



DUAL CREDIT REPORT

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Idaho State Board of Education Research Report: Dual Credit

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Table of Contents

Executive Summary	2
<u>Methodology</u>	6
Background	8
<u>Overview:</u> Advanced Opportunities Dual Credit at the Public Postsecondary Institutions in FY2020	.11
<u>Analysis of Impact:</u> Examination of the Impact of Changes in the Advanced Opportunities Program	.16
<u>Outcomes:</u> Dual Credit Grades Earned, Postsecondary Enrollment, and Time to Completion of Degree	.20
Conclusions	28
Appendix	.29



66

Students who took dual credit through the public system were overwhelmingly successful in their courses.

Executive Summary

Idaho Students Are Increasingly Pursuing Dual Credit¹

In FY2017, this trend was accelerated with the implementation of the current form of the Advanced Opportunities² (AO) program. In this program, Idaho students are allocated \$4,125 to spend on AO between seventh and twelfth grades.³ While students can choose from several different types of AO, more students participate in the dual credit part of the program than in all the other parts of the program combined.

Dual Credit Courses Are Overwhelmingly Taken Through One of Idaho's Eight Public Postsecondary Institutions⁴

Eighty-seven percent of the credits attempted through AO in 2019-2020 were attempted through one of these institutions.⁵ Seventy-nine percent of students who took AO dual credit in that time period took all of their courses through the public system; 93 percent of AO dual credit students took at least one course through the public system.

¹ Dual credit courses are college level courses taken by junior high/high school students. A student receives both high school and college credit for a dual credit course.

- ² Advanced Opportunities encompasses Advanced Placement exams, International Baccalaureate exams, Professional Certification Exams, and College Level Examination Program exams. It also includes Overload Courses, Dual Credit, Workforce Training Courses, and the Early Graduation Scholarship.
- ³ Very few students take dual credit courses prior to 9th grade. In FY20, a total of 175 dual credits were attempted by students in the 7th and 8th grades compared to 49,851 dual credits attempted by students in the 9th and 10th grades and 183,809 dual credits attempted by students in the 11th and 12th grades.
- ⁴ The 8 public postsecondary institutions in Idaho are Boise State University, Idaho State University, Lewis-Clark State College, University of Idaho, College of Eastern Idaho, College of Southern Idaho, College of Western Idaho, and North Idaho College.
- ⁵ Northwest Nazarene University accounted for 12 percent of AO dual credits attempted. The remaining 1 percent were spread out over several institutions.

Most dual credits attempted at the public institutions by AO dual credit students were academic dual credits rather than Career Technical Education (CTE)

We were able to identify 189,917 AO dual credits as academic and 7,612 as (CTE).⁶ There were 148,045 credits attempted in General Education Matriculation⁷ (GEM) courses. The most common type of GEM courses attempted were Social and Behavioral Ways of Knowing courses; the least common type of GEM courses attempted were Oral Communication GEM courses (see appendix for the two most common courses in each GEM category).

Students Who Took Dual Credit Through the Public System Were Overwhelmingly Successful in Their Courses

Ninety-four percent of credits attempted were awarded a grade of C- or better. Students were slightly more likely to be successful in academic courses (94 percent of credits were at a C- or better) than CTE courses (91 percent of credits were at a C- or better).⁸ Students were less likely to be successful in Oral Communication GEM Courses – only 91 percent of credits were at a C- or better compared to 94 to 95 percent of credits in other types of GEM Courses.⁹

Students Who Took Dual Credits Were Less Likely to Be Economically Disadvantaged Than Students Statewide

However, there was not a difference in economic disadvantage status for students who took dual credits and the students who attended the same schools. This suggests some of the difference in access to dual credit is between schools and not between students within a particular school. Students who took dual credit were more likely to be white and less likely to be Hispanic compared to both students statewide and students who attended the same schools.¹⁰ None of the differences for other race groups were statistically significant. Finally, females were more likely to take dual credits than males. The difference between the share of males in schools that offer dual credit and the share of males who take dual credit (8 percentage points) is larger than the difference between other groups (0 percentage point difference for economically disadvantaged students and 3 percentage points for Hispanic students).

There Were Differences Between Groups of Students in Terms of What Types of Dual Credit Courses Students Took

Economically disadvantaged students were slightly more likely to choose CTE courses when compared to their non-economically disadvantaged schoolmates. Males were also more likely to choose CTE courses when compared to their female schoolmates. Finally, there were differences between students of different race/ethnicities. Multi-race students were more likely to take CTE courses compared to their white schoolmates while Asian and American Indian students were less likely to take CTE courses when compared to their white schoolmates.

⁶ We were unable to match all AO records to institution records. We could not match approximately 5,400 credits which means we could not classify those credits as either academic, CTE, or GEM. We could also not report on grades for these credits.

⁷ General education courses constitute thirty-six (36) or more credits of all Associate of Arts, Associate of Science, and Baccalaureate degrees awarded in Idaho. Under Idaho's general education framework, at least thirty (30) credits must come from General Education Matriculation (GEM) courses that fall within one of six (6) competency areas: Written Communication; Oral Communication; Mathematical Ways of Knowing; Humanistic and Artistic Ways of Knowing; Scientific Ways of Knowing; and Social and Behavioral Ways of Knowing.

⁸ This difference is statistically significant (p=0.029).

⁹ This difference is statistically significant (p=0.068).

¹⁰ This differences for white and Hispanic students are all statistically significant with p=0.000.

Demographic	<i>More Likely</i> to Take Dual Credit CTE Courses	Less Likely to Take Dual Credit CTE Courses
Gender	Males	Females
Economic Disadvantage	Economically disadvantaged students	NOT economically disadvantaged students
Race/Ethnicity	Multiracial students (as compared to white students)	Asian & American Indian students (as compared to white students)

For students who took academic courses, economically disadvantaged students were slightly less likely to take GEM courses (courses accepted across all eight public institutions) than their schoolmates who were not economically disadvantaged. Hispanic, Asian, and Black students were less likely to take GEM courses than their white schoolmates. There was no difference between males and females in terms of taking GEM courses.

Demographic	<i>More Likely</i> to Take GEM Courses	<i>Less Likely</i> to Take GEM Courses
Gender	No gender difference	No gender difference
Economic Disadvantage	NOT economically disadvantaged students	Economically disadvantaged students
Race/Ethnicity	No races/ethnicities were more likely to take GEM courses than white students	Hispanic, Asian, & Black students (when compared to white students)

Different Types of Students Had Different Dual Credit Course Outcomes

Economically disadvantaged students were slightly less likely to earn a grade of C- or better in their courses (90 percent) compared to students who were not economically disadvantaged (95 percent).¹¹ Hispanic students were less likely to earn a grade of C- or better in their courses (91 percent) than white students (95 percent), as were American Indian students (88 percent) and multi-race students (93 percent).¹² Asian students (97 percent) were more likely than white students to earn a grade of C- or better. Male students were less likely (93 percent) to earn a grade of C- or better than female students (95 percent).¹³

¹¹ This difference is statistically significant with p = 0.000.

¹² These differences are statistically significant with p=0.000 (Asian students, Hispanic students and American Indian students), p=0.002 (Multi-race students).

¹³ This difference is statistically significant with p = 0.000.

Demographic	<i>More Likely</i> to Earn a Grade of C- or Better in Dual Credit Courses	<i>Less Likely</i> to Earn a Grade of C- or Better in Dual Credit Courses
Gender	Females	Males
Economic Disadvantage	NOT economically disadvantaged students	Economically disadvantaged students
Race/Ethnicity	Asian students (when compared to white students)	Hispanic, American Indian, & multiracial students (when compared to white students)

Implementation of the Current Advanced Opportunities Program Did Make Dual Credit More Accessible to All Students

We compare the share of 2015-16 graduates who earned dual credit with the share of 2019-20 graduates who earned dual credit by demographic group (economic disadvantage, gender, race/ ethnicity) and by district location (education region and district locale). The graduating class of 2019-20 was the first class to have spent all four years of high school under the current form of the AO program. The graduating class of 2015-16 was the last class to have graduated prior to the implementation of the current AO program. We show all groups of students were more likely to earn dual credit and most groups earned more dual credits under the current AO program than under the old version of the program.¹⁴ However, some groups did not utilize the expansion as much as other groups. There is concern that American Indian students did not utilize the expansion of AO and that they also earn lower grades in dual credits. More research should be done to better understand these dynamics.

We examine the educational outcomes of students after high school graduation. As discussed above, the first class who benefited from the current Advanced Opportunities program for all years of high school graduated in 2019-20. This means we have limited information on the outcomes of students who fully participated in Advanced Opportunities. We do show that students from this class who earned dual credits were more likely to go to college the fall immediately after high school graduation than students who did not earn dual credit. This parallels findings from earlier graduating classes.

We have more complete data on outcomes for students who earned at least some of their dual credits under previous versions of the Advanced Opportunities program. We examine the outcomes of students after high school graduation and find that students who earn more dual credits in high school are more likely to go-on to college and earn college degrees in fewer years than students who earn no or few dual credits in high school.

¹⁴ We only have sufficiently detailed data on dual credits earned at high school graduation in the 8 public postsecondary institutions in Idaho.

Methodology

Data Sources for the 2020 Dual Credit Report

- Data from the State Department of Education (SDE) regarding administration of the Advanced Opportunities program
- Data compiled from a State Board of Education data request to the public postsecondary institutions for the dual credits earned in the 2019-20 academic year to match with the Advanced Opportunities data
- Data from the annual dual credit reports submitted by Idaho's public postsecondary institutions to the Office of the State Board of Education to show dual credits earned and students served at each of those institutions
- Data from the Postsecondary Measures of Academic Progress (PMAP)¹⁵ to characterize secondary student demographics, go-on rates¹⁶, college degree attainment and the number of dual credits earned

We have detailed data on course outcomes that were taken from the 8 public postsecondary institutions. We have more limited data outside of these institutions. This is not a shortcoming of the data, rather, it reflects the fact that the State Board of Education has oversight over the public postsecondary institutions and, thus, can gather detailed data from those institutions that is not available from other sources.

Our program totals do not necessarily match those from the SDE's annual Advanced Opportunities report. The Advanced Opportunities report includes data as it relates to funding requests. We used the same underlying data but we used slightly different definitions due to the different focus of the reports. For instance, we only count a course once for the same term, same institution, and same student regardless of whether or not the student moved high schools and took the course at both schools. We also only count courses for which AO payments were made – we excluded courses from our analysis in which payment was denied.

In many ways, this serves as a proof of concept on the type of analysis that can be done by combining the data used to administer the Advanced Opportunities program with course level data in PMAP. This matching was only made possible this year due to a change in how the course names were collected in the Advanced Opportunities administrative data.¹⁷ In order to make matching easier in the future, common academic terms should also be gathered from K-12 and postsecondary data sources.

In conducting this study, we test whether or not differences between groups are statistically significant.¹⁸

¹⁵ PMAP is the state's postsecondary longitudinal data system.

¹⁶ The go-on rate is the rate at which high school graduates go-on to college. Go-on rates as measured at several intervals – the fall immediately after high school graduation, within one year of high school graduation, and within three years of high school graduation.

¹⁷ Much appreciation is extended to the SDE Advanced Opportunities staff who made this change.

¹⁸ We use a z-test to determine statistical significance. A z-test is used instead of a t-test because the differences between groups are differences in proportions (such as the proportion female or the proportion who go-on to college). We report differences as statistically significant for levels of 0.10 or lower.

Finally, the results from the analysis on student outcomes should not be interpreted as causal. While students who earn more dual credits are more likely to go-on and earn an associate or bachelor degree than students who earn few or no dual credits, these differences are not necessarily caused by the differences in dual credits earned. Students who are more likely to go-on and earn a degree may also be more likely to earn dual credits. In-depth statistical modeling would be necessary to better understand the degree to which the relationship observed is causal versus correlative.

Background

Advanced Opportunities Program

Idaho's AO program was instituted in its current form on July 1, 2016. It merged several already existing programs (specifically, 8 in 6; Dual Credit for Early Completers; Fast Forward; and the Mastery Advancement Program). The current AO program authorizes for every public school student in grades 7 through 12 up to \$4,125 to spend on Advanced Opportunities.¹⁹ All local education agencies (LEAs) are required to offer at least one AO.²⁰ Not all LEAs offer all AO programs. Therefore, students may be constrained in their choice of which AO program to pursue based on the school district or charter school they attend.

Dual credit is by far the largest component of the AO program. According to the SDE's annual Advanced Opportunities Program report, 29,768 students enrolled in dual credit courses out of the 39,304 total program in FY20.²¹ Furthermore, 87% of the dual credits attempted (204,437 out of 235,382.5) were attempted at Idaho's public postsecondary institutions.²²

As mentioned above, these totals include

Institution	Amount	Unduplicated Credits	Unduplicated Headcount ²⁴
BSU	\$2,390,847	31,999	6,822
ISU	\$1,821,526	24,388	3,744
LCSC	\$561,013	7,509	1,229
UI	\$860,760	11,498	2,331
CEI	\$198,161	2,651	537
CSI	\$3,141,298	42,154	7,640
CWI	\$4,833,024	64,848	11,716
NIC	\$1,319,941	17,883	1,888
NNU	\$2,096,976	28,061	5,894
TVCC	\$98,725	1,517	246
Utah St	\$70,050	935	140
BYU-I	\$15,768	324	51
Other	\$11,485	68	49
Total	\$17,419,573	233,835	

Table 1. Advanced Opportunities dual credit by institution, FY20²³

some duplicate courses and some courses that were denied payment. If we only counted nonduplicate courses that had positive payment, then there were a total of 29,672 students enrolled in dual credit courses for a total of 233,835 credits. Table 1 shows the unduplicated headcount for the largest participating institutions along with the amount paid and total unduplicated credits. Neither the credits or the headcount reported for each institution match what is reported later on this paper. The data in Table 1 reflects credits attempted. Other institution-specific data in this report reflect credits earned for courses we were able to match.

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¹⁹ Advanced Opportunities programs are identified in Section 33-4602, Idaho Code.

²¹ Advanced Opportunities, Annual Totals FY 20, https://www.sde.idaho.gov/student-engagement/advanced-ops/files/reporting/ FY2020-Advanced-Opportunities-Program-Totals.pdf, downloaded December 12, 2020.

²² Ibid.

²³ Note that totals for BYU-Idaho do not match those reported by SDE in the annual report. Some schools entered variants of the school's name instead of choosing the name from the dropdown menu. The totals reported here contain all reasonable variants of the institution's name.

²⁴Students are unduplicated for each institution but may be duplicated across institutions. Therefore, a total is not shown.

²⁰ Pursuant to IDAPA 08.02.03.106.

Advanced Opportunity Populations vs. Statewide Student Population (7th-12 Graders)

Table 2. The table below highlights student demographic groups that are **underrepresented** (using an alpha of 0.10) in each Advanced Opportunities program when compared to the average statewide population of 7th-12th graders in each demographic group. Data is for FY20.

	Economically Disadvantaged	Male	White	Hispanic	Asian	Black	American Indian	Other race
Statewide weighted grade 7-12 population	25%	51%	75%	18%	1%	1%	1%	3%
AO Dual Credit	22%	43%	80%	14%	2%	1%	1%	3%
	p=0.000	p=0.000	p=0.000	p=0.000	p=0.469	p=0.478	p=0.359	p=0.481
AO AP	14%	45%	81%	10%	4%	1%	0%	3%
	p=0.000	p=0.000	p=0.000	p=0.000	p=0.025	p=0.809	p=0.514	p=0.830
AO CTE Exams	31%	39 %	74%	20%	1%	1%	1%	3%
	p=0.011	p=0.000	p=0.566	p=0.334	p=0.936	p=0.839	p=0.998	p=0.911

Table 2 compares the demographic characteristics of students who participated in Advanced Opportunities dual credit to those students who participated in Advanced Opportunities Advanced Placement (AP) and Advanced Opportunities Professional Certification (CTE) Exams. These comparisons are shown in order to give context to the types of students served by Advanced Opportunities dual credit in comparison to two of the other popular Advanced Opportunities programs. All three programs are compared to the weighted statewide grade 7 to 12 population. The weights reflect the degree to which students statewide in each grade participate in any one of the three programs.

While 25 percent of the underlying statewide population are economically disadvantaged, only 22 percent of the students participating in AO dual credit are so.²⁵ Males are underrepresented in all three programs compared to the underlying population. Economically disadvantaged students and Hispanic students are underrepresented in both the AO dual credit and AO AP programs while white students are overrepresented. Asian students are overrepresented in AO AP. AO CTE Exams is different than the other programs in that economically disadvantaged students are overrepresented in it. However, as discussed above, not all schools offer all AO programs. It could be that economically disadvantaged students are underrepresented in AO dual credit because the schools that choose AO dual credit have less economically disadvantaged students than the underlying population. The following section examines that explanation.

Advanced Opportunity Populations vs. Population of Schools Participating in Advanced Opportunities

Table 3. The table below highlights student demographic groups that are **underrepresented** (using an alpha of 0.10) in each Advanced Opportunities program when compared to the average population of students in schools that participate in Advanced Opportunities. Data is for FY20.

	Economically Disadvantaged	Male	White	Hispanic	Asian	Black	American Indian	Other race
Weighted AO Dual Credit	22%	51%	76%	17%	1%	1%	1%	3%
AO Dual Credit	22%	43%	80%	14%	2%	1%	1%	3%
	p=0.220	p=0.000	p=0.000	p=0.000	p=0.612	p=0.506	p=0.623	p=0.613
Weighted AO AP	19%	52%	76%	15%	2%	2%	1%	3%
AO AP	14%	45%	81%	10%	4%	1%	0%	3%
	p=0.000	p=0.000	p=0.000	p=0.000	p=0.161	p=0.296	p=0.797	p=0.957
Weighted AO CTE Exams	23%	48%	74%	20%	1%	1%	1%	3%
AO CTE Exams	31%	39%	74%	20%	1%	1%	1%	3%
	p=0.000	p=0.000	p=0.877	p=0.822	p=0.983	p=0.961	p=0.937	p=0.870

Table 3 replicates Table 2 except, instead of using statewide weights, program weights are used. In other words, the weighted population reflects the schools that offer the program and reflect the degree to which the program is utilized in the school. As can be seen, AO dual credit reflects the economically disadvantaged population of the schools which utilize it. The rest of the differences noted between the programs and the statewide populations still hold. See the appendix for counts of schools offering the different Advanced Opportunities programs and the district locales and regions where they are located.

Overview Advanced Opportunities Dual Credit at the Public Postsecondary Institutions in FY2020



The rest of this report focuses on the intersection between the Advanced Opportunities program and dual credit at the postsecondary institutions. Students may also participate in Advanced Opportunities dual credit at private or out-of-state institutions. Similarly, students may participate in dual credit at the public postsecondary institutions without going through the Advanced Opportunities program.

Figure 1 shows the number of students who earned dual credits at each public institution in FY2020²⁶ as well as the number of students who earned dual credits through the Advanced Opportunities program at each institution in FY2020. The vast majority of students who earn dual credits at the public postsecondary institutions do so through the Advanced Opportunities program. Across the institutions, there were a total of 27,814 students who earned dual credits. Of those, 26,070 (94 percent) did so through Advanced Opportunities.²⁷

²⁶ Students may earn dual credits at more than one institution. Therefore, aggregating students across institutions will overstate the number of unique students who earned dual credits. Credits are counted as earned if a grade of D- or higher was earned. In some cases, D grades may be applied to a student's elective coursework.

²⁷ We were able to match 97 percent of records from the Advanced Opportunities administrative data to institution level data. There was disparity between institutions. We were unable to match 10 percent of records for CEI, 7 percent for ISU, 6 percent for CSI, 3 percent for NIC, 2 percent for LCSC and UI, 1 percent for CWI, and 0.1 percent for BSU.

Figure 3. Number of Academic Figure 4. Number of CTE Dual CTE Academic Dual Credits Earned Through the Credits Earned Through the 5 Advanced Opportunities Program Advanced Opportunities Program and Total Academic Dual Credits and Total CTE Dual Credits Earned **Dual Credits Dual Credits** Earned at Each Idaho Public at Each Idaho Public Institution in Institution in FY20 FY20 Four-Year School Two-Year School Four-Year School Two-Year School Academic dual credits matched to Advanced Opportunities records 2.275 2,061 80K CTE dual credits matched to 62,051 5 CWI 60K 1,007 36,743 897 40K 30,746 678 S 21,274 14.040 164 10,915 20K 6.101 1.700 CWI Ŀ 0K 2,382 2,260 65,114 **CWI** ß Total academic dual credits **Total CTE dual credits** 60K 2K 38,991 1,059 961 883 40K 31,836 1K 22,691 209 15,929 11,273 20K 7.777 CWI 206 0K Ę LCSC NIC CSI CEI ISU CWI 0K

In FY2020, there were 203,571 dual credits earned at Idaho's public postsecondary institutions (see Figure 2). Of those, we identified 190,652 as earned through the Advanced Opportunities program.²⁸ Community colleges awarded the majority of Advanced Opportunities dual credits (students earned 119,712 dual credits at two-year institutions and 70,940 at four-year institutions). The College of Western Idaho alone accounted for one-third of the total Advanced Opportunities dual credits earned in FY20.

BSU

ISU

UI

LCSC

CWI

CSI

NIC

CEI

The vast majority of the dual credits earned in FY20 were academic dual credits. Of the 190,652 Advanced Opportunities dual credits earned, 183,570 (96 percent) were academic and 7,082 (4 percent) were CTE. Community colleges awarded about 65 percent more academic dual credits and 172 percent more career technical dual credits than four-year institutions. While the College of Western Idaho provided the most academic Advanced Opportunities dual credits across all institutions, it provided the fewest career technical Advanced Opportunities dual credits across institutions that provided them. The College of Southern Idaho and North Idaho College provided the most earned career technical Advanced Opportunities dual credits. Those two institutions accounted for 60 percent of the career technical dual credits earned in the Advanced Opportunities program in FY20.

²⁸ Students may have paid for dual credits themselves. We were also not able to match all AO dual credits to the institution data.

Table 4. The table below highlights student demographic groups that are significantly **underrepresented** (using an alpha of 0.10) in Advanced Opportunities programs when compared to each underlying participating school population. Data is for FY20.

Institution	Population	Economically Disadvantaged	Male	White	Hispanic
BSU	Weighted underlying population	17%	49 %	72%	16%
	AO Dual credit population	17%	42 %	79%	13%
		p=0.994	p=0.000	p=0.000	p=0.019
ISU	Weighted underlying population	24%	50%	80%	13%
	AO Dual credit population	19%	42 %	84%	10%
		p=0.002	p=0.000	p=0.011	p=0.051
LCSC	Weighted underlying population	21%	52%	83%	8%
	AO Dual credit population	22%	36%	85%	6%
		p=0.722	p=0.000	p=0.436	p=0.651
UI	Weighted underlying population	19%	51%	81%	10%
	AO Dual credit population	15%	41 %	85%	9 %
		p=0.061	p=0.000	p=0.032	p=0.549
CEI	Weighted underlying population	26%	50%	80%	14%
	AO Dual credit population	21%	37%	86%	9 %
		p=0.195	p=0.001	p=0.163	p=0.251
CSI	Weighted underlying population	30%	50%	73%	22%
	AO Dual credit population	27%	40%	77%	18%
		p=0.009	p=0.000	p=0.000	p=0.006
CWI	Weighted underlying population	20%	51%	75%	19%
	AO Dual credit population	20%	43%	79%	15%
		p=0.769	p=0.000	p=0.000	p=0.000
NIC	Weighted underlying population	18%	52%	86%	7%
	AO Dual credit population	19%	41%	89%	6%
		p=0.920	p=0.000	p=0.265	p=0.662

Table 4 replicates the analysis done for the Advanced Opportunities programs in terms of student demographics. It shows the demographic characteristics of the weighted population of schools served by each postsecondary institution and the demographic characteristics of the students served by each postsecondary institution. It only shows White and Hispanic groups due to small sample sizes for other races.

There are differences between the institutions both in terms of the demographics of their dual credit

students and in how closely those students represent the underlying population. UI serves the smallest share of economically disadvantaged students (15 percent) while CSI serves the largest share (27 percent). Neither one is quite at parity with the underlying population. The institutions are more balanced regarding the share of males in their dual credit programs. The two outliers which regard to gender are LCSC (36 percent) and CEI (37 percent). However, none of the institutions are at parity with regard to gender. NIC serves the smallest share of Hispanic students (6 percent) while CSI serves the largest share (18 percent). NIC is balanced in how representative their students are of the underlying population while CSI is not quite.

Table 5. Credits earned by course type and institution

			Four-Yea	r Schools		Two-Year Schools			
		BSU	ISU	LC State	UI	CEI	CSI	CWI	NIC
Academic Credits	Academic non-GEM courses	11,714	6,668	815	3,184	117	10,763	4,344	3,122
Greats	Humanistic and Artistic Ways of Knowing	6,895	3,556	447	2,117	51	1,759	9,295	3,021
	Mathematical Ways of Knowing	1,598	3,136	954	1,673	120	4,702	12,063	676
	Oral Communication	9	405	216	76	84	1,995	5,357	1,554
	Scientific Ways of Knowing	4,251	1,464	1,044	1,345	118	5,941	10,919	1,023
	Social and Behavioral Ways of Knowing	4,953	4,212	1,263	1,077	546	8,184	15,321	2,979
	Written Communication	1,326	1,833	1,362	1,443	664	3,399	4,752	1,665
	Total Academic Credits	30,746	21,274	6,101	10,915	1,700	36,743	62,051	14,040
CTE Credits	Mathematical Ways of Knowing			256					
orcuito	Scientific Ways of Knowing						56		
	CTE Non-GEM courses		1,007	641		678	2,005	164	2,275
	Total CTE credits		1,007	897		678	2,061	164	2,275
All Credits	Total credits earned	30,746	22,281	6,998	10,915	2,378	38,804	62,215	16,315

Table 6. Share of credits earned by course type and institution

		F	- our-Yea	r Schools	6	Two-Year Schools			
		BSU	ISU	LC State	UI	CEI	CSI	CWI	NIC
Academic	Academic non-GEM courses	38%	30%	12%	29%	5%	28%	7%	19%
	Humanistic and Artistic Ways of Knowing	22%	16%	6%	19%	2%	5%	15%	19%
	Mathematical Ways of Knowing	5%	14%	14%	15%	5%	12%	19%	4%
	Oral Communication	0%	2%	3%	1%	4%	5%	9%	10%
	Scientific Ways of Knowing	14%	7%	15%	12%	5%	15%	18%	6%
	Social and Behavioral Ways of Knowing	16%	19%	18%	10%	23%	21%	25%	18%
	Written Communication	4%	8%	19 %	13%	28%	9%	8%	10%
	Total Academic Credits	100%	95%	87%	100%	71%	95%	100%	86%
CTE	Mathematical Ways of Knowing			4%					
	Scientific Ways of Knowing						0%		
	CTE Non-GEM courses		5%	9%		29%	5%	0%	14%
	Total CTE credits		5%	13%		29%	5%	0%	14%

There are also differences between the institutions in the type of courses in which dual credits are earned through the Advanced Opportunities program (see Tables 5 and 6). Generally, a greater percentage of credits earned are in GEM courses at the two-year institutions than at the four-year institutions. The two outliers are CSI and LCSC. Due to the concentration of GEM courses in the institutions offering the most dual credits, 75 percent of credits earned are GEM courses. Overall, 21 percent of credits earned are in academic non-GEM courses and 4 percent are in CTE courses.

Analysis of Impact

Examination of the Impact of Changes in the Advanced Opportunities Program

The Advanced Opportunities program was dramatically changed in 2016. Students who graduated in 2015-16 were the last group who graduated prior to implementation of the changes; students who graduated in 2019-20 were the first group who graduated having four years access to the current program.

To understand how the change in the program affected different groups of students, Figure 6 shows the share of high school graduates who earned dual credits and the amount of dual credits they earned for both of those years.²⁹ There was a 17 percentage point increase in the share of students who graduated earning dual credits between those two graduating classes. Both average and median dual credits earned increased by about 3 credits.

Figure 5. Average and median number of credits earned for the graduating classes of **2016** and **2020**



Figure 6. Comparison of the share of high school graduates earning dual credit by the number of credits earned for the graduating classes of **2016** and **2020**



Dual Credits Earned and Economic Disadvantage

Both economically disadvantaged and non-economically disadvantaged students benefited from the implementation of the current program. Non-economically disadvantaged students saw an 18 percentage point drop in students who earned no dual credit versus a 17 percentage point drop for economically disadvantages students; an increase of 3.46 credits in average credits versus 2.95; and an increase of 3 credits in median credits earned versus 2 credits.

Figure 7. Comparison of the share of high school graduates earning dual credit by economic status and by the number of dual credits earned for the graduating classes of **2016** and **2020**



Dual Credits Earned and Gender

Both male and female students benefited from the expansion of the program. Female students benefited slightly more than male students. There was a roughly equivalent decrease in the share of graduates who earned no dual credit (18 percentage points for females, 17 percentage points for males). Females had a slightly larger increase in the average dual credits earned than males (3.8 versus 2.6) and a slightly larger increase in the median dual credits earned than males (4 versus 3).

Figure 8. Comparison of the share of high school graduates earning dual credit by gender and by the number of dual credits earned for the graduating classes of **2016** and **2020**



Dual Credits Earned and Race/Ethnicity

Due to small sample sizes, we only considered four race/ethnicity groups in this section of the paper. In order to make the data between the different years as comparable as possible, we did not compute an indicator for multi-race students. Rather, we counted them in every category they chose with the exception of Hispanic students. If a student indicated they were Hispanic, that is the only group they appeared in. This methodology differs from the methodology used in other sections of the paper.

Asian students saw the largest decline in the share of students who graduated without earning dual credits (23 percentage points). Hispanic students also saw a relatively large decline (20 percentage points). American Indian students saw the smallest decline (10 percentage points). Asian students also saw the largest increase in average dual credits earned (3.86) while American Indian students saw the smallest increase (0.24). It appears that American Indian students benefited the least amount from the expansion of the program. More research needs to be done to better understand this dynamic.

Figure 9. Comparison of the share of high school graduates earning dual credit by race/ethnicity and by the number of dual credits earned for the graduating classes of **2016** and **2020**



Outcomes

Dual Credit Grades Earned, Postsecondary Enrollment, and Time to Completion of Degree

The first outcome of interest for students who take Advanced Opportunities dual credit is those students' outcomes in the courses. Table 7 shows the share of dual credits by grade earned for those credits taken through Advanced Opportunities in FY2020. Not all courses from the Advanced Opportunities data was matched to the data on grades so total credits reported in this section may not match total credits in other sections of the paper.

Dual Credit Grades by Course Type

Table 7. Dual credit grades earned for students participating in Advanced Opportunities dual credit overall and by specific course type, FY20³⁰

Grade Category	Academic courses	Total	All courses	Humanistic and Artistic Ways of Knowing	Mathematical Vays of Knowing	Dral Communication	scientific Ways add a	Social and 3ehavioral Ways of Knowing	Vritten Communication
Grade of a C- or better (including passes)	94%	91%	94%	95%	95%	91%	95%	94%	95%
Grade of a D+/D/D-	2%	2%	2%	2%	2%	3%	3%	3%	1%
Grade of an F or X or did not pass	2%	2%	2%	2%	1%	4%	1%	2%	2%
Did not complete or withdrew	1%	3%	1%	1%	1%	1%	1%	1%	1%
Total Credits	189,917	7,612	197,529	27,992	25,951	10,291	26,879	39,771	17,161

Students who took dual credit through the public system were overwhelmingly successful at their courses. Ninety-four percent of credits attempted were awarded a grade of C- or better. Students were slightly more likely to be successful in academic courses (94 percent of credits were at a C- or better) than CTE courses (91 percent of credits were at a C- or better).³¹ In comparison, about 60 percent of AP exams taken through the AO program had scores of 3 or higher.

Students were less likely to be successful in Oral Communication GEM Courses – only 91 percent of credits were at a C- or better compared to 94 to 95 percent of credits in other types of GEM Courses.³²

³⁰ CTE data is missing grades for 2% of the credits.

³¹ This difference is statistically significant (p=0.029).

³² This difference is statistically significant (p=0.068).

Dual Credit Grades by Economic Status and Gender

Table 8. Dual credit grades earned for students participating in Advanced Opportunities dual credit by economic status and gender, FY20

	Economi	c Status	Gender			
Grade Category	Not Economically Disadvantaged	Economically disadvantaged	Female	Male		
Grade of a C- or better (including passes)	95%	90%	95%	93%		
Grade of a D+/D/D-	2%	4%	2%	3%		
Grade of an F or X or did not pass	2%	4%	2%	2%		
Did not complete or withdrew	1%	2%	1%	1%		
Total Credits	160,862	36,474	117,723	79,806		

Economically disadvantaged students were slightly less likely to earn a grade of C- or better in their courses (90 percent) compared to students who were not economically disadvantaged (95 percent).³³ Male students were less likely (93 percent) to earn a grade of C- or better than female students (95 percent).³⁴

Dual Credit Grades by Race/Ethnicity

Table 9. Dual credit grades earned for students participating in Advanced Opportunities dual credit by race/ethnicity_EY20

Grade Category	White	American Indian	Asian	Black	Hawaiian/ Other Pacific Islander	Hispanic	Multiracial
Grade of a C or better (including passes)	95%	88%	97%	92%	90%	91%	93%
Grade of a D	2%	5%	2%	2%	5%	4%	2%
Grade of an F or X or did not pass	2%	5%	0%	3%	5%	3%	3%
Did not complete or withdrew	1%	2%	1%	2%	0%	1%	2%
Did not earn credits/grades	0%	1%	0%	0%	0%	0%	0%
Total Credits	161,579	1,110	3,493	1,260	451	24,641	4,958

Hispanic students were less likely to earn a grade of C- or better in their courses (91 percent) than white students (95 percent), as were American Indian students (88 percent) and multi-race students (93 percent).³⁵ Asian students (97 percent) were more likely than white students to earn a grade of C- or better.

 33 This difference is statistically significant with p = 0.000.

³⁴ This difference is statistically significant with p = 0.000.

³⁵ These differences are statistically significant with p=0.000 (Asian students, Hispanic students and American Indian students), p=0.002 (Multi-race students).

Percent of High School Graduates Earning Dual Credit

For the rest of the outcomes considered, we characterize students by the number of credits they earned as of high school graduation. We also consider more years of data than just the most recent year. Over time, students have become more likely to graduate high school having earned at least some dual credits. Approximately one-third of high school graduates in 2014 had earned dual credits compared to 58 percent of graduates in 2020.

Figure 10. Percent of high school graduates who **earned dual credits** and those who **did not earn dual credits**, 2014 through 2020



Figure 11. Percent of high school graduates earning each number of dual credits by year of high school graduation, 2014 through 2020



The share of students earning between 1 and 10 dual credits has been fairly constant over the last six years (see Figure 11 and Table 10). The largest increase has been in students earning 20 or more dual credits. In the last six years, the share of students in this group has more than quadrupled.

Table 10. Number and percent of high school graduates earning each number of dual credits by year of high school graduation, 2014 through 2020

		Year of High School Graduation											
	Dual Credits Earned	2014	2015	2016	2017	2018	2019	2020					
Ś	None	11,951	10,496	10,390	9,347	9,059	8,677	8,300					
gh ates	1-3	1,597	1,713	1,742	2,160	2,206	2,359	2,241					
of H radu	4-6	1,454	1,486	1,723	1,794	1,766	1,898	1,983					
ber (ol G	7-9	946	1,028	1,130	1,218	1,401	1,503	1,517					
cho	10-19	1,384	1,604	1,699	2,213	2,727	2,992	3,239					
ΖŎ	20 or More	576	736	823	1,028	1,524	2,268	2,602					
<u>ـ</u>	None	67%	62%	59%	53%	48%	44%	42%					
[:] Hig ates	1-3	9%	10%	10%	12%	12%	12%	11%					
je of adua	4-6	8%	9%	10%	10%	9%	10%	10%					
entaç ol Gr	7-9	5%	6%	6%	7%	7%	8%	8%					
erce	10-19	8%	9%	10%	12%	15%	15%	16%					
L ()	20 or More	3%	4%	5%	6%	8%	12%	13%					

Postsecondary Enrollment Rates, Time to Completion of an Degree, and Dual Credit

Students who earn dual credit may differ in their educational outcomes from students who do not earn dual credit. In the remainder of this paper, we focus on go-on to college rates and the rate at which students earn a postsecondary degree. Full results for go-on rates for all years are found in the appendix.

The first outcome of interest is the percentage of students who attend a postsecondary institution the fall immediately after high school graduation ("fall immediate go-on rates"). In comparing fall immediate go-on rates by dual credits earned, two trends stand out. First, graduates who earned more dual credits during high school are more likely to go-on to college immediately than graduates who earned fewer or no dual credits. Second, there has been a general decline in fall immediate go-on rates across every group of dual credit earners between 2018 and 2020.³⁶ The decline between 2019 and 2020 likely reflects some impact of COVID-19. It is noteworthy that the largest decreases between these two years were for students who earned between 4 to 6 dual credits and not for those who earned no dual credits.

In general, in interpreting these results, it is important to remember that more students are earning dual credits. It is possible that the type of student who earns dual credit has changed over time.³⁷ If this is true, then the outcomes of those who earned dual credits may also change. For instance, if students who are less likely to go-on to college (for other reasons) are now taking dual credits, then the go-on rates for all students who take dual credits may decline. This may simply be a result of making dual credit available to all rather than to the subset of students who are able to pay for it themselves.

Figure 12. Fall immediate go-on rates by number of dual credits earned at high school graduation for 2018, 2019 and 2020 graduates



³⁶ The differences across years for each group of dual credits earned and the differences within years for each group of dual credits earned are all statistically significant at the 0.01 level.37 This difference is statistically significant with p = 0.000.

³⁷ Future research will focus on documenting whether there has been a change in the academic achievement of students who earn dual credit since the implementation of the Advanced Opportunities program.

In Figure 13, we show one-year go-on rates for 2018 and 2019 while, in Figure 14, we show fall immediate, one-year, and three-year go-on rates for each category of dual credits earned for 2017 graduates. We show this for the latest year in which we have full data (one-year and three-year go-on rates for other years are reported in the appendix). Go-on rates are lowest for those students who do not earn dual credit and highest for those students who earned 20 or more dual credits. As more time passes since high school graduation, go-on rates increase for all categories of dual credit earners.

Figure 13. One year go-on rates by number of dual credits earned at high school graduation for **2018** and **2019** graduates



Number of Dual Credits Earned

Figure 14. Fall immediate, one year, and three year go-on rates by number of dual credits earned at high school graduation for 2017 graduates



²⁵

The final outcome of interest is whether or not students who earn more dual credit graduate in less time than students who earned fewer or no dual credits. Results are shown for students who immediately attended college in the fall after their high school graduation.

Students who earn 20 or more dual credits are much more likely to graduate with an Associate degree within one year, two years, or three years after starting college than students who earned fewer or no dual credits (see Figure 15). Students who earn 20 or more dual credits are also much more likely to graduate with a Bachelor degree in three or four years than students who earned fewer or no dual credits (see Figure 16).³⁸

Figure 15. Percentage of students who go-on in the fall after high school graduation who earn an Associate degree within one year, within two years, and within three years of high school graduation

Dual	Earned	Year of High School Graduation												
Earned	Associate Within:	2014	4	20	15	20	016	20)17	20)18			
None	One year	1%		1%		0%		0%		0%				
	Two years	2%		2%		2%		2%		2%				
	Three years	4%		5%		5%		5%						
1-3	One year	2%		0%		1%		0%		0%				
	Two years	3%		2%		4%		3%		2%				
	Three years	5%		5%		6%		6%						
4-6	One year	1%		1%		1%		1%		1%				
	Two years	5%		5%		3%		3%		3%				
	Three years	8%		8%		8%)	5%						
7-9	One year	2%		2%		1%		1%		0%				
	Two years	5%		5%		5%		4%		5%				
	Three years	7%		8%		9%	6	8%						
10-19	One year	2%		2%		2%		1%		1%				
	Two years	5%		6%		6%		8%		6%				
	Three years	9%		8%		9%	6	1	1%					
20 or	One year	6%		9%)	1	2%		13%		11%			
More	Two years	1	3%		14%		17%		17%		14%			
	Three years		16%		18%		20%		19%					
		0% 10%	20%	0% 10%	20%	0% 10%	20% 30%	0% 10%	20%	0% 10	% 20%			
						Share	of Stud	ents						

³⁸ Generally, for all years, the differences in outcomes for the students who earn 20 or more dual credits are statistically significant when compared to the other groups for earning an Associate degree within one year. The differences in outcomes for all groups are generally statistically significant for earning an Associate degree within two or three years as well as earning a Bachelor degree within four years and within five years. *Figure 16.* Percentage of students who go-on in the fall after high school graduation who earn a Bachelor degree within four years and within five years

Dual	Earned	Year of High School Graduation										
Credits Earned	Bachelor Within:	2014	2015	2016								
None	Four years	9%	7%	6%								
	Five years	15%	12%									
1-3	Four years	11%	14%	11%								
	Five years	22%	21%									
4-6	Four years	15%	13%	13%								
	Five years	24%	21%									
7-9	Four years	17%	15%	16%								
	Five years	24%	26%									
10-19	Four years	21%	22%	20%								
	Five years	31%	30%									
20 or	Four years	29%	27%	25%								
More	Five years	36%	32%									
		0% 20% 40%	0% 20% 40%	10% 20% 30%								

Share of Students

Conclusions

This paper characterizes 2020 AO dual credit with particular attention to AO dual credit in Idaho's public postsecondary institutions and examines outcomes of students who graduated with dual credit. Students who participate in AO dual credit are less likely to be economically disadvantaged and more likely to be female and white than students statewide. AO dual credit students are also less likely to be Hispanic compared to students statewide. However, AO dual credit students are as likely to be economically disadvantaged as students who attend the same schools. The gender and race/ ethnicity differences do persist within schools. This suggests that schools with a larger economically disadvantaged population may need to participate in AO to a greater degree in order for parity to be achieved with regard to economic disadvantage .There does appear to be work that needs to be done within schools to achieve gender and race/ethnic parity.

Students who participate in AO dual credit mostly choose to take GEM courses. Seventy-five percent of the credits earned in 2020 were in GEM courses. Students are overwhelming successful in their courses as measured by the grade they earn. Ninety-four percent of credits attempted were awarded a grade of C- or better.

Students who earn 20 or more dual credits by high school graduation are much more likely to graduate from college with an associate degree within 1, 2, or 3 years than students who earned fewer or no dual credits. Students who earn 20 or more dual credits are also more likely to graduate from college with a bachelor degree within 4 or 5 years than students who earned fewer or no dual credits.



Appendix

Two Most Common Courses in Each GEM Category

GEM Category	Two Most Common Courses					
Humanistic and Artistic Ways of Knowing	Elementary Spanish I					
	Literature and Ideas					
Mathematical Ways of Knowing	College Algebra					
	College Algebra & Trigonometry					
Oral Communication	Fundamentals of Oral Communication					
	Intro to Speech Communication					
Scientific Ways of Knowing	Concepts of Biology					
	Introduction to Chemistry					
Social and Behavioral Ways of Knowing	American National Government					
	United States History I					
Written Communication	Writing and Rhetoric I					
	Writing and Rhetoric II					

Number of Schools Offering Advanced Opportunities Programs by District Region

	Number of schools	Region 1	Region 2	Region 3	Region 4	Region 5	Region 6	Virtual
Schools serving grades 10 to 12	250	26	22	81	41	24	40	16
Schools offering AO Dual Credit	203	22	20	71	31	17	31	11
Schools offering AO Advanced Placement	63	7	4	23	9	6	12	2
Schools offering AO Professional Certification Exams	76	3	8	23	16	8	18	0

Number of Schools Offering Advanced Opportunities Programs by District Characteristics

	Number of Schools	Number in City/ Suburban Districts	Number in Town Districts	Number in Rural Districts	Virtual
Schools serving grades 10 to 12	250	68	69	97	16
Schools offering AO Dual Credit	203	57	48	87	11
Schools offering AO Advanced Placement	63	27	16	18	2
Schools offering AO Professional Certification Exams	76	23	25	28	0

Comparison of Dual Credits Earned by High School Graduates by Region, 2015-16 versus 2019-20

Dual Credits Earned	Or 2016	ne 2020	Tv 2016	vo 2020	Th 2016	ree 2020	Fo 2016	our 2020	Fiv 2016	ve 2020	Si 2016	ix 2020	Virt 2016	ual 2020
0 dual credits	63%	50%	49%	39%	56%	38%	58%	37%	57%	36%	69%	46%	79%	71%
Between 1 and 3 dual credits	6%	11%	9%	8%	11%	13%	10%	9 %	11%	10%	9%	12%	7%	9%
Between 4 and 6 dual credits	8%	7%	12%	8%	10%	11%	12%	12%	11%	8%	9 %	10%	3%	6%
Between 7 and 9 dual credits	5%	5%	7%	8%	7%	9 %	7%	7%	6%	6%	6%	8%	3%	4%
Between 10 and 19 dual credits	8%	10%	17%	20%	11%	18%	10%	18%	12%	21%	6%	15%	4%	5%
20 or more dual credits	10%	17%	7%	16%	5%	13%	4%	16%	3%	18%	1%	8%	4%	5%

Comparison of Dual Credits Earned by High School Graduates By Locale, 2015-16 versus 2019-20

	City/Su	burban	Ru	ral	Town			
Dual Credits Earned	2016	2020	2016	2020	2016	2020		
0 dual credits	60%	41%	55%	37%	58%	42%		
Between 1 and 3 dual credits	10%	12%	10%	11%	10%	10%		
Between 4 and 6 dual credits	9 %	10%	10%	11%	11%	10%		
Between 7 and 9 dual credits	7%	8%	6%	8%	6%	8%		
Between 10 and 19 dual credits	9 %	16%	11%	18%	11%	17%		
20 or more dual credits	5%	13%	7%	16%	4%	13%		

Go On Rates by Dual Credits Earned, Year of High School Graduation, and Time After High School Graduation

	2014 2015					2016			2017		2018		2019		2020		
Dual Credits Earned	Fall Immediate	One year	Three year	Fall Immediate	One year	Three year	Fall Immediate	One year	Three year	Fall Immediate	One year	Three year	Fall Immediate	One year	Fall Immediate	One year	Fall Immediate
None	38%	43%	54%	37%	42%	53%	37%	41%	51%	36%	39 %	49%	33%	36%	28%	31%	23%
1-3	60%	64%	77%	60%	63%	75%	55%	60%	70%	53%	57%	67%	48%	52%	46%	49%	35%
4-6	66%	70%	80%	64%	68%	80%	64%	67%	78%	60%	64%	74%	56%	59%	52%	55%	38%
7-9	73%	76%	86%	67%	70%	84%	67%	70%	81%	67%	71%	80%	62%	65%	56%	60%	45%
10-19	78%	81%	91%	73%	76%	89%	75%	78 %	90%	73%	76%	85%	67%	71%	64%	67%	54%
20 or More	80%	82%	93%	79%	82%	92%	82%	84%	93%	80%	82%	91%	77%	80%	75%	78%	65%