key questions about causality and to identify potential pathways to improved efficiency and efficacy of the program. This can only be done if research and evaluation of dual credit in Idaho is viewed as an ongoing process rather than a singular event or conclusion. Idaho has sufficient data resources to enable thoroughly detailed and complex research that can address some of the uncertainty about the causal nature of Idaho's dual credit programs and identify programmatic improvements that can increase its effectiveness.

The analyses in this report provide an initial assessment of the impacts of the Advanced Opportunities program, but with additional data and resources, WICHE recommends the state consider these analyses that will help assess additional impacts of the Advanced Opportunities program:

- **High-School Impacts:** Prior research has established that dual credit opportunities have direct impacts on students while they are in high school, including raising academic achievement levels and high school graduation rates. As dual credit opportunities have expanded through Advanced Opportunities, Idaho should assess how the expansion of dual credit has directly impacted students' outcomes while in high school. If there is a positive effect of Advanced Opportunities on high school graduation, then the impact of Advanced Opportunities on college-going outcomes may be greater than what was estimated in this report.
- **Isolating the Effect of Dual Credit:** Research has shown that college-going outcomes are the result of many factors including individual-level factors, family-level factors, school-level factors, and larger community- and policy-level factors. Dual credit participation is only one of several factors that influences whether and where students go to college. WICHE recommends that Idaho evaluate the effect of Advanced Opportunities by isolating the effect of dual credit on students' college going outcomes. This type of analysis requires a robust dataset and set of variables on both dual credit and non-dual credit eligible students. Two promising analytical approaches are briefly described:
  - **Propensity Score Matching:** *This technique requires a rich set of data on dual credit and non-dual credit students that allows researchers to construct a reasonable comparison group in which to assess differences in outcomes between dual credit and non-dual credit students. Data needed for this analysis could include: demographic data (e.g., race and ethnicity, gender, income, disability status, language status); academic history (e.g., GPA, test scores, participation and performance in other advanced learning opportunities); financial indicators (e.g., indicators of students' family financial health background); school-level data (e.g., school-level indicators where the student attends high school); and dual credit program or eligibility requirements (e.g., variables that are unique to the dual credit program or important for determining dual credit eligibility).*

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55. Laura W. Perna and Scott L. Thomas, *Theoretical perspectives on student success: Understanding the contributions of the disciplines*, Hoboken, NJ: Wiley Periodicals (2008).

- **Difference-in-Difference Analysis:** *A precise way to estimate the impact of Advanced Opportunities funding on student outcomes is to compare the outcomes of dual credit eligible students to non-eligible dual credit student before and after the implementation of Advanced Opportunities. This type of analysis could leverage publicly available data from the Integrated Postsecondary Education Data System (IPEDS) and would need to use data on non-dual credit eligible students as a comparison group. Given existing IPEDS data limitations, this analysis could only estimate the impact of Advanced Opportunities on dual credit participation/enrollment increases relative to other states.*
- **Factors that Impact Go-on Rates:** The model presented earlier in this report is an initial attempt to understand which student factors may increase the likelihood that dual credit students go on to college. This initial model would benefit from additional variables that may be available within Idaho's data system but were not available for this report. Understanding what those factors are and identifying ways that Idaho may incentivize students or schools to increase the efficacy of its dual credit programs should be a priority.
- **Return-On-Investment:** As previously noted, future research could leverage more precise data and employ an ROI analysis that considers the costs of providing dual credit programs, including the costs of both secondary and postsecondary providers to deliver the programs. This type of ROI analysis is complex, and given the fiscal analysis in this report, along with the positive ROI findings from states such as Colorado and Texas, it is likely that Idaho will find a positive return-on-investment.
- **Career and Technical Education and Workforce Impacts:** Benefiting students pursuing a postsecondary degree is one pathway through which dual credit can provide positive returns for students and the state. The pursuit of CTE-focused credentials and credits was not the focus of this report. Although it may be a small number of total credits relative to the size of the overall program, this aspect of Idaho's dual credit program and other Advanced Opportunities options deserves further study.
- **Unexpected Outcomes of Advanced Opportunities:** Dual credit policies and programs are often evaluated by the extent to which they impact student outcomes, which is an important criterion upon which to assess dual credit policies. One often unintended impact of dual credit policies is how they support the alignment of K-12 and postsecondary curriculum, pedagogy, and partnerships. Future research should examine how the expansion of dual credit has helped high schools and colleges develop stronger partnerships, which can help smooth the secondary to postsecondary transition for students.
- **Comparative Advanced Opportunities Research:** With the suite of programs available to students, identifying the different short-, medium-, and long-term student outcomes associated with the different programs would be important both for policymakers and for students and their families making decisions that will shape their futures. Given the variety of programs under Advanced Opportunities, this is especially important given that student trajectories to and through postsecondary education can vary by student demographics such as race, ethnicity and socioeconomic status.

- **Access to Dual Credit:** Understanding what student and school factors may make a student more likely to participate in dual credit, and what type of dual credit courses, was beyond the scope of this evaluation. But developing a model that can help schools and districts improve participation among those students who are currently less likely to take dual credit courses will be useful for developing strategies to improve educational attainment in Idaho.

Further, assuming this is a long-term research effort, WICHE recommends that Idaho continue to build its already-robust data system to ensure that the state can answer key questions related to dual credit and Advanced Opportunities. Formulating the specific questions and research needs can help identify additional (or fewer) data elements that may be necessary and prevent the state's inquiries from being limited by the information that is available.

Each of these analyses and research approaches comes with a cost in staff time and capacity. Although the total cost of carrying out a comprehensive evaluation would be substantial, it is likely that a very modest funding level to implement an intentional and prioritized research plan into Advanced Opportunities would lead to efficiencies and program improvements that benefit Idaho students. This investment in research and evaluation would likely on its own have a positive return-on-investment.

# APPENDIX A: Cost Savings

The model in Figure 3 presents estimates of cost savings by students compared to estimated state expenses. This appendix attempts to provide greater transparency into the assumptions, data, and approaches used to derive the estimates. This model should be seen as a rough estimation and certainly would benefit from further refinement with additional data and years of analysis, as described in greater detail in the section on future research above. There are several important considerations and decisions made by WICHE in this analysis, including:

1. This is not a true return-on-investment model with a detailed cost-benefit analysis. It considers only one dimension of benefit – namely that of student savings on tuition – while other potential social and economic benefits to the state are not assessed. These would require additional data and analysis, particularly focusing on the impacts that Advanced Opportunities funding for dual credit has on credential completion.
2. At a high level, the savings to students were calculated by trying to determine how many dual credits earned in high school were “used” in college. This means that only credits earned by students who matriculate to postsecondary education generate savings. Dual credits earned by students who do not matriculate to postsecondary education within the data provided to WICHE are not included in this savings model, though many may be taking Career and Technical Education (CTE) dual credit courses and using them to complete workforce training programs and postsecondary certificates after high school. Their credits, then, would likely also generate savings, but data limitations do not allow WICHE to fully develop a model for these students.
3. The model can be simplified as student savings being calculated for individual students by multiplying the number of dual credits earned times the per credit tuition likely to be paid. The number of credits is adjusted as described in #5 below. Per credit tuition costs are adjusted by incorporating averages for federal and state aid (in particular the Idaho Opportunity Scholarship) and average tuition discounting as reported in the National Association of College and University Business Officers annual survey.<sup>56</sup>
4. The analysis was carried out analyzing the dual credits earned by graduating high school cohort rather than by academic year. It would be possible to calculate savings by academic year, but that would involve assumptions about what percentage of credits earned each year will be used in postsecondary education and in which year. For these reasons, it seemed appropriate to consider the savings by graduating high school cohort, but this means that the spending information included will not match other spending data reported, because those are calculated by academic year.
5. Credits earned by students who matriculate to Idaho public institutions are fully valued. This means that each dual credit earned “counts” toward a degree or credential, whether through major credit or required elective credit. A key assumption here, that WICHE cannot test with the available data, is that Idaho public institutions accept all dual credit earned by Idaho high school students.

56. National Association of College and University Business Officers, “2019 NACUBO Tuition Discounting Study,” 2020, Washington, DC, accessed November 6, 2021 from <https://www.nacubo.org/Press-Releases/2020/Before-COVID-19-Private-College-Tuition-Discount-Rates-Reached-Record-Highs>.

Credits earned by students who matriculate to other institutions are valued at 85%, based on other research estimating credit acceptance and loss.<sup>57</sup> Refining these figures would require research examining how dual credits are accepted at different institutions and using that information to adjust that 85% acceptance figure.

6. Tuition information on a per credit basis was calculated using a weighted average by sector for Idaho public institutions using WICHE's Tuition and Fees in the West data. WICHE used information from College Board's Trends in College Pricing to derive per credit costs at non-public Idaho and out-of-state colleges. Because of the information provided to WICHE, it was not possible to refine tuition information according to the actual institution attended by individual students.
7. Students classified as economically disadvantaged are assumed to receive Pell Grants at the national average amount when they matriculate to postsecondary education, and reflects full-time enrollment. Additionally, WICHE made an assumption that all economically disadvantaged students would receive a full allocation from the Idaho Opportunity Scholarship. In the model, this has the practical effect of reducing tuition costs for these students to zero at Idaho public institutions, meaning that although they may have earned substantial dual credits in high school, these are not considered to generate savings because the students would not pay tuition under these assumptions.
8. Because WICHE cannot yet calculate the go-on rate for students in later cohorts (2018–20) that may enter postsecondary education sometime after the fall immediately following their high school graduation, we have assumed similar go-on rates for two and three years after graduation as observed in earlier cohorts. Although go-on rates have been declining in Idaho, the rates at which students go-on in their second and third years after high school graduation are comparatively low, so this assumption likely does not have a major impact on the model's findings.
9. Ancillary costs, such as fees, textbooks, and other non-tuition expenses are not included either in considering students' costs to take dual credit courses, or their costs after matriculating into postsecondary education. At a conceptual level, it may be that these costs would be roughly equivalent whether students earn the credits while in high school or while enrolled in college, but this could be another refinement of the model. Additionally, these costs incurred by students who do not enroll in college should be considered in future models, assuming they can be accurately analyzed.
10. No discount rates or inflationary adjustments are applied. Conceptually, savings are realized in the future, so some level of discounting may be appropriate, but this could be balanced out by the fact that, on average, tuition has increased faster than inflation.

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57. Wendy Kilgore & Alexander Taylor, *Dual enrollment in the context of strategic enrollment management: An insight into practice at U.S. institutions*, 2016, Washington, D.C.: American Association of Collegiate Registrars and Admissions Officers, accessed November 6, 2021 from <https://www.aacrao.org/docs/default-source/research-docs/dual-enrollment-in-the-context-of-strategic-enrollment-management---novembe.pdf>.

# Appendix B: Detailed Credit and Outcomes Data

**TABLE B-1. Dual Credit Course Payment Activity, FY 2020 (From Advanced Opportunities Portal Data)**

Category	Subcategory	No. of Students	Total Credits	No. of Courses	Total Paid	Avg. Paid/ Student	Avg. Credits/ Student	Avg. Courses/ Student
All AO-Funded Dual Credit	All AO-Funded Dual Credit	29,238	230,119	75,834	\$ 18,815,125	\$644	8	3
By Provider	Idaho Public Institution 2-year	12,986	124,713	40,598	\$ 10,960,832	\$551	6	2
	Idaho Public Institution 4-year	12,606	74,798	24,403	\$ 5,587,712	\$432	6	2
	Other Provider	3,646	30,608	10,833	\$ 2,266,581	\$363	5	2
Course Credit Number	1 Credits	1,620	6,331	6,331	\$508,421			
	2 Credits	2,381	10,314	5,157	\$924,404			
	3 Credits	18,071	141,333	47,111	\$ 11,609,213			
	4 Credits	6,494	58,224	14,556	\$ 4,629,017			
	5 Credits	553	11,980	2,396	\$957,094			
	6-8 Credits	119	1,937	283	\$186,976			
Course Level	100	24,160	193,649	63,851	\$ 15,981,338	\$598	7	2
	200 or Above	5,078	36,470	11,983	\$ 2,833,787	\$319	4	1
District Type	Regular Public School	27,315	212,832	70,087	\$ 17,471,307	\$633	8	3
	Independent Charter District	1,402	14,417	4,850	\$ 1,119,707	\$792	10	3
	Specialized Public School District	88	356	138	\$26,700	\$297	4	2
	Unknown	433	2,514	759	\$197,411	\$328	4	1
Student Grade Level	7-8 Grade	35	118	52	\$8,800	\$232	3	1
	9 Grade	2,057	8,450	3,403	\$686,100	\$330	4	2
	10 Grade	6,704	40,767	13,894	\$ 3,327,436	\$490	6	2
	11 Grade	10,460	96,965	31,132	\$ 7,916,940	\$745	9	3
	12 Grade	9,982	83,819	27,353	\$ 6,875,849	\$682	8	3
Locale of School District	District: Rural	7,223	55,854	18,698	\$ 4,842,940	\$668	8	3
	District: Town	6,476	49,691	16,598	\$ 4,515,778	\$697	8	3
	District: Suburb	10,373	86,005	27,944	\$ 6,422,202	\$618	8	3
	District: City	5,092	38,124	12,442	\$ 2,991,070	\$586	7	2
	Unknown	74	445	152	\$43,135	\$583	6	2
Percent of Population is Students of Color	Below to About Average	19,810	163,419	53,857	\$ 13,221,865	\$658	8	3
	Above Average to 49%	7,880	56,722	18,843	\$ 4,783,849	\$605	7	2
	50% or Above	1,115	7,464	2,375	\$612,000	\$548	7	2
	Unknown	433	2,514	759	\$197,411	\$328	4	1
Title I School Eligibility	Not Title I Eligible or Unknown	17,052	136,657	44,492	\$ 10,845,030	\$634	8	3
	Title I Schoolwide	12,186	93,462	31,342	\$ 7,970,095	\$650	8	3
Type of School	Regular School	28,187	222,687	73,380	\$ 18,235,634	\$641	8	3
	Alternative Education School	280	1,516	519	\$117,835	\$418	5	2
	Career, Technical or Vocational Ed. School	338	3,402	1,176	\$264,245	\$692	9	3
	Unknown	433	2,514	759	\$197,411	\$328	4	1

Notes: Race and ethnicity categorizations are based on Federal definitions for aggregated education data for the student's race and ethnicity in their postsecondary data.

**TABLE B-2. Participation in Dual Credit from an Idaho Public Postsecondary Institution and Credits Earned, 2016-17 to 2019-20 (From Dual Credit Course Data)**

Breakout	Category	Students	Credits Earned Per Student		Avg. Percent of Credits Attempted That Were Earned	Total Courses That Earned Credit	Total Credits Earned
			Average	Median			
Overall Total		66,789	10	7	95%	231,753	684,191
Totals by Year	2016-17	20,708	6	5	95%	43,532	134,212
	2017-18	24,479	7	5	96%	55,516	164,000
	2018-19	26,546	7	5	96%	63,045	183,248
	2019-20	28,465	7	5	95%	69,660	202,731
By Years Participated in Dual Credit	Participated 1 years	40,014	5	4	93%	74,099	216,153
	Participated 2 years	20,543	15	13	97%	104,057	309,668
	Participated 3 years	5,798	25	22	98%	48,734	143,733
	Participated 4 years	434	34	31	98%	4,863	14,637
By Gender	Female	37,852	11	7	95%	138,050	409,281
	Male	28,816	10	6	95%	93,484	274,266
	Unknown	121	5	3	98%	219	644
White or Student of Color	White	49,519	11	7	95%	179,488	531,734
	Student of Color	14,022	9	6	93%	43,304	127,390
	Unknown	3,248	8	5	96%	8,961	25,067
Ever Economically Disadvantaged?	Yes	17,945	10	6	93%	60,034	176,459
	No	24,470	13	9	96%	103,937	313,881
	Unknown, not in a graduate cohort	24,374	8	5	95%	67,782	193,851
Highest Course Taken	100 Level	44,724	8	6	94%	116,999	342,674
	200 or Above	22,027	16	12	96%	114,719	341,468
	Unknown	38	1	1	62%	35	49
Took a Math or English Course? Or Only Other Types?	Math & English (and maybe other)	9,568	24	21	97%	75,045	228,686
	Math, No English (and maybe other)	11,921	12	10	97%	44,773	138,709
	English, No Math (and maybe other)	10,766	11	9	94%	41,567	120,939
	No Math or English, Only Others	34,534	6	4	94%	70,368	195,857
GPA of Dual Credit Courses	0 to 0.9	3,166	1	–	35%	1,506	2,103
	1.0 to 1.9	2,767	5	4	83%	5,214	14,020
	2.0 to 2.9	10,034	8	6	93%	27,762	79,911
	3.0 to 3.9	21,641	12	9	99%	85,757	252,939
	4.0	29,181	11	8	100%	111,514	335,218

Notes: Race and ethnicity categorizations are based on Federal definitions for aggregated education data for the student's race and ethnicity in their postsecondary data.

**TABLE B-3. Dual Credit Course Subjects**

	<b>AO-Funded in FY 2020</b>	<b>All Courses 2016-17 to 2019-20</b>
Sciences	13%	18%
Math	15%	12%
English (Composition, Writing, Literature)	13%	12%
History	9%	9%
Foreign Languages	8%	7%
Physical Education, Sports, Health & Well-being	6%	6%
Political Science, Government	5%	5%
Communications	6%	5%
Other, Uncategorized	5%	4%
Allied Health	3%	4%
Keyboarding, Office Applications	3%	3%
Psychology	2%	2%
Economics	2%	2%
Personal Finance	2%	2%
Academic Success Topics	1%	1%
Art, Design, Performance	1%	1%
Sign Language, American Sign Language	1%	1%
Sociology	1%	1%
Business, Management	1%	1%
Computer Sciences, Programming	1%	1%
Emergency Medical Technician	0.2%	0.4%
Engineering, Energy	1%	0.4%
Philosophy, Religion, Ethics	0.2%	0.3%
Accounting	0.3%	0.2%
Welding, Mechanical Repair	0.2%	0.1%
Computer Assisted Design	0.1%	0.1%

Note: WICHE was not able to exhaustively review and categorize all records for this evaluation. Indeterminate and unreviewed course records shown as “Other, uncategorized”.

**TABLE B-4. Idaho Public High School Graduates by Enrollment in Postsecondary Education, Graduating Class, and Dual Credit Participation**

Graduate Cohort	Participated in Dual Credit from an Idaho Public Institution				Did Not Participate				Overall			
	Immediately	Within 2 Years	Within 3 Years	Total	Immediately	Within 2 Years	Within 3 Years	Total	Immediately	Within 2 Years	Within 3 Years	Total
2016-17	4,833	544	403	7,120	3,989	896	516	10,265	8,822	1,440	919	17,385
2017-18	6,214	752	549	10,183	2,676	728	234	8,422	8,890	1,480	783	18,605
2018-19	6,247	1,130		11,396	2,144	587		7,978	8,391	1,717		19,374
2019-20	6,089			12,490	1,690			7,804	7,779			20,294

Notes: Those who enrolled in the subsequent spring term after their high school graduation are considered “Within 2 years”; those who enrolled in the spring term approximately two years after their high school graduation are considered “Within 3 years”. 2018-19 graduates could only be tracked for 2 years, and 2019-20 graduates only for one year, so far.

**TABLE B-5. Immediate College-Going Rates for Idaho Public High School Graduates Who Participated in Dual Credit from an Idaho Public Postsecondary Institution, or Not, 2016–17 to 2019–20**

Category	Subcategory	Dual Credit Participant	Not a Dual Credit Participant	Difference for Dual Credit Participants
<b>Overall</b>	Overall Total	57%	30%	26%
<b>White or Student of Color</b>	White	57%	31%	26%
	Students of Color	56%	28%	28%
<b>Gender</b>	Female	63%	36%	27%
	Male	48%	26%	22%
<b>Ever Economically Disadvantaged</b>	Not Economically Disadvantaged	62%	40%	21%
	Economically Disadvantaged	50%	23%	27%
<b>Highest Dual Credit Course</b>	100 Level	52%	30% (rate for students who did not participate in dual credit)	22%
	200 Level or more	65%		34%
<b>English, Math or Only Other Dual Credit Courses</b>	English Course(s)	65%		35%
	Math Course(s)	64%		34%
	No English Course(s)	51%		21%
	No Math Course(s)	52%		22%
	Only Other Subjects	48%		17%
<b>Dual Credit Course GPA</b>	Dual Credit GPA ~1.0	32%		1%
	Dual Credit GPA ~2.0	46%		15%
	Dual Credit GPA ~3.0	57%		27%
	Dual Credit GPA ~4.0	65%		35%
<b>Number of Years Participated</b>	Dual Credit in only 1 year	52%		22%
	Dual Credit in 2 or more years	62%		31%
<b>Number of Dual Credits Earned</b>	Up to 3 Credits Earned	43%		12%
	4 to 6 Credits	52%		22%
	7 to 9 Credits	57%		27%
	10 to 19 Credits	63%	32%	
	20+ Credits Earned	71%	40%	
<b>Dual Credit Provider</b>	2-year DC Provider (only)	48%	18%	
	4-year DC Provider (only)	62%	31%	
	2-year & 4-year DC Provider	64%	33%	

Notes: Values are across all participants from 2016–17 to 2019–20. Precise percentages in column “Difference for Dual Credit Participants” affected by rounding. Race and ethnicity categorizations are based on Federal definitions for aggregated education data for the student’s race and ethnicity in their postsecondary data.

**TABLE B-6. Percent Change in Go-On Rates Among Dual Credit Participants and non-Participants, From 2016–17 to 2019–20**

Category	Subcategory	Dual Credit Participant	Not a Dual Credit Participant	Difference for Dual Credit Participants
<b>Overall</b>	Overall Total	-19%	-17%	16%
<b>White or Student of Color</b>	White	-19%	-18%	16%
	Students of Color	-19%	-16%	16%
<b>Gender</b>	Female	-18%	-19%	17%
	Male	-19%	-15%	12%
<b>Ever Economically Disadvantaged</b>	Not Economically Disadvantaged	-20%	-19%	12%
	Economically Disadvantaged	-18%	-14%	17%
<b>Highest Dual Credit Course</b>	100 Level	-22%	-17% (rate for students who did not participate in dual credit)	11%
	200 Level or more	-17%		22%
<b>English, Math or Only Other Dual Credit Courses</b>	English Course(s)	-13%		26%
	Math Course(s)	-16%		22%
	No English Course(s)	-23%		9%
	No Math Course(s)	-21%		11%
	Only Other Subjects	-24%		6%
<b>Dual Credit Course GPA</b>	Dual Credit GPA ~1.0	-24%		-7%
	Dual Credit GPA ~2.0	-24%		5%
	Dual Credit GPA ~3.0	-19%		17%
	Dual Credit GPA ~4.0	-17%		22%
<b>Number of Years Participated</b>	Dual Credit in only 1 year	-31%		-1%
	Dual Credit in 2 or more years	-14%		24%
<b>Number of Dual Credits Earned</b>	Up to 3 Credits Earned	-25%		1%
	4 to 6 Credits	-30%	0%	
	7 to 9 Credits	-15%	8%	
	10 to 19 Credits	-24%	13%	
	20+ Credits earned	-16%	25%	
<b>Dual Credit Provider</b>	2-year DC Provider (only)	-23%	7%	
	4-year DC Provider (only)	-17%	20%	
	2-year & 4-year DC Provider	-19%	19%	

Notes: Values are across all participants from 2016–17 to 2019–20. The column “Difference for Dual Credit Participants” is in terms of absolute percent difference, not percentage points. Rates of change for “Dual Credit for 2 or more years” based on only 3 cohorts since 2016–17 graduates were only eligible for AO-funded dual credit for one year. Race and ethnicity categorizations are based on Federal definitions for aggregated education data for the student’s race and ethnicity in their postsecondary data.

**TABLE B-7. Percent Change in Fall-to-Spring Retention Rate Among Immediately Enrolled Dual Credit Participants and non-Participants, from 2016–17 to 2019–20 Cohort**

Category	Subcategory	Dual Credit Participant	Not a Dual Credit Participant
Overall	Overall Total	-5%	-33%
	First Enrolled in 2-year Idaho Public	-7%	-4%
	First Enrolled in 4-year Idaho Public	-7%	-10%
	First Enrolled in Other 2- or 4-year	-1%	-83%
White or Student of Color	White	-4%	-35%
	Students of Color	-9%	-28%
Gender	Female	-5%	-34%
	Male	-5%	-32%
Ever Economically Disadvantaged	Not Economically Disadvantaged	-4%	-38%
	Economically Disadvantaged	-8%	-26%
Highest Dual Credit Course	100 Level	-6%	-33% (rate for students who did not participate in dual credit)
	200 Level or more	-5%	
English, Math or Only Other Dual Credit Courses	English Course(s)	-4%	
	Math Course(s)	-3%	
	No English Course(s)	-7%	
	No Math Course(s)	-7%	
	Only Other Subjects	-8%	
Dual Credit Course GPA	Dual Credit GPA ~1.0	-15%	
	Dual Credit GPA ~2.0	-10%	
	Dual Credit GPA ~3.0	-8%	
	Dual Credit GPA ~4.0	-2%	
Number of Years Participated	Dual Credit in only 1 year	-9%	
	Dual Credit in 2 or more years	-5%	
Number of Dual Credits Earned	Up to 3 Credits Earned	-8%	
	4 to 6 Credits	-8%	
	7 to 9 Credits	-12%	
	10 to 19 Credits	-6%	
	20+ Credits Earned	-6%	
Dual Credit Provider	2-year DC Provider (only)	-5%	
	4-year DC Provider (only)	-8%	
	2-year & 4-year DC Provider	-5%	

Note: Values are across all participants from 2016–17 to 2019–20. Given the steep decreases in the fall-to-spring retention rates among students who had not participated in dual credit with the 2019–20 cohort, on average, dual credit participants received an 84% “advantage” in terms of spring 2021 retention (i.e., the difference of 5% and 33% decrease is 84%). Rate of change for “Dual Credit for 2 or more years” based on only 3 cohorts since 2016–17 graduates were only eligible for AO-funded dual credit for one year. Race and ethnicity categorizations are based on Federal definitions for aggregated education data for the student’s race and ethnicity in their postsecondary data.

**TABLE B-8. First Semester GPA of Idaho Public High School Graduates Who Enrolled in the Immediate Fall Term (“Go-on” Students)**

		Participated in Dual Credit	Did Not Participate	Participated in Dual Credit	Did Not Participate	Dual Credit Difference
Overall	OVERALL	3.0	2.6	16,080	7,131	14%
Graduating Cohort	2016-17	3.0	2.7	3,363	2,798	11%
	2017-18	3.0	2.6	4,352	1,923	16%
	2018-19	3.0	2.6	4,395	1,452	17%
	2019-20	3.0	2.5	3,970	958	16%
Institution Level First Enrolled	Idaho Public 2-year	2.9	2.6	5,415	3,469	12%
	Idaho Public 4-year	3.0	2.6	10,651	3,658	15%
Gender	Female	3.0	2.7	9,943	3,451	12%
	Male	2.9	2.5	6,137	3,680	14%
White or Student of Color	White	3.0	2.6	12,376	5,372	14%
	Students of Color	2.9	2.5	3,704	1,759	14%
Race/Ethnicity	White	3.0	2.6	12,376	5,372	14%
	Hispanic	2.9	2.5	2,660	1,259	14%
	Two or more	2.9	2.5	371	164	16%
	Asian	3.1	2.8	334	127	11%
	AI/AN	2.5	2.4	124	68	4%
	Black	2.8	2.4	164	123	17%
	NH/OPI	2.7	2.7	51	18	1%
Economically Disadvantaged or Not	Not Econ. Disadvantaged	3.1	2.7	9,513	3,775	14%
	Econ. Disadvantaged	2.9	2.5	6,567	3,356	13%
Number of Years Participated in Dual Credit	Participated 1 Years	2.9		7,855		10%
	Participated 2 Years	3.0		6,005		16%
	Participated 3 Years	3.2		2,066		21%
	Participated 4 Years	3.1		154		19%
Dual Credit Course GPA	0 to 0.9	2.6	2.6 overall, for those who did not participate in dual credit	316	7,131 who did not participate in dual credit	-2%
	1.0 to 1.9	2.3		418		-11%
	2.0 to 2.9	2.5		2,274		-4%
	3.0 to 3.9	2.8		6,165		8%
	4.0	3.3		6,907		27%
Highest Dual Credit Course Taken	100-Level Course	2.9		9,598		11%
	200-Level or Higher	3.1		6,477		18%
Math, English or Only Other Dual Credit Courses	Math & English	3.2		3,691		22%
	English no Math	2.9		3,664		12%
	Math No English	3.1		3,009		19%
	Only Other Subjects	2.8		5,716		7%
Level of Dual Credit Provider	2-year Provider Only	2.9		5,950		11%
	4-year Provider Only	2.9		4,443		12%
	Both	3.1		5,687		18%

# Appendix C: Technical Details

Here are ways in which the raw data records that WICHE received were refined for the analysis.

## **Dataset 1: Payments Data from the Advanced Opportunities Portal**

Of the 78,144 records, 994 were excluded from the analysis that were not indicated as paid (variables CourseStatus was other than "Paid") or had a school year value other than 2019-20 (1.3% of records).

## **Dataset 2: Dual Credit Course Activity**

There were 337,023 dual credit course records in the received Dataset 2. Note: a student or course record which was removed from the primary analysis may be represented in one or more of the following categories.

- 19,854 records (6%) were removed from the analysis of dual credit earning and the definition of dual credit-earning students postsecondary outcomes, for which the variable Credit\_hrs was equal to 0 (variable credits\_earned=0 for all of these records). SBOE explained that common reasons for this data circumstance were that the course was a lab associated with another credit-earning course, or a course 're-take'. They were removed because this field indicated the number of credits possible for the course. Retaining these records for which apparently no credit could be earned would impact the credit-earning statistics.
  - But, 16,402 other records with variable Credits\_earned=0, but a valid value for Credit\_hrs, were retained.
- 2,146 records (1%) were removed from this analysis, for which variable Credits\_earned was missing/NULL. A valid value of zero or greater was required for credit-earning statistics.
- Data outside of the 2016–17 to 2019–20 timeframe was also provided in Dataset2. That is, courses with a value of 2020–21 or 2021–22 for variable PS\_academic\_year, which related primarily to students not identified as yet being high school seniors (no assigned value for variable cohort\_year). There were 66,093 such course records, which were removed from the analysis for this evaluation.
- Among students identified as high school seniors by virtue of having an assigned Cohort\_year, there were 8,384 records (3%) that were taken in a school year after the student's high school graduation. Per Idaho State Board of Education staff "There are cases where an institution marks a student as dual credit after the student leaves high school – [Idaho State Board of Education staff] did not override what they sent." These records were excluded from analysis.

## **Dataset 3: Postsecondary Outcomes for Public High School Graduates**

There were records included in the provided dataset that were indicated as 'not high school graduate'. Upon confirmation from Idaho State Board of Education staff, all 'not high school graduates' were excluded from the postsecondary outcomes analysis (including 1,097 who had participated in dual credit).