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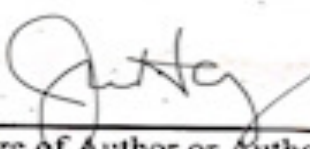
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Barriers and Challenges to Participation in
Postsecondary Enrollment Options (PSEO) for Minnesota Students

by

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A Capstone Project Submitted to the

Hubert H. Humphrey School of Public Affairs

in Partial Fulfillment of the Requirements for the Degree of

Master in Public Affairs and Master in Public Policy

Client: People for PSEO

Instructor: Professor Judy Temple

May 20, 2019

ACKNOWLEDGEMENTS

The authors thank Nicole Smerillo and Scott Coen (University of Minnesota); Anita Larson (Minnesota Department of Education); and Kevin Karner for their assistance on this report. Special thanks are given to Dr. Judy Temple (Humphrey School of Public Affairs) as capstone advisor for her professional guidance and constructive recommendations on this project.

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In 1985, the Minnesota state legislature enacted Minn. Stat. Sec. 124D.09 entitled, “The Post-Secondary Enrollment Options Act” (the “PSEO Act”). Subd. 1 states the following:

The purpose of this section is to promote rigorous academic pursuits and to provide a wider variety of options to high school pupils by encouraging and enabling secondary pupils to enroll full time or part time in nonsectarian courses or programs in eligible postsecondary institutions as defined in subdivision 3.¹

The State withholds allocated school district funds from the student’s home district to pay tuition. The legislation was promoted to ensure all Minnesota high school students have access to a rigorous curriculum. Students need to be of high-class rank, high GPA and to be accepted at an eligible post-secondary institution. If accepted, they may attend classes on college campuses during the school year. Transportation from schools was subsidized for some districts at the beginning of the program, but that subsidy ended over the next few years. As the cost of college rose, free tuition for dual credit became more critical to students, but the costs of this program to individual school districts increased even more. Legislation expanding college programs to high schools, participation agreements between high schools and postsecondary institutions, and expanding opportunities to take career and technical classes helped make dual credit more accessible to students but affected growth in PSEO on-campus participation.

The objectives of our research were to identify barriers that may contribute to non-participation in the traditional PSEO program and explore ways to reduce them. An extra focus was placed on participation challenges facing students of color and those from low-income households. We found it critical to gain a thorough understanding of Minnesota school finance during our research. Our review revealed the unintended consequences of complex funding policies. A significant contribution of this report is the in-depth analysis of dual enrollment data

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obtained from the Minnesota Department of Education (MDE). We report PSEO and other dual enrollment participation rates by gender, race, and family low-income status and examine changes over time. Our report also examines dual enrollment programs outside of PSEO. In 2003, legislation passed allowing for a type of concurrent enrollment called “College in the Schools” (or CIS) and allowed college courses to be offered on their high school campuses for dual credit, taught by either college faculty or trained high school teachers. This program is funded separately from PSEO by the state. CIS is very popular with enrollment reaching over 31,000 public school students in 2017. More programs have been developed, both within the PSEO funding system and under CIS, serving a wider variety of students. Students and counselors need clear options and means of accessing information about all their dual credit choices, particularly concerning new PSEO programs, as the type of student the program serves has widened considerably. People for PSEO representatives should become familiar with the different types of students PSEO now cover students with varying academic abilities, interests, and goals.

KEY FINDINGS

- *Complex funding policies for PSEO result in higher costs to school districts in terms of per-pupil revenue, especially affecting rural schools.² The State holds back additional funds as “savings” after paying tuition for a PSEO student. The amount of money lost per PSEO student is substantially higher than if the district pays tuition directly, so more districts are opting to negotiate agreements each year. (See Appendices III and VI)*

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- *PSEO student profiles are changing based on the expansion of the program.* Traditional on-campus PSEO students have to meet higher GPA and class rank requirements than online PSEO students. Students from 9th-12th grade may take world languages on campus. PSEO students taking career and technical education (CTE) courses on campus can be in grades 10-12 and have to prove only that they can read at an 8th-grade level. The Early/Middle College PSEO program targets students attending alternative education programs who must sign up for a graduation incentive program.
- *More disaggregation of information on PSEO students is needed from the Minnesota Department of Education (MDE) to understand changes in enrollment patterns among low-income students and students of color.* PSEO students of color and students who qualify for free and reduced-price lunch (FRP) have been increasing but MDE's Statewide Longitudinal Educational Database (SLEDs) does not provide that information by type of PSEO participation.
- *Twice as many females as males participate in PSEO courses, transcending race, geography, and FRP status.* The number of high school graduates in Minnesota is equally divided between males and females, so this issue should be explored.

METHODS

In order to learn about the barriers affecting PSEO participation in Minnesota, we primarily used the case study method of qualitative research, supplemented with phenomenological work. We investigated the legislation under which the PSEO program and other dual-credit options originated. Research included reviewing the evolution of complex state funding methods to understand how that may have influenced districts' promotion of PSEO. Trends in PSEO enrollment in traditional on-campus and new programs were researched using

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available data from 2011-2017 obtained from the Minnesota Department of Education SLEDs database and the Office of Higher Education (MOHE). In addition, our group engaged other Hubert H. Humphrey School of Public Affairs students who used Geographic Information System (GIS) software to create a map that illustrates the distances between high schools and PSEO participating institutions.

Other activities included conducting a literature review that compares Minnesota's dual-credit programs with those in other states. We met with the director of PSEO at the University of Minnesota and conducted interviews remotely with high school counselors from several other states to get individual practitioners' perspectives on their respective dual credit programs to compare and contrast with Minnesota's PSEO program. Also, we considered conducting a thorough stakeholder analysis, but time constraints prevented us from conducting the many detailed interviews needed to produce a comprehensive analysis. We provided a framework of a stakeholder analysis as an appendix.

Our team prepared a survey to be administered to Minnesota high school students (*see Appendix I*). Questions focused on students' familiarity with PSEO to help gauge interest in the programs. The survey focused on barriers that exist in the traditional PSEO on-campus program that may keep students from participating, such as class rank, GPA, distance to campuses and transportation unavailability and concern about food availability. Paperwork and survey drafts were submitted to the IRB, and requests for permission to survey students were sent to public high schools in Minnesota. Unfortunately, the time frame for its activation did not work within the timeline of the capstone. However, the survey is available as an appendix and can be adapted and utilized by People for PSEO in the future.

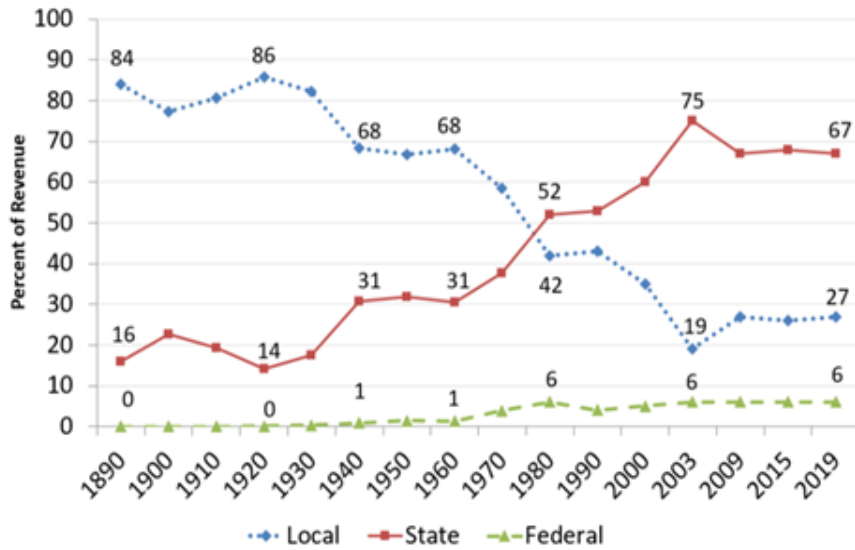
MINNESOTA SCHOOL FINANCE AND DUAL CREDIT OPTIONS

Funds for Minnesota public schools are allocated per student pursuant to a formula based on attendance (“average daily membership” or ADM), with approximately 71% categorized as general revenue and 29% as other sources of revenue. As the state became the primary source of operating monies for public schools, policy makers and government leaders found that cash flow needs were not matched by the school district calendars. Legislators decided to hold back 10% of school funds due for the last fiscal quarter (April through June), repaying it to the schools in July or August. In the early 1990s, the State also began to retain funds from PSEO students’ home districts over and beyond the amount used for tuition. The State has a long history of using timing of payments to schools to solve its own cash flow issues.

Figure 1 (below) shows the trend of funding sources of K-12 education in Minnesota. The 1980s were a crossroads for Minnesota public school funding, as the State became the main source of school district operating funds. School finance became more complex, evidenced by the 128-page manual on Minnesota School Finance given to each new Minnesota legislator. The federal government issued unfunded mandates expanding special education services, so districts have had to use state monies to provide those services, leaving less revenue for general education spending. According to researchers at the Education Commission of the States, most states provide less than half of their school district operating funds, but Minnesota schools receive 67% of operating funds from the State and are restricted in their ability to levy to raise local funds.

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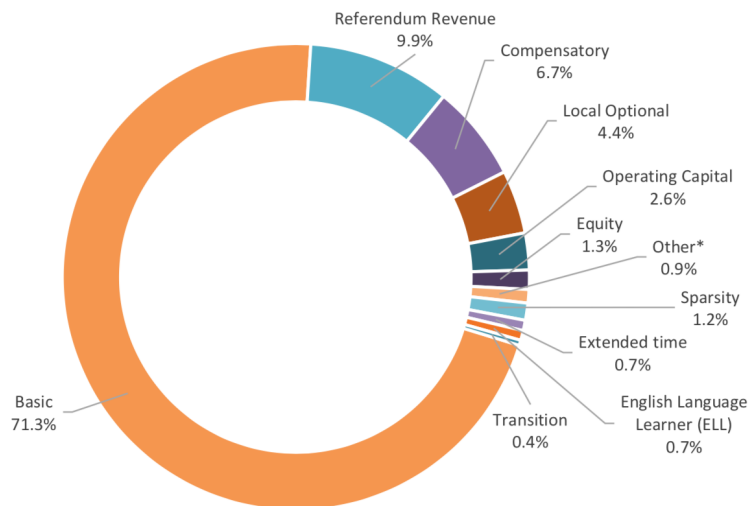
Figure 1: Percent of Revenue by Source, MN K-12 Education, 1890-2019⁷



PSEO tuition payment formula’s effect on school finance

Tuition is paid for PSEO students according to a formula in the PSEO Act as stated by the MDE (<https://education.mn.gov/MDE/dse/schfin/trend/>) using the funds from the student’s home district’s basic per pupil general education, set each year by the legislature, represented by the orange part of the circle in Figure 2 (below.)

Figure 2: General Education Program Components (Minnesota) 2019⁸



*Other includes Declining Enrollment, Small Schools, Gifted & Talented, PSEO and various other Adjustments.

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In 2019, district funding per pupil funding is 71.3% Basic General Education revenue (\$6,312) and 28.7% (\$2,540) in the other categories shown. The statutory formula for the tuition payment per credit is calculated based on the amount of Basic General Education revenue per student, as follows:

$$\$6,312 - \$425 = \$5,887 \times 88\% = \$5,181 \times 1.2 = \$6,217$$

$$\$6,217/30 = \mathbf{\$207.22 \text{ per semester hour}} \quad \$6,217/45 = \mathbf{\$138.15 \text{ per quarter credit hour}}$$

If the original legislation had still been in effect, the district would receive 12% of \$6,312 and the remaining funds, totaling \$3,297. However, the district would now receive 12% of the entire amount of state aid, or \$1,062. If a student is a full-time PSEO student, about 70% of the student's state aid is used to pay tuition, 18% of the state aid is held back by the State and only 12% is sent to the district. We believe this has had a substantial negative effect on promotion of PSEO within school districts, contributing to the formation of alternative dual credit options whereby the districts bypass the state and form participation agreements such as Courses According to Agreement (CAA) with institutions.

Dual credit options

In 1985, the PSEO legislation was a small part of a proposal focused on K-12 open enrollment, tied up in school choice and the availability of "rigorous" classes for high school students. Class offerings were uneven at public high schools, especially in small rural schools without enough students to offer advanced classes. An advisor to then-Governor Perpich said one of his goals was to force high schools to compete with colleges by offering better classes. Dual credit options have been added, expanding programs and changing funding methods and levels as explained later in this paper, but all are subsidized in some form. The Minnesota Department of Education (MDE) provides oversight and distributes funds as required under statute, including

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funding for dual credit programs. Minnesota is one of only four states that uses school district funds to pay for college tuition for high school students and has no means test. Most states require students to pay at least part of the tuition and set up scholarships for those who cannot afford it.³

We reviewed how the State's dual credit programs were implemented and funded. Minnesota now has a wide variety of programs serving different types of students. Students can pay a fee to take a test and receive college credit for taking the College-Level Examination Program (CLEP). Students in Minnesota can take Advanced Placement (AP) and International Baccalaureate (IB) courses in high school and the State subsidizes or pays fees for exams that can provide dual credit. The State pays tuition for students taking classes under PSEO either on campus or on line, using funds withheld from students' home school districts. As explained in the previous section, districts pay tuition for students who take courses from post-secondary institutions with whom they have signed an agreement (CAAG). Courses may be offered either on school premises (taught by trained high school faculty or postsecondary faculty) or online or on the college campus (taught by postsecondary faculty). The CIS program is specifically designed to be offered in high schools with trained high school teachers or post-secondary faculty. Within each of these categories are variations of the programs (please see Appendix IV for more information.).

Advanced Placement (AP) and International Baccalaureate (IB)

Schools with AP and IB programs receive funds from the state to partially cover the cost of instructors and training programs. Students receive a standardized curriculum from a qualified

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teacher and take a final exam for college credit. Minnesota high schools' contract to offer these courses and the state subsidizes or pays for the tests.

In the school year 2017-2018, 230 out of 445 Minnesota high schools offered AP classes, according to the Minnesota Higher Education Authority. Demand for AP classes is generally higher in suburban schools, while urban school districts offer more IB programs. In 2018, over 45,000 Minnesota students took at least one AP exam, 25% of whom were students of color. Roughly 4,000 students took IB exams in Minnesota. About 40% were students of color. The Legislature allocates \$4.5 million each year for AP/IB, with a 75%/25% split of funding.

Courses According to Agreement (CAAG)

High schools sign agreements with postsecondary institutions and negotiate tuition with the postsecondary school. These courses are taken as concurrent enrollment (CIS) courses (in the school), on line or on the college campus with whom they have an agreement. The state pays the district its usual student funding amount and the district pays tuition at the negotiation rate.

Concurrent Enrollment (CIS)

Concurrent enrollment classes are a collaboration between high schools and local colleges, requiring that a high school teacher be certified to deliver a college course in a high school classroom for dual credit. CIS or "College in the Schools," is how the University of Minnesota terms its concurrent enrollment classes. For several years there were questions as to the rigor of these classes, but CIS classes in Minnesota are all required to receive national accreditation by 2021. Extra concurrent aid is available from the state if the class is held on high school premises. High schools negotiate tuition with postsecondary institutions and arrange for

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classes to be taught in their schools. The location is helpful for students who have transportation issues. In 2017, Minnesota students earned 255,879 credits through concurrent enrollment.

Career-Technical Education (CTE)

Among the amendments made to the PSEO Act several years ago was addition of the option for students in grades 10-12 to take Career and Technical Education (CTE) courses if they meet 8th-grade reading proficiency standards and continue to pass the classes. These courses are geared toward basic technical and career classes and workforce readiness. The classes can be used to earn a certificate or associate degree from a technical college concurrently with a high school degree.

CTE courses can be taken on the high school campus as CIS classes or as PSEO classes on the college campuses. The State did not report the breakout of PSEO students that took CTE courses; that would be information that would be helpful to know in the future.

State funding for CTE courses is supplemented by a levy. High schools receive extra funds from the state for students who sign up for a CTE course and a bonus if the student passes a certificate test. Enrollment patterns for CTE students held in the classroom (concurrently) showed that CTE students account for 13.7 percent of the total concurrent students in 2017 (4,385 of 31,917 concurrent public-school students). Approximately 25% of CTE participants qualified for free or reduced-price lunch (FRP) which indicates that students from low-income families appear to see CTE classes as viable options for dual enrollment. In 2017, there were 4,385 CTE concurrent students in 150 districts who earned 16,348 college credits.

Post-Secondary Enrollment Options (PSEO)

The Postsecondary Enrollment Options (PSEO) allow high school students to take college courses on campus (or online), taught by college instructors, offering various programs

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to groups of students. NOTE: The state does not report the numbers nor demographics of students taking PSEO classes by each program nor whether students are taking classes online, making it difficult to know which program has grown or if online is increasing significantly. That would be helpful information to get from MDE and the colleges in the future.

Students must apply to and be accepted by the institution and can enroll in a class as long as the seat is not taken by a post-secondary student. Two-year community and community technical colleges are the most popular PSEO participating institutions. The program provides students a wide variety of class offerings and the opportunity to pursue more challenging coursework. Students may enroll on a part-time or full-time basis.

The vast majority of traditional, on-campus PSEO students have been white students who live in the Twin Cities metropolitan area, primarily due to access to transportation or proximity to a campus. Demographic participation is reflective of economic inequities of education quality based on socioeconomic factors, as the program required a high level of academic performance and many students of color have achievement gaps in math and reading. The Legislature recently expanded access to dual credit under the PSEO umbrella to students who may not have qualified otherwise. One of the newest programs is *Early/Middle College*, which are collaborations between districts and postsecondary institutions. They offer remedial courses and other classes to at-risk students in graduation incentive programs within alternative programs in public schools. If the student continues to be successful and sticks with the program, they can earn a certificate or an associate degree concurrently with their high school diploma. The first eight programs began in 2015, and by 2018 the number had grown to sixty-five.

Other PSEO programs include CTE classes on campus, online classes, and world language classes on campus for 9th-12th graders. Career Technical Education (CTE) classes are

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offered both through concurrent enrollment and PSEO to sophomores who only need to have an eighth-grade reading ability. If they pass the class with a “C” or better, they can continue on with CTE classes and earn a certificate. Growth in the PSEO program has been strongest among students of color and students eligible for free or reduced-price lunch (FRP). Authors of the original Post-Secondary Enrollment Options Act were hopeful that competition from colleges and universities might force secondary public schools to become more responsive to the needs of students and parents in terms of offering better, more demanding courses. The PSEO program in Minnesota was originally aimed at high achievers who were able to take advantage of being located near a college or university and have means of transportation. Students did not have to meet a needs test for this benefit. The socioeconomic representation of traditional PSEO participants falls short of being equitable, but total participation has grown. Highest rates of growth in participation in PSEO were among students of color and students eligible for free or reduced-price lunch (FRP). Online students, Early/Middle College and CTE students on campus or on line are not disaggregated, so we cannot calculate the racial or economic equity impact of the programs. Disaggregation of demographic data by program by MDE would be useful information for People for PSEO.

LITERATURE REVIEW

The purpose of this paper is to identify the barriers to participation in the Post-Secondary Enrollment Options (PSEO) program in Minnesota, with extra focus on students of color (African Americans, Indians, Hispanics, Native Americans, and Asians) and students from a low-income background. Other programs have been added as PSEO dual credit programs that have helped increase enrollment of low-income students and students of color. However, the overall growth rate of traditional PSEO programs in Minnesota is still low relative to other dual

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credit programs in the State. PSEO remains in third place amongst the four most popular dual credit programs: Advanced Placement (AP), International Baccalaureate (IB), and Concurrent Enrollment (CIS). Economically disadvantaged students and students of color are enrolled in PSEO at lower rates than whites and students not coming from low-income families.

This literature review includes a broad overview of dual credit enrollment options and briefly compare and contrast the PSEO program with similar programs. It maintains a strong focus on methodology, findings, conclusion and recommendations documented in existing literature under the following themes: funding; eligibility and enrollments, participation, benefits, barriers to participation, and an analysis of participation data. This report does not include information on private high schools and will only be referred to when appropriate.

Funding and Effectiveness of Dual Credit Enrollment Programs

Minnesota is only one of four states with free tuition for students being fully paid for with school district funds without means testing. In 2017, a total of \$31.5 million of tuition was paid by the State of Minnesota to colleges and universities on behalf of students earning credit under PSEO. Dual credit programs help students save thousands of dollars in tuition. The Education Committee of the States reported that districts that are assured they will not lose a large portion of state funding for dual enrollment programs would likely be more open to participating and publicizing those programs. Many states require some contribution by the student for payment of tuition, with several states requiring the student to show need. Other states allow the local school districts decide who pays.

Various studies show that the academic, occupational, and social prospects of students who participate in dual credit programs improve. Effects are especially strong amongst historically disadvantaged groups such as people of color, despite their academic achievement

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and participation rates lagging behind white participation rates. One of the most significant benefits of participating in a dual credit program is a surge in the student's academic drive (Academic Drive is defined as the confidence gained through doing college-level work that engenders further academic achievement.)

According to Gustafson, Chao, & Nathan (2015), studies have continually shown that participation in these programs increases the chances that students will graduate from high school and pursue higher education at college.¹¹ Data from MDE shows positive trends in PSEO participation, dual credit programs such as Advanced Placement (AP), International Baccalaureate (IB), and Concurrent Enrollment (CIS). Socioeconomic representation of PSEO participants falls short of being equitable, but programs that have expanded over the last few years are designed to serve a more diverse population by income, race/ethnicity, and academic ability. Further disaggregation of data would be helpful to understand those programs' impact.

While students in this program are more diverse, some barriers still persist in affecting participation. The PSEO Reference Guide published by the MDE describes each of the programs in detail. Given that nearly 30% of Minnesotan high schoolers take remedial courses in college, these programs are of paramount importance in reducing this proportion. MDE doesn't disaggregate PSEO information any further, which is necessary for further impact analysis.

Eligibility Criteria for Students and Laws Governing Schools

Each state sets its own guidelines with regard to dual enrollment funding as well as administration. The general consensus among the literature reviewed regarding dual credit eligibility is in line with McCarthy's view that the law guarantees eligible high school students the right to enroll in college courses.¹² Some states with dual credit programs have enacted regulations that make eligibility contingent on school district approval, but in most cases, the

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final decision is in the student's hands. The authority to participate or not lies solely with the student and their family, which reveals a major shift in education decision making.

In several states (Colorado, Michigan, Minnesota, and Washington), the law dictates that schools should assist students through an advisory role. However, as long as eligibility requirements are met, the student makes the final decision whether to participate in a dual credit program. A majority of states permit dual credit for both 11th and 12th grade students who have no similar courses available in their high schools. While Oregon's guidelines advise limiting participation to academically competent 12th graders, Iowa and Indiana permit younger students to enroll; though most case-by-case exceptions require the approval of the local district.

A few states require the student to further display their capabilities. This is illustrated through the student's passing the state's high school proficiency exam (Michigan), passing standardized tests (Washington), or attaining a minimum high school GPA (Massachusetts). Furthermore, between 2006 and 2011, Minnesotan 9th-12th graders were eligible to partake in Advanced Placement courses and examinations for high school and college credits. However, within this same time frame of 2006-2011, only Minnesotan 11th and 12th graders could take AP, IB, CIS and PSEO.

In 2012, PSEO legislation expanded to enable 10th graders in Minnesota to partake in PSEO by being allowed to take one Career & Technical Education class (CTE). Any student in Minnesota in 10th grade can now take one CTE class at a public, two-year institution, either at their high school, or on a college campus. Students can qualify to take the CTE class if they have passed the state's 8th grade statewide reading test. In order to take additional courses, students must achieve a "C" or higher in their first CTE class. There are no entrance requirements for 11/12th graders dictated by PSEO law as each school sets its own requirements for admission.

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Additionally, while Minnesota's public post-secondary institutions are required to participate in PSEO, private institutions are not required to participate but are encouraged to do so.

Analysis of Dual Credit Participation in Minnesota 2012-2016

There are varying college admission requirements. Many two-year institutions will accept students to their dual credit program regardless of the student's grade point averages or class rank. However, most dual credit programs do not enable students to take remedial or sectarian classes, remedial college classes are disallowed with one exception and funded only under the PSEO program for students enrolled in the Early/Middle College Program who are part of the graduation incentive program. In Minnesota, students who participate in PSEO receive free tuition from the state, and books are provided for by the institution (and remain their property). Students who come from very low-income families also have transportation reimbursement funds available. For students who cannot or do not want to travel to the college campus to participate in PSEO, online courses are provided by some participating institutions. For students who do participate in online PSEO courses, in Minnesota they are required to be provided spaces in their high schools to work on class material.

School districts are required to provide 'up to date' information on their websites and in any material distributed about PSEO by March 1st of each year. By May 30th, a student must notify the school district of their intent to participate. In Minnesota, a district must grant academic credit to a course for a secondary credit but must grant academic credit for a postsecondary course only if requested by a student.¹³ In a majority of states, the responsibility of allocating credit for college courses lies with each local district. The colleges on the other hand, assume responsibility for the acceptance of these credits and grades awarded.

Analysis of DC race/ethnicity groups participation data in Minnesota between 2012-2016

Table I below shows how participation in Dual Credit (DC) programs have changed from 2012 to 2016. The last three columns represent the change in number, percentage and proportion of change by race/ethnicity within the programs from 2012-2016. Using data from the Minnesota Department of Education, we report the number of Minnesota state wide participation rates of students in the four most common DC programs in Minnesota, namely Concurrent Enrollment (CE/CIS), International Baccalaureate (IB) program, Post-Secondary Education Options (PSEO), as well as the number of students taking exams in the Advanced Placement (AP) program. According to the data in Table 1, total participation in all DC programs continued to grow from 2012 to 2016 and PSEO remains in third place amongst the four Dual Credit programs highlighted.

Table 1: Dual Credit Programs Participation in Minnesota (2012-2016)¹⁴

Program	Demographic	2012	2013	2014	2015	2016
AP	Total Participants	32,298	33,823	35,697	36,958	37,559
	Participants of colour	2270	2547	2860	3323	4092
	White	30,028	31,276	32,837	33,635	33,467
CE	Total Participants	21,695	23,584	24,756	27,298	30,247
	Participants of colour	1911	2368	2749	3474	4151
	White	19,784	21,216	22,007	23,824	26,096
PSEO	Total Participants	6,353	6,915	7,031	7,768	8,275
	Participants of colour	1,023	1,197	1,290	1,646	1,982
	White	5,330	5,718	5,741	6,122	6,293
IB	Total Participants	2,692	3,046	3,463	3,382	3,676
	Participants of colour	889	1090	1304	1206	1259
	White	1,803	1,956	2,159	2,176	2,417
DC	Total Participants	63,038	67,368	70,947	75,406	79,757

The total number of participants in the PSEO program grew from 6,353 in 2012 to 8,275 in 2016, representing an increase of 1,922 participants and a 30% change in participation rate between 2012 and 2016 as shown in Table 2 below. Interestingly, although the AP program consistently had the highest number of participants amongst all four DC programs each year from 2012 to 2016 as shown in Table 1. The data in Table 2 clearly shows a higher growth rate

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of all other DC programs compared to the AP program, which had the lowest growth rate of 16% change in participation between 2012 and 2016

The data in the table also disaggregates participation by race; Whites and Participants of Colour (POC). POC include African Americans, American Indian, Latino and Asians. According to the Center for School Change, the MN Department of Education's Rigorous Course Taking Advanced Placement Legislative Report (2017) reported the proportion of POC amongst 11th and 12th graders was 27.65%. From 2012 through 2016, POC were underrepresented in the CE/CIS, AP, and PSEO programs.

Table 2: Dual Credit Programs Participation Change in Minnesota (2012-2016)¹⁵

Program	Participants	Participation Change 2012 & 2016	
		# Change	% Change
CE	Total Participants	8,552	39
	Participants of colour	2,240	451
	White	6,312	32
IB	Total Participants	984	37
	Participants of colour	370	153
	White	614	34
PSEO	Total Participants	1,922	30
	Participants of colour	959	94
	White	963	18
AP	Total Participants	5,261	16
	Participants of colour	1,822	165
	White	3,439	11

Meanwhile the number of total participants in the PSEO program during this same period was 8,275. Of this, the number of POC was 1,982, representing 23.9% of the total number of participants, about 4% less than that of the state demographics for 11th and 12th graders in 2016. Although there has been some significant progress in participation, a lot needs to be done to ensure that all Minnesota students have access and opportunity to participate in at least 1 DC course before graduating from high school.

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As highlighted in the previous discussion regarding Tables 1 and 2, participation from traditionally underserved groups, such as students of colour, continues to trail behind that of white students in all DC programs. This trend is displayed in Figure 3 below, which shows a detailed breakdown of participation rates for each racial group in the PSEO program between 2012 and 2016. As a supplement to this data, Figure 4 depicts the number and percentage change of each racial group from 2012 to 2016. The rate of participation of students of all races/ethnicities increased significantly in the PSEO program from 2012 to 2016. Latinos experienced the highest percentage increase in participation in the PSEO program, starting from 156 participants in 2012 to 384 participants in 2016 (Figure 3), which amounts to a percentage increase of 146% as shown in Figure 4. American Indians were 2nd to Latinos in the PSEO program participation growth, with the number of participants rising from 60 in 2012 to 132 in 2016 as shown in Figure 3; representing a percentage increase of 120%. African Americans closely followed American Indians in participation change with a percentage increase of 118% from 2012 to 2016 (Figure 4). Asians had the second lowest growth in PSEO participation with an increase of 55% from 2012 to 2016. Figure 4 shows that Whites had the lowest rise in percentage change in participation, an 18% increase, despite representing the highest number of 6,293 participants in 2016, as can be seen in Figure 3.

Figure 3 clearly depicts the trend that participation of all racial groups in the PSEO program is increasing. Whilst whites held the highest number of participants in the program, Figure 4

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showed that the percentage of participants that were white was in fact decreasing, and those who are non-white, increasing. This suggests that despite continuous increases in the number of white participants (Figure 3), there are decreases in the overall share of PSEO participants that are white as seen in Figure 4.

Figure 3: PSEO Participants by Race (2012-2016)¹⁷

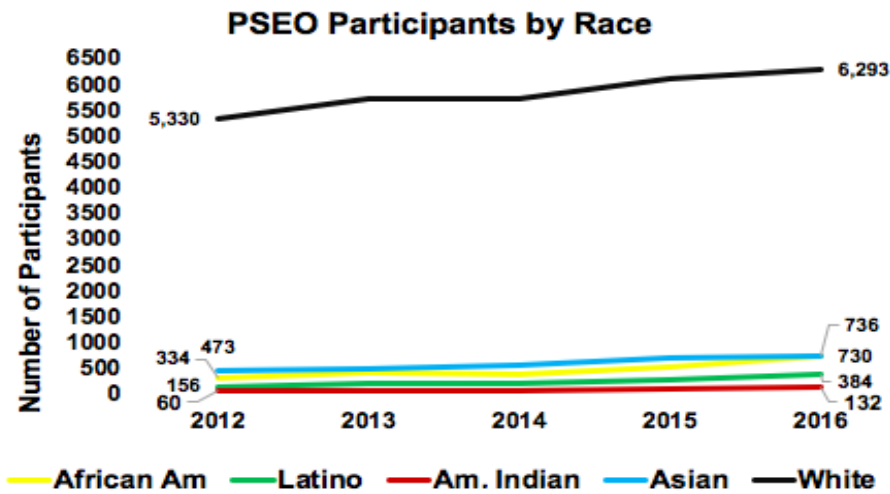
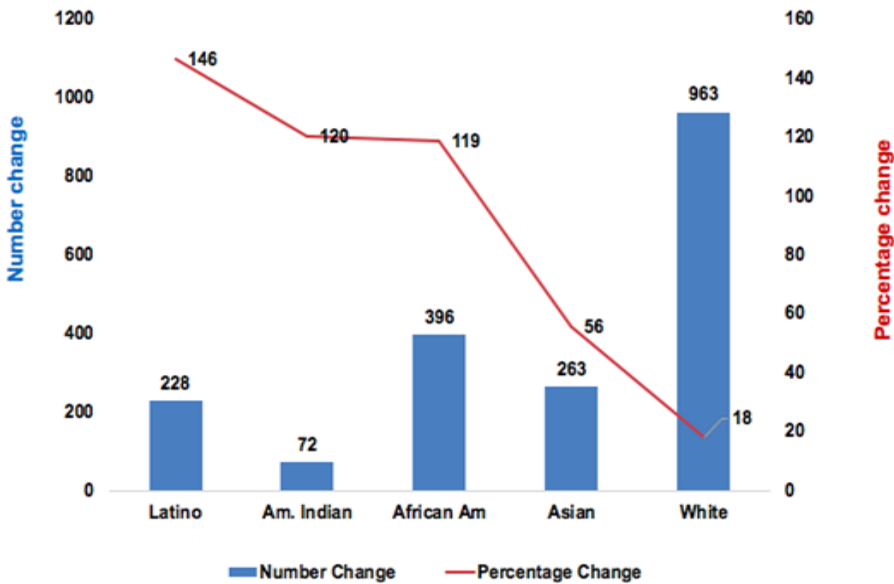


Figure 4: Percentage & Number Change in PSEO Participants by Race (2012-2016)¹⁸



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Analysis of PSEO program participation data in MN by income status between 2012-2016

Using data from the MN Department of Education's Rigorous Course Taking Advanced Placement Legislative Report, Fiscal Year 2017, information on PSEO participation by income status is shown in Figure 5 below. The top line represents participation by students in families that are not eligible for Free or Reduced-Price meals at school (Non-FRP) and the bottom line shows participation by students in families that are eligible. In Figure 6 we show the percentage representation of PSEO participants on FRP and Non-FRP in 2012 and 2016.

The number of non-FRP PSEO participants continues to rise over the years, from 5,551 in 2012 to 7,036 in 2016, an increase of 1,485, while FRP participants experienced a decrease of 2%, from 87% in 2012 to 85% in 2016 as shown by Figure 6.

Figure 5 shows that the number of FRP participants in the PSEO program in 2012 was 802 and in 2016 increased to 1,239. As with racial diversity, socioeconomic diversity of participation on the PSEO program experienced a steady increase; participants eligible for FRP grew by 2%, to 15% by 2016, whereas the percentage of non-FRP participants decreased by 2%. Students from low-income households are a growing percentage of the total PSEO participants despite the increase in students who are non-FRP eligible.

Figure 5: PSEO Program Number of Participants on FRP vs Non FRP 2012 2016¹⁹

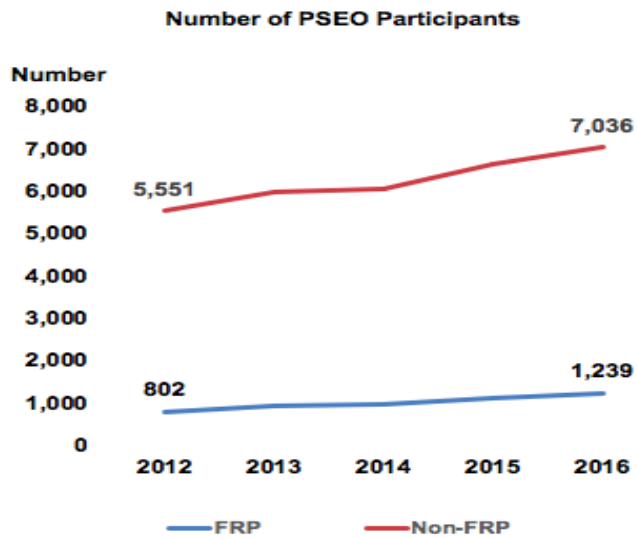
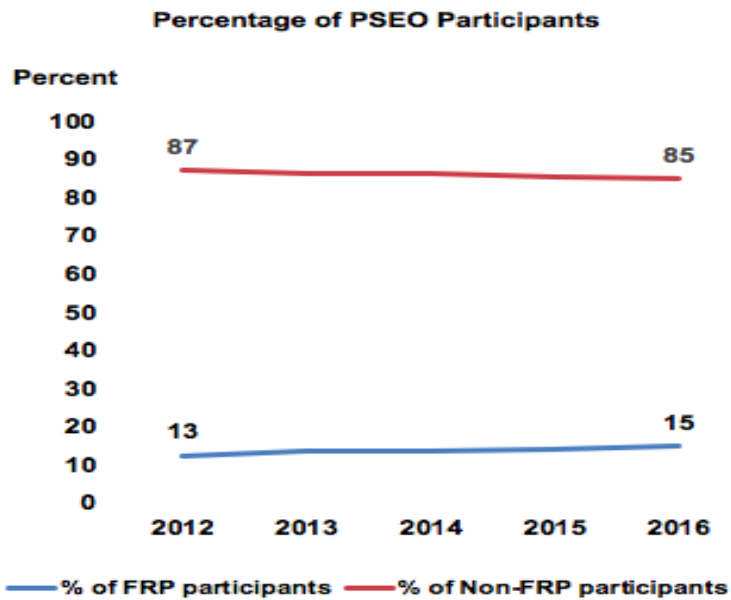


Figure 6: PSEO Program Participation Percentage of Participants on FRP vs Non FRP 2012 - 2016¹⁹



IDENTIFIED BARRIERS AND CHALLENGES TO PARTICIPATION IN PSEO

Categories of factors that have been identified as limiting PSEO participation are:

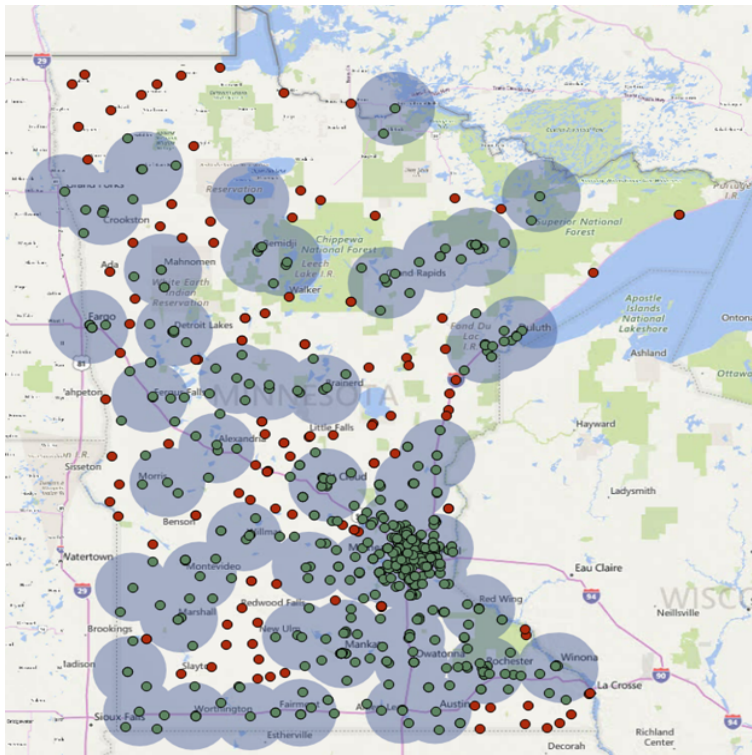
Transportation - Rural & Suburban; Internet Reliability; Cumbersome Websites, Broken Links, or Missing Data; Complex Funding Methodology; Popularity of Other Dual Credit Programs; On-Campus Security; Systemic/Group Barriers; Personal Barriers; and Barriers of Existing Legislation for Students of Color.

Transportation - Rural & Suburban

Transportation issues affect student participation in any program not located in their own school. Rural participants and suburban students, even those of middle income, can be challenged by transportation limitations. Fewer teens are getting their driver's licenses before the age of 18. Driver's education courses cost money, and insurance rates for teen drivers are extremely high compared to older adults. Borrowing a parent's car to use in the afternoon to drive to a college isn't necessarily guaranteed, and cars can be extremely expensive. Riding with other students presents safety issues even for the best drivers. Even if one has a drivers' license, the cost of driving is high. In fact, many suburban schools charge several hundred dollars a year for students to park. The original legislation contemplated schools would 'up' their game, and many have done so. Suburban students in good school districts have more AP classes. More urban districts have begun to offer IB programs. In addition, CIS classes make it much easier for students to attend college classes without leaving school grounds.

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Map 1: High School & PSEO Participating Institutions Across Minnesota



In Map 1 above, the red and green dots are all high schools in the state of Minnesota. The grey semi-transparent shaded areas are 20-mile radius circles around post-secondary institutions that participate in PSEO. All of the green dots are the high schools that fall within 20 miles of a post-secondary institution that participates in PSEO. All of the red dots are the high schools that are further than 20 miles from a post-secondary institution that participates in PSEO.

Our analysis using geographic information systems shows that about 15% (102 of 674) of Minnesota high schools are over 20 miles from the nearest post-secondary institution that participates in PSEO.²⁴ Although this map highlights the spatial mismatch between PSEO-offering institutions and the location of 102 high schools in Minnesota, our calculations indicate, however, that students in these 97 schools are participating in PSEO. In recent years, 9-11% of students in these high schools participated in PSEO according to the MDE data. Parents may not want their young teen drivers traveling more than 20 miles, at the most, each way to a college

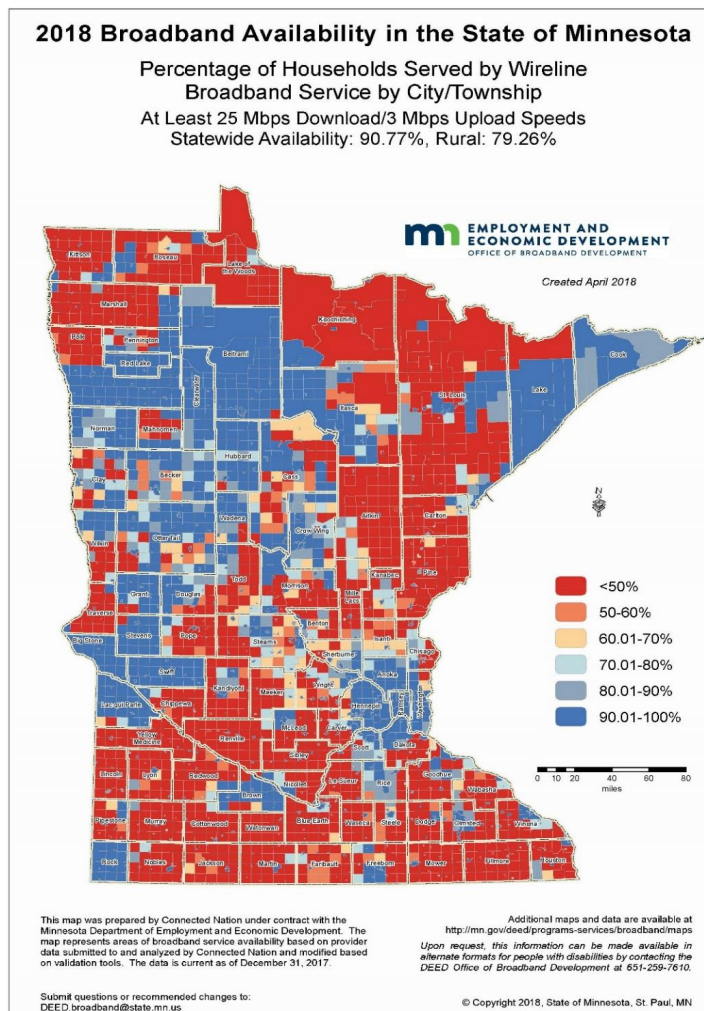
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campus in order to take PSEO courses. Additionally, transportation can be difficult for students of modest means who live within range of an institution that participates in PSEO. Online courses are likely the only way that students at these rural high schools can take PSEO courses. CIS and online PSEO courses allow students to take dual credit courses who are either out of range of a PSEO participating institution, or do not have access to reliable transportation. Transportation has been a barrier since the program began.

Internet Reliability

The lack of reliable internet service can be a barrier to PSEO participation in outstate Minnesota. Online PSEO options exist but there are real issues with broadband being somewhat unavailable to nearly 80% of Minnesota as shown in Map 2 below. According to the PSEO legislation, high schools are required to allow space for students taking online PSEO courses to complete their coursework in their high school. This does make the internet availability barrier weaker, but some students may not have the ability to do online PSEO coursework at home.

Map 2: Broadband Availability Across Minnesota, 2018²⁵



Cumbersome Websites, Broken Links, or Missing Data

Students need to have easy access to information if they are going to make a decision about participating in PSEO. Post-secondary institutions that participate in PSEO, and MDE, often have links to their websites that are broken or are otherwise defective. MDE has links to an outdated map that is supposed to show all the participating institutions, but it is shown on the site itself that the map is out of date. There are issues with MDE links relating to PSEO not being secure websites. An example of this is MDE’s “Secure Reports” page which is, ironically, not a secure link.²⁶ Additionally, the Minnesota Higher Education Authority has a useful and up-to-

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date website with information on PSEO and relevant links, but Minnesota high school students might not know to look for this information here. The lack of having a centralized, up-to-date, and obvious place for people to look for information is simply problematic.

PSEO Funding Methodology Overly Punitive to School Districts

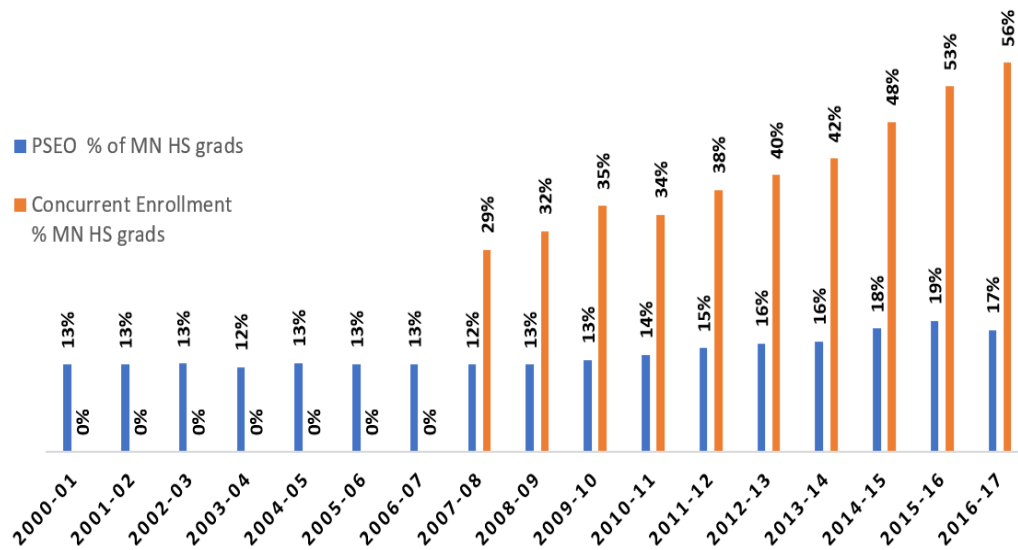
The legislation disincentivizes high schools from promoting PSEO by allowing the state to keep a significant amount of funding from school districts above the tuition payment for students as “savings.” High schools receive funds based on student attendance. Funds used for the payment of tuition equal 62% of the funding allowance. The District receives 12% and the State keeps the remaining 26% as ‘savings’. This financial issue is not insubstantial. The original legislation did not include this feature. It is out of everyone’s control except for the legislature, which should disallow the State from retaining the funds.

Popularity of Other Dual Credit Programs

Outside of PSEO, students can participate in AP, IB, and CIS programs to receive college credit while in high school. While most schools don’t have IB programs, most offer AP courses and many offer CIS courses. If students are taking credits in one or more of the other dual credit programs, they are not earning those credit hours through PSEO. As the other programs grow in popularity, they can reduce the popularity of PSEO. CIS specifically has been growing in popularity in recent years while PSEO levels have remained flat. CIS’ rapid expansion compared to PSEO’s low growth is startling. In 2017, there were 31,917 students enrolled in CIS, and only 9,939 students enrolled in PSEO courses. Students’ pairing PSEO class participation with other dual credit options may be interesting to explore.

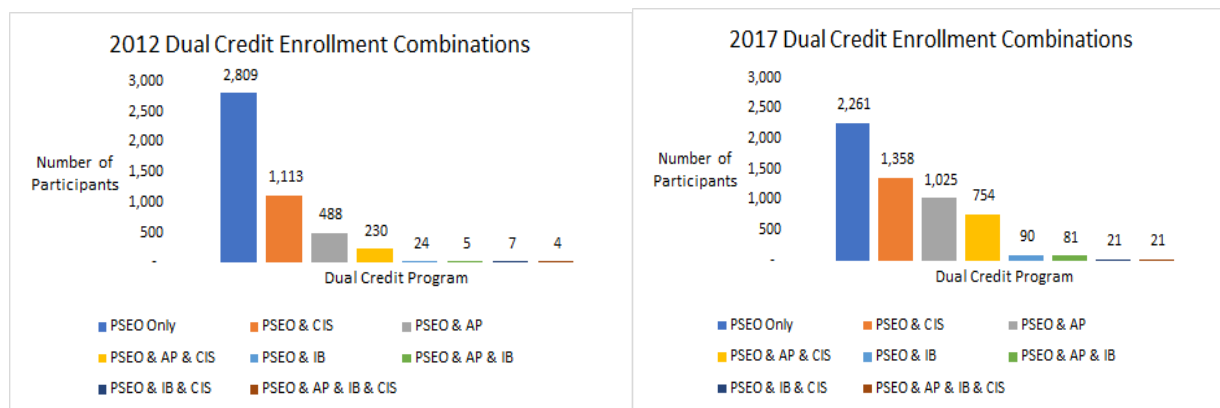
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Figure 7: Percent of High School Graduates Participating in PSEO vs. CIS, 2000-2017²⁷



Dual credit programs other than PSEO are more diverse. As seen in Figure 8, students take PSEO credits in combination with the other dual credit programs of AP, IB, and CIS, and this trend has been rising. In 2012, 2,809 (60%) of PSEO students were taking only PSEO classes, where by 2017, only 40% of PSEO students didn't enroll in other dual credit programs. CIS classes are the most popular, but AP classes increased significantly as another enrollment choice for PSEO students.

Figure 8: Dual Credit Enrollment Program Combinations (2012 & 2017)²⁸



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Campus Security

One of the most significant barriers is the safety of high school students on the campuses of post-secondary institutions. Many high school students may have the academic achievements to participate in dual credit programs but lack the maturity and discipline to conduct themselves responsibly on these campuses. This risk underscores the importance of clear communication and collaboration between participating institutions and high schools. The establishment of dual credit programs subjects the participating post-secondary institutions to increased liability, given that most high school students are minors. Although no cases were found directly linking dual credit students to injuries on campus, there are potential risks of litigation against post-secondary institutions that fail to provide safe conditions for minors on campus.

Students attending post-secondary institutions as minors need to be made more aware of personal safety issues, particularly with regard to social situations. Post-secondary institutions are less secure, and students must be self-aware, particularly young women, who may be more vulnerable. For example, according to Rainn.org, roughly 16.7% women on campus received assistance from a sexual victim services agency.²⁹ Only twenty percent of female student victims report sexual violence to law enforcement. Parents and students understand that college campuses are not impervious to problems and are concerned with safety issues, which is something institutions need to address they participate in PSEO.

Systemic/Group Barriers

Group barriers impact students who share common characteristics, such as race, ethnicity, or FRP status. Figures 3, 4, & 5 illustrate differences in participation between FRP recipients and non-FRP recipients, as well as different races/ethnicities. Students of color are underrepresented

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when compared against the demographics of the state. This is true of lower-income people (FRP eligible students) as well with them being even further underrepresented than people of color.

Personal Barriers

The PSEO program struggles with accessibility due to two major barriers: academic eligibility and transportation (which has been discussed previously). Academics can be a challenge and class rank can be a problem. However, colleges use other methods to determine eligibility, such as standardized tests. These barriers are at the individual or family unit level and may be the most difficult to eliminate. Some of the obstacles are within the student's control, such as grades or whether they don't want to leave their friends. They may not feel comfortable going to a college campus. Still, some students may have jobs or family responsibilities and don't want to add the hassle of leaving the school to their busy day. Extracurricular activities such as sports or music may interfere. Some personal barriers can be affected by students' knowledge about their options. The recent legislation that requires public school districts to post information on PSEO on their websites should help eliminate this barrier.

More difficult amongst personal barriers can be *perceived self-efficacy*, which might be a cultural barrier more than a group barrier. In 2015 Finnie, Wismer, & Mueller discuss the impact of culture on the value some students place on education. Canadian youth in transition between 18-21 who did not participate in post-secondary education said, "it costs too much," when they meant, "it isn't worth it".³⁰ *Attitude* toward further education is a personal barrier.

Barriers of Existing Legislation affects Students of Color and Low Income

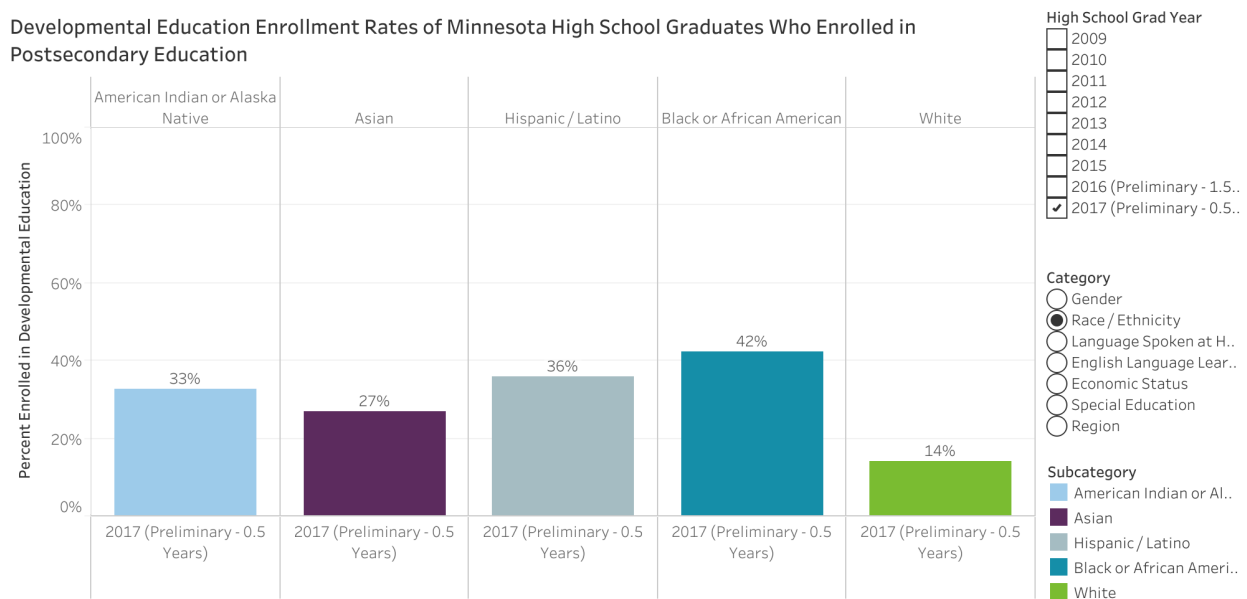
The rules of the statute reflect its original purpose: to create opportunities for students of high academic ability to access rigorous classes. Does the goal of rigor include an inherent barrier beyond GPA and class rank? The argument can be made that the lack of inclusion of

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remedial courses in its coverage has a disproportionate effect on students of color and students who qualify for free and reduced-price lunch (FRP).

Remedial courses are allowed to be funded under PSEO only for students participating in graduation incentives enrolled in alternative education settings for Early/Middle College. Should PSEO be expanded to allow more secondary students to take remedial courses on a college campus? Students who need to take remedial courses as freshmen need to pay tuition, but the credits do not count toward graduation. According to the Minnesota Office of Higher Education, postsecondary students of color are twice to three times more likely as their white counterparts to enroll in remedial course, including 36% of Hispanic college students and 42% of black students in 2017. (See Figure 9).

Figure 9: Remedial Enrollment Rates of MN college students by Race/Ethnicity 2017



Can these students prepare adequately within their high schools? Research is needed to understand 1) why there is such a high rate of need for remedial courses for students of color and low-income students and 2) whether a PSEO alternative is effective in saving these students time

and money in college. Policymakers should consider the negative impact of the need for remedial courses on diversity in the PSEO program.

RECOMMENDATIONS

Following our reviews of the dual credit literature, demographic and geographic analyses of PSEO participants, and the location of high schools in comparison to PSEO-participating institutions of higher education, our group makes the following recommendations.

1. Promote Online PSEO to Rural High Schools

Information gathering would be the first steps to follow in order to be more knowledgeable about the dual credit environment and background of the rural high schools that are more than 20 miles from a post-secondary institution. Information is available at MDE as to which schools have agreements with institutions to provide PSEO or concurrent classes, and student participation rates are also available. After review, People for PSEO could decide which of the high schools to connect with to discuss the advantages of online PSEO participation for students. While students in these rural high schools are not lacking in participation in PSEO, their geographic distance from a college or university is still a barrier to fuller participation.

There are 102 high schools that fit this description (15% of all Minnesota high schools). People for PSEO could hire and train interns (perhaps former PSEO students) to review the data be most effective and efficient and knowledgeable before making contact. Individuals who are passionate about PSEO may find working as an intern on this type of project provides them with valuable experience in applied research and stakeholder engagement. Online participation addresses issues around the Campus Security barrier and the Rural Transportation barrier (detailed in “Identified Barriers and Challenges” section).

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2. *Collaborate with MDE on data needs and user-friendly website for students*

MDE can use your guidance to student needs for a user-friendly website for dual options.

Collaboration is key. People for PSEO need more disaggregated demographic data within programs to understand new enrollment patterns and fine tune messaging to different types of PSEO participants. (NOTE: Sign up for MDE reports to the Legislature on dual enrollment. MDE's latest *Rigorous Course Report* is due in June)

- Request for disaggregation of the following PSEO data (by institution and school):
 - 1) # of online PSEO students; 2) # of CTE PSEO students; 3) #Early/Middle College students, and 4) # of world language students. Within these numbers request the information by race/ethnicity, gender, FRP status, and grade.
- Minnesota high school students and their parents or guardians do not have access to a centralized website or online platform where they can efficiently gather critical information regarding participation in PSEO. Such information includes eligibility requirements; application procedures and deadlines; course catalogs and schedules; and credit transfer agreements for each participating postsecondary institution. Students interested in courses at multiple participating institutions may be required to navigate upwards of 60 college and university websites to adequately evaluate enrollment options. PSEO information is inconsistent at institutional websites, with sites suffering from a lack of upkeep. Students of color and low-income students may be disproportionately affected as they are likely to live in a metro area with multiple participating institutions or a rural area where online courses are the only viable PSEO option.
- People for PSEO should collaborate with MDE and participating institutions to help them develop and implement a strategy to improve access to online information for students interested in enrolling in PSEO. The strategy should include a plan to create and maintain

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a centralized hub of information with tools designed and formatted for students as the primary users. Ideally, this site should feature the eligibility requirements; application materials and deadlines; a searchable course catalog and schedule; and a table of approved credit transfers for all participating institutions. Some features such as a shared course catalog and schedule, will require considerable resources and coordination between stakeholders. NOTE: The Minnesota Office of Higher Education's website has a more user-friendly data; perhaps they could also help collaborate on this project.

- Develop and maintain positive working relationships with the Career and College Success team at MDE and each point of contact for PSEO at participating institutions.
- Utilize a qualified outside facilitator to engage the organization staff and board in a strategic planning process for the group going forward. At some point include stakeholders and meet with students, parents or guardians, school counselors, PSEO reps on college campuses, and web design specialists to brainstorm about new ways People for PSEO can be more effective in the community.
- Develop an incremental plan that takes advantage of existing assets. The costs of creating a new website or platform could be tremendous, therefore, it would be more effective to focus on improving the usefulness of the PSEO page on the MDE website. Effective formatting and tools can be replicated or re-coded from other areas of the MDE website or from external sources (see Appendix V for examples).

3. Develop a Simple Menu of Minnesota Dual-Credit Options

MDE oversees the implementation of most dual credit programs in Minnesota, however, it does not provide students with an adequate introduction to the concept of dual credit nor the mechanism by which each program operates. As high school enrollment typically begins the

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semester before ninth grade, and repeats each year, it is important that students in grades 8-11 have access to this information in language and formatting that is widely accessible. This responsibility rests primarily with high school counselors and families, which may leave students with an inconsistent or lacking explanation of dual credit programs. Without a standardized tool explaining basic information, including potential costs and eligibility, students may make uninformed decisions and lose out on the opportunity to earn college credit at a minimal cost.

People for PSEO should collaborate with MDE or its designees such as web designers to develop a simple table, graphic, or web-based tool that students in grades 8-11 could utilize to make informed decisions about dual credit during enrollment. By collaborating with MDE, People for PSEO fulfills its mission of making PSEO more accessible and can better ensure the product's distribution and use. Critical information should include eligibility, cost, location, how credit is earned, and any other information deemed essential by People for PSEO and MDE. Any information table that is created (such as was created by the Center for School Change - see Appendix VII) needs to be kept up to date

4. Develop a Social Media Strategy

Social media is an underutilized tool that could improve student participation and success in PSEO. Participating schools, the Minnesota state government, nor any other stakeholder implement an effective social media strategy to connect directly with all students. High schools and participating post-secondary institutions post sporadically regarding PSEO and rarely engage in ongoing communication to recruit prospective participants. Advocacy groups, such as People for PSEO and Center for School Change, share news and blog posts that are more useful to researchers and policymakers than students. Small PSEO student associations, or support groups, develop on various platforms to build community and share important news on a specific campus

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but they often fail to remain in use after a few years. The lack of a coordinated and consistent effort to disseminate information and build positive online communities of PSEO students on social media may be a significant barrier to participation. In addition, it is crucial that People for PSEO take into consideration the different types of PSEO students that exist when structuring any type of social media campaign. The program is serving a wide variety of students, including those that are at-risk. Many dual-credit programs in the U.S. are focusing on encouraging students who are struggling in high school, as they have found PSEO options to make the most difference in deciding to go to college and follow through.

People for PSEO should collaborate with MDE, participating schools, and other appropriate stakeholders to develop a social media strategy to build awareness of PSEO (in its many facets) and provide support to students participating online and on campus. This effort should leverage the assets of the young leaders and student members of People for PSEO to take ownership of the program and contribute to its success. Internships or committees could be developed and assigned to specific tasks as part of a larger effort. Any students participating should understand the type of population with whom they will be working. Students interested in taking Career Technical Education courses will want to interact with people familiar with the areas. If possible, interns from community or technical colleges should be recruited to help expand the breadth of People for PSEO's program knowledge.

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5. Increase visibility and advocacy for Career and Technical Education (CTE)

TABLE 3: INCREASE IN PSEO REIMBURSEMENT BY INSTITUTION TYPE 2011 to 2017 ³¹

PSEO Reimbursement by Institution Type								Percent Increase (Decrease) (2011-2017)
	FY 11	FY 12	FY 13	FY 14	FY 15	FY 16	FY 17	
Technical Colleges	\$ 1,338,694	\$ 1,294,860	\$ 1,587,160	\$ 1,838,069	\$ 1,856,469	\$ 1,934,185	\$ 2,311,704	73%
State Community Colleges	\$ 9,558,870	\$ 9,972,326	\$ 10,513,542	\$ 10,468,211	\$ 11,644,226	\$ 11,398,842	\$ 8,770,970	-8%
State Universities	\$ 1,617,207	\$ 1,827,141	\$ 2,053,673	\$ 1,986,970	\$ 2,063,505	\$ 2,331,948	\$ 2,342,685	45%
Minnesota and Campuses	\$ 2,705,042	\$ 2,649,064	\$ 3,102,239	\$ 2,721,977	\$ 2,767,007	\$ 3,086,646	\$ 2,644,558	-2%
Private Colleges	\$ 4,091,442	\$ 4,243,002	\$ 4,590,918	\$ 5,278,832	\$ 5,799,849	\$ 5,750,453	\$ 6,565,716	60%
Community and Technical Colleges	\$ 5,237,698	\$ 5,533,870	\$ 6,025,133	\$ 6,526,513	\$ 7,686,574	\$ 9,237,780	\$ 8,875,235	69%
Total	\$ 24,548,953	\$ 25,520,263	\$ 27,872,665	\$ 28,820,572	\$ 31,817,630	\$ 33,739,854	\$ 31,510,868	28%

Table 3 above outlines reimbursement for participation in the PSEO program over the last six years amongst eligible Minnesota postsecondary institutions. Career and technical classes are offered at both the technical colleges and community and technical colleges, and enrollment under that aspect of the PSEO program skyrocketed. It should also be noted that CTE can include sophomores, who can continue with CTE courses if they do well. Most of the PSEO credits are earned at two-year and community technical colleges in Minnesota, although community college reimbursement fell down in 2017 (likely due to more interest in the technical two-year colleges).

PSEO legislation expanded to help a wider group of students earn dual credit toward a CTE associates degree or certificate. The State of Minnesota is interested in increasing the number of students enrolling in CTE classes. In fact, they pay school districts and the community and technical colleges to create courses. People for PSEO could use interns again to help disaggregate information from MDE to do preliminary research on each of the individual technical and community technical colleges. People for PSEO should work with students and graduates of the technical colleges to find out strategies that may work to reach more students.

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They will be the most helpful with insight on CTE needs. Building a stronger collaboration with community and technical colleges is essential; most PSEO students attend these colleges.

People for PSEO's website has little to no mention of career or technical education as opposed to academic courses. Photos of PSEO students at technical and community colleges as well as video interviews with those students would be essential to add to the website. People for PSEO should increase their advocacy of CTE both on their website and elsewhere in their advocacy. Visibility in these areas are important.

6. Advocate for improved legislative and financing

People for PSEO has been instrumental in getting more information available to students about PSEO opportunities. However, as pointed out earlier, the change made to the funding formula in PSEO legislation twenty years ago allows the State to keep additional funds beyond tuition from districts. That change continues to have a negative impact on schools and contributed to the complexities of participation agreements. The additional funds "saved" remain in State coffers for general use. People for PSEO should find out if there are ways to change that policy that could help students and not be as financially punitive. *Transportation* continues to impact in-person participation in PSEO, based on location and socioeconomic status. Increasing and expanding transportation subsidies to more students could broaden participation outside of the Twin Cities and open up the option for PSEO students to take classes on campus instead of online. People for PSEO may be able to find common ground with school officials.

Finally, we recommend that People for PSEO discuss with educational policy experts at the U of M whether students who need remedial courses such as math or reading could benefit from taking those as PSEO courses, perhaps their senior year in high school. It may have a large impact for nonwhite or low-income students, who must pay for those courses when they begin

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college. It would be helpful to know whether or not a student who took a PSEO remedial course would still be academically successful if they took it a semester or so earlier than college.

ADDITIONAL ANALYSIS & NEXT STEPS

PSEO Gender Divide

According to MDE, 2017 participation rates in PSEO are significantly higher for females in Minnesota than males, with enrollment roughly two-to-one. A gender breakdown of PSEO participants from 2011 through 2017 is shown in Figure 6. In 2017, there were 58,374 total high school graduates, with 50.1% being male, and 49.9% being female. However, of that same group of high school graduates, 1,791 male students participated in PSEO and 3,820 female students participated in PSEO. That means that of the total 5,611 students that took PSEO courses, roughly 31% were male and 69% were female.³² The Stanford College Puzzle is quoted as follows: “For the current graduating class of 2013, the Department of Education estimates that women will earn 61.6% of all associate’s degrees this year, 56.7% of all bachelor’s degrees, 59.9% of all master’s degrees, and 51.6% of all doctor’s degrees”.³³ As seen in Figure 11, the gender divide is consistent across all of outstate Minnesota. This holds true within the Twin Cities Metro Area as well as shown by Figure 12 below, which suggests that there is no geography factoring into the gender divide.

Figure 10: MN PSEO Participants by Gender, 2011 to 2017³⁴

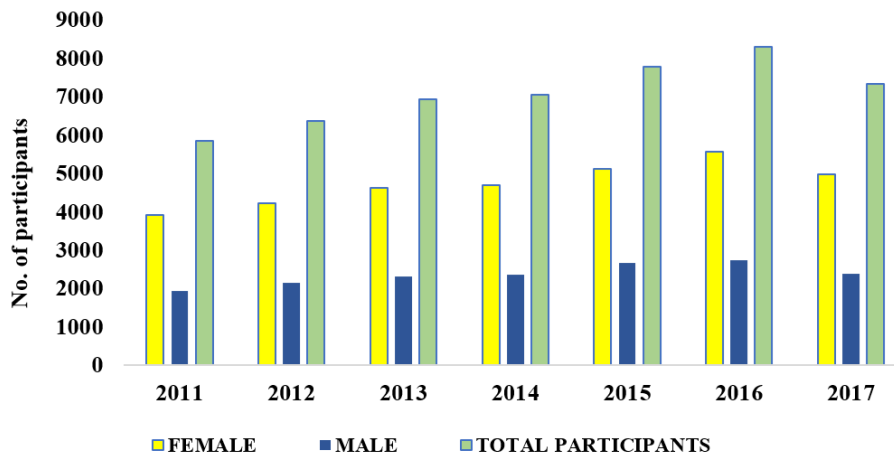
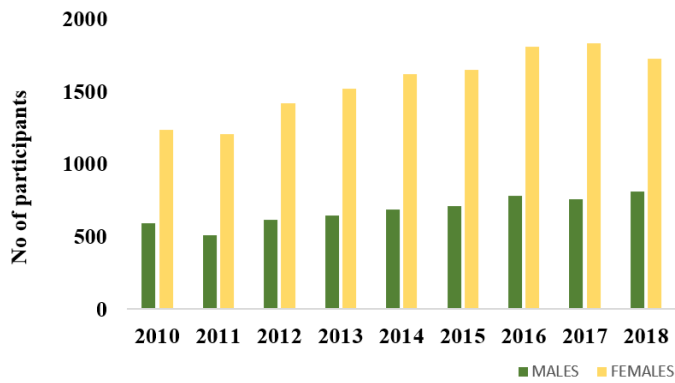
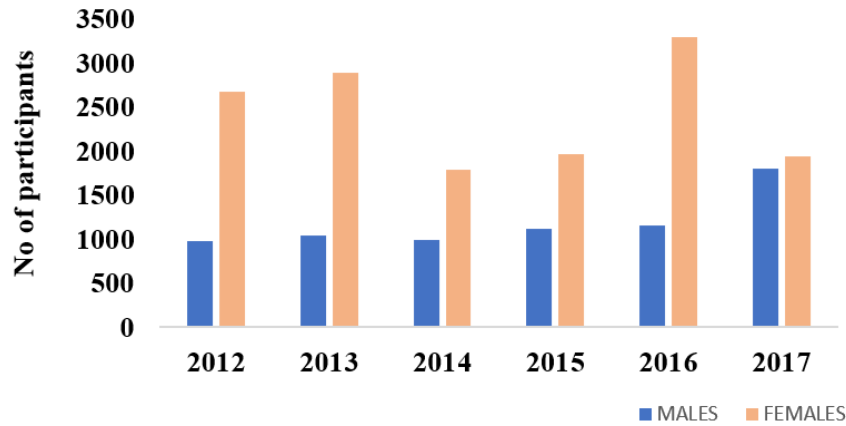


Figure 11: MN PSEO Participants by Gender Outside Twin Cities Metro, 2010 - 2018³⁵



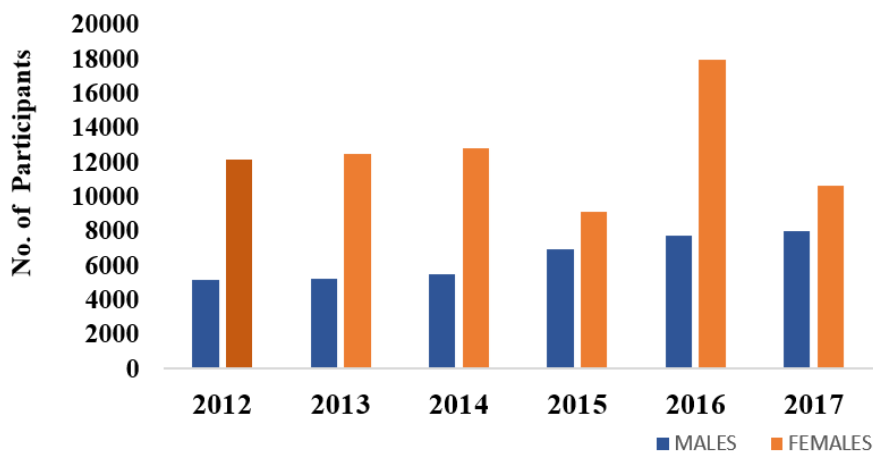
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Figure 12: MN PSEO Participants by Gender Within Twin Cities Metro, 2012 - 2017³⁶



However, that same year, the rigorous course study done by the MDE showed that of 31,971 CIS participants, 43% (13,747) were male and 57% (18,224) were female which is a less dramatic difference than the percentages for PSEO, but still warrants attention. This is borne out in Figure 13 below. These graphics show that there is a large gender divide across both CIS and PSEO in Minnesota. Further research and analysis are important to do to understand the reasons for the wide gender differences in dual credit courses, particularly among PSEO students.

Figure 13: MN CIS Participation by Gender, 2012 - 2017³⁷



Implement Survey

The research team designed a survey which would ask participants questions about PSEO based off the subject of the project. The full list of questions is detailed in Appendix I, and Appendix II contains the survey design methodology. Due to time constraints, the research team was unable to implement the survey to high schoolers. People for PSEO can implement the survey themselves, with the survey package that the research team has created, without the time constraints that the research team was subject to. The survey, if implemented, could lead to increasing evidence of the barriers to participation in the PSEO program that high schoolers face.

Push MDE to Create and Maintain Map and Website

The map discussed in the Recommendation 1 (and discussed in Appendix IV), is an example of what MDE should have on its PSEO website. It would add another layer of digestible information. MDE's website links lead to two different PSEO pages from different portals, which need to be fixed as one is very outdated. The only semi-decent map the research team found is suboptimal, outsourced, and out of date as of June of 2014.³⁸ Additionally, the map was created by a non-profit group and MDE was given access. This is not inherently a problem, but MDE has resources to create a better in-depth and active map. MDE has access to employees well versed in ARC-GIS (mapping software). Suggest MDE make their own map, using with the research team's map as a reference, and keep their website up to date with consistent links.

Perform More In-Depth Stakeholder Analysis

The research team was limited in terms of the analysis that could be performed because of the timeline of the project. This meant that a fully-fledged stakeholder analysis could not be performed. As taught in the Hubert H. Humphrey School of Public Affairs, stakeholder analysis should not be rushed as they may be lengthy processes lasting multiple days. John M. Bryson's

book, *Strategic Planning for Public and Nonprofit Organizations: A Guide to Strengthening and Sustaining Organizational Achievement*, is a good guide to use for performing stakeholder analyses.³⁹ As a guide to help with this, the research team has done some preliminary work in identifying some important stakeholders to PSEO (see Appendix VI).

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APPENDICES

Appendix I: Survey Questions

1. What is your gender? (Male/Female/Other/Prefer Not to Answer)
2. With which race/ethnicity do you identify? (Select all that apply) (Hispanic or Latino/American Indian or Alaskan Native/Asian/Black or African American/Native Hawaiian or Other Pacific Islander/White Non-Hispanic/Other)
3. How old are you? (14 or under/15/16/17/18/Above 18)
4. What academic year are you currently in? (9th grade/10th grade/11th grade/12th grade)
5. In high school have you ever received or reduced school lunch? (Yes/No/Don't Know or Prefer not to answer)
6. If your school calculates class rank, what is your class rank? (top 10 percentile/top 33 percentile/top 50 percentile/bottom 50 percentile/does not have class rank or prefer not to know or don't know)
7. In school do you get: (Mostly As/Mix of As and Bs/Mostly Bs/Mix of Bs and Cs/Mostly Cs/Mix of Cs and Ds/Mostly Ds/Don't know or prefer not to answer)
8. What is your GPA? (Above 4.0/4.0/3.50-3.99/3.0-3.49/Below 3/Don't know or prefer not to answer)
9. What high school do you attend? (free text entry)
10. Do you plan on attending University, College, Technical School, Community College, Trade School, etc.? (Yes/No)
11. Do you want to take college-level courses during your high school education? (Yes/Maybe/No)
12. Have you heard about Post-Secondary Enrollment Options (PSEO)? (Yes/No/Maybe or Unsure)
13. Are you currently enrolled in PSEO? (Yes/No/Prefer not to answer)
14. How did you hear about PSEO? (school/academic counselor/parent/other family member/friend or classmate/social media/television or radio/teacher/other (free text entry))
15. If you have heard about PSEO and are interested in it, why is that? (have not heard about PSEO/interested because (free text entry))
16. If you have heard about PSEO and are not interested in it, why is that? (free text entry/have not heard about PSEO)
17. If you have talked to your school academic counselor/teacher about PSEO, did they: (encourage you to participate in the program/discourage you from participating in the program/have a neutral stance on the program)
18. If you were to take a PSEO course on a college campus, what form of transportation would you utilize? (I'd drive myself/get a ride from a friend/get a ride from a family member/public bus/public train or light rail/other (free text entry))
19. Would any of these issues affect your participation in the PSEO program? (check all that apply) (transportation/extracurricular activities/concern about missing school lunch/job or employment/family responsibilities/academic reasons/I don't want to leave my high school/I don't want to be on a college campus/I don't feel comfortable on a college campus/other (free text entry))
20. Do you have access to transportation to take a PSEO course on a college campus? (Yes/No/Don't know or prefer not to answer)

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21. If you took part in PSEO and were unable to eat breakfast or lunch at school, could you afford to buy breakfast or lunch on your own? (Yes because (free text entry)/no because (free text entry)/don't know or prefer not to answer)
22. If you were to take a PSEO course on a college campus, would you feel comfortable there? (yes because (free text entry)/no because (free text entry)/don't know or prefer not to answer)

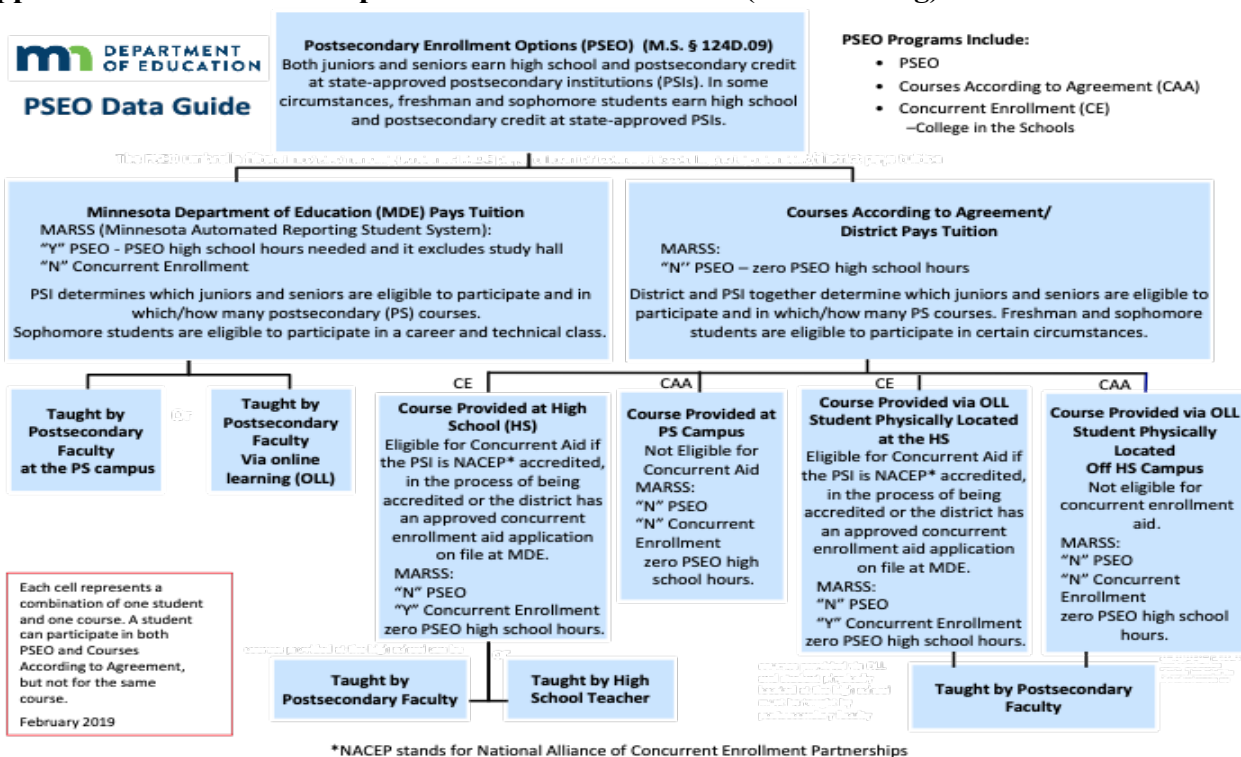
Appendix II: Survey Design Methodology

The research team designed the first ten survey questions to capture information allowing for disaggregation by chosen characteristics: gender, race, age, grade, income, academic achievement, and the school's setting (urban/suburban/rural). Gender is one of the most important demographic variables because there are increasing gender discrepancies in educational attainment in the U.S. Over the last decade or so, more women than men have been earning bachelor's degrees.

The team was interested in discovering students' perceptions of barriers to postsecondary education, particularly how their assessments differ based on income, race or ethnicity. Minnesota has wide discrepancies in educational attainment between whites and non-whites. The research team believes that some obstacles may impact students differently based on their specific age, so the survey was written to get more detailed information. Questions were structured to home in on the particular period as well as age group. Low-income students have unique barriers to going to college, so the team wanted to identify which factors were most influential on their decision on PSEO participation. High-achieving students are more likely to continue their education at a post-secondary institution, but they can be hampered by personal issues or from a low-income household. Understanding how academic achievement levels factor into PSEO interest and barriers to participation in the program is paramount. The final variable is the location of the high school: urban, suburban or rural. Some schools are far from institutions that participate in PSEO, creating transportation issues. In addition, the research team believes there are different barriers to participation and levels of interest based on students' location. It is essential that a research team can break down survey responses by these characteristics.

The remaining survey questions were designed to capture information on several aspects of PSEO as well as student's opinion as to which barriers to participation were most prevalent. Survey Questions 11 and 12 were intended to gauge the respondents' interest in PSEO and attending a post-secondary institution as an important baseline. Questions 13 through 16 asked whether the respondent had heard of PSEO and if so how. Including this question could be useful in assessing the effects of new requirements for schools to provide information on PSEO program. Questions 17 and 18 were designed to ask why a person is or is not interested in participating in PSEO. The answers to these two questions allowed the respondents to input whatever reasoning they have as to why they are or are not interested in the program. Survey Question 19 asked the respondents about their experience with the type of advice received from school counselors on PSEO. Asking this question in a survey administered to a large number of students would help validate the prevalence of school counselors or staff who try to dissuade students from participating in PSEO. The remaining questions asked about barriers to participation and included three barriers (transportation, food security, and comfortability) as researchers would like to know if students agree with the team's posit that these are, in fact, barriers would affect student participation.

Appendix III: Minnesota Dept of Education PSEO Data (and Funding) Flowchart



Appendix IV: Minnesota & Georgia Course Catalog Images

In this section, we include snapshots of various pages from Minnesota and Georgia dual enrollment websites. Below is a snapshot of “Course Schedules, Outlines, and Catalogs” page on the Minnesota Transfer website (mntransfer.org). This provides links to course descriptions and catalogs for post-secondary institutions across the state of Minnesota. Site is sponsored and maintained by the Minnesota State Colleges and Universities. The U of M and private colleges are partners. Information about colleges and universities in Wisconsin and North Dakota is also provided. Many links are redundant, out-of-date, or broken but the page could be updated.

Below are two examples of dual enrollment webpages for the state of Georgia hosted by the Georgia Student Finance Committee. It is a centralized location for eligibility requirements, financing procedures, a list of participating institutions, available courses, application procedures, and other useful information for students interested in participating in a program similar to PSEO. This could serve as an example for developing a centralized webpage on the MDE site for PSEO students. Course directory and search engine hosted on the Georgia Dual Enrollment webpage.

Below is the Minnesota Common Course Catalogue hosted on the MDE website. This could be adapted and reformatted to provide a directory and search engine for PSEO students in Minnesota.

Appendix V: Stakeholder Analysis -- Power v. Interest

The research team developed a structure of a brief stakeholder analysis but did not perform a full analysis given time constraints, access to stakeholders and other limitations of the project. However, this structure could be built upon as a project in the future. Stakeholder analysis can be done in a number of ways - through interviews, surveys and meetings with a facilitator. It could be an effective way to discuss some solutions to barriers to participation in the program, including promoting changes to the governing statute that would solve some access issues. Below is a brief understanding of some key stakeholders and levels of influence regarding their ability to influence changes in the PSEO program or governing legislation, which could be positive or negative effects. Proactive stakeholder management should be an ongoing activity. Stakeholders should be regularly assessed based on their positionality and ability to influence the success and participation in the program.

High power and High Interest: These stakeholders are strongly impacted by the success of PSEO and have some form of power to influence legislation or implementation of the program. This category of stakeholders should be actively engaged with through collaborative strategies and partnership opportunities such as active two-way engagement, joint learning, and sharing accountability and responsibility.

1. Post-Secondary Institutions: They are stakeholders as they provide education and college credit to PSEO students, on or off campus.
2. School District Administration: The school district administration is an important stakeholder because of the effect the PSEO funding formula has on school finances.
3. Competing Programs (AP/IB/CIS): These are stakeholders as alternative providers of dual credit. PSEO programs compete for students' time.

High Interest & Low Power: Stakeholders with high interest and low power can impact the implementation of the PSEO program and its legislation. While they may not possess sufficient power to directly influence legislation, their capability to influence PSEO are limited.

1. High Schools: They are stakeholders because the PSEO participants are still their students and thus they are responsible for them. Again, the funding formula for PSEO students means the State keeps additional funds on top of tuition the high schools are incentivized to partner directly with postsecondary institutions and offer concurrent courses.
2. Teachers' Unions: PSEO has an impact on school funding as the financing formula takes away more funding from the schools than just for tuition dollars. PSEO can have deleterious effects on small schools in particular, if demand for more rigorous classes at the school is reduced and could impact teacher demand. They may be more interested in further training in order to teach college level concurrent classes on site.
3. Education Policy Researchers: They are low power but highly interested in researching dual credit programs such as PSEO and other aspects of education.

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High Power & Low Interest: Stakeholders with high power and low interest have the power to influence PSEO but aren't compelled to act on PSEO. If their interest is increased, they could be powerful allies to PSEO.

1. State Legislature: The Legislature is an important stakeholder as it appropriates education funds and creates laws impacting school policies and finances.
2. Minnesota Governor: The governor is an important stakeholder because of the power that the office holds to set the policy agenda for the state which may or may not impact PSEO.
3. Federal Congress: Congress is a stakeholder only in the sense that they might provide aid for the implementation of PSEO or overarching rules for post-secondary education which would affect PSEO.
4. U.S. Department of Education: This department is a stakeholder only because they oversee and provide some governance for education on a national level which could impact PSEO.
5. MDE: MDE is a very important stakeholder as they are the body that implements and oversees PSEO.
6. School Counselors: School Counselors are essentially the 'gatekeepers' of the PSEO program as students need their permission to participate. Because of this, counselors have a large amount of formal power in the PSEO program.
7. Citizens of Minnesota: These are stakeholders because PSEO is funded by the everyday taxpayer and thus they have a say about the program.
8. Media: The media are stakeholders because they report and do stories on various aspects of PSEO from time to time.
9. Political Parties: These are important stakeholders because depending on what their platforms are and who is in control of the state and local governments, the state of PSEO could be changed.

Low Power & Low Interest: This group of stakeholders has little power or interest in PSEO. While it is not realistic to expect their power to increase, their interest can be increased. A two-way communication strategy could help to increase their interest as making information about PSEO readily accessible and available is vital to increasing this group's interest.

1. Minnesota High School Students: As the target group of the PSEO program, Minnesota high school students are impacted more than any other stakeholder. Despite this, interest level from students is highly variable across the state.
2. Post-Secondary Students: These are students who may share classes with PSEO students. They are a stakeholder because they don't want the quality of their classes lowered to cater to PSEO students.
3. Parent/Guardian of student: These people are stakeholders because they want the best for their child, and they are interested in saving money on future tuition.
4. Post-Secondary Professors/Instructors: Professors are stakeholders because they are the ones who are teaching the material of the college courses that PSEO students are participating in.
5. Employers: Employers are stakeholders because they want to hire contributing members of society and PSEO helps to play into that.

Appendix VI: Minnesota Websites relating to PSEO and Dual Enrollment

Article I. 124D.09 POSTSECONDARY ENROLLMENT OPTIONS ACT.

<https://www.revisor.mn.gov/statutes/cite/124D.09>

Links to PSEO Info and Data

Minnesota Department of Education PSEO

[MDE](#) > [Students and Families](#) > [Earn College Credit in High School](#) > [Postsecondary Enrollment Options \(PSEO\)](#)

<https://education.mn.gov/MDE/dse/schfin/pseo/>

Minnesota Department of Education PSEO

[MDE](#) > [Districts, Schools and Educators](#) > [School Finance](#) > [Postsecondary Enrollment Options \(PSEO\)](#)

<https://education.mn.gov/MDE/fam/dual/pseo/>

<http://centerforschoolchange.org/dual-credit/map-of-mn-higher-ed-dual-credit-policies-pseo-sites>

(Outdated map on this site above)

Post-Secondary Enrollment Options (PSEO) Participating Institutions list

<https://education.mn.gov/MDE/dse/ccs/pseo/040787>

Earning College Credit in High School

Explains all dual credit options for students with links to more information. Includes links to all the programs.

<https://education.mn.gov/MDE/fam/dual/>

Minnesota Statewide Longitudinal Educ. Data System link to Rigorous Course-taking

http://sleds.mn.gov/#rigorousCourseTaking/orgId--999999000_groupType--state_ECODEVREGION--FOC_NONE_rigorousCourseTakingCOHORTID--2017_p--1

Planning for Students' Successful Transition to Postsecondary and Employment

Personal Learning Plan (PLP). Being piloted in some districts. Links student's PLP to their portfolio on SLEDs. Enables students to *interact with their plan*

<https://education.mn.gov/MDE/dse/ccs/MCIS/>

Personal Learning Plan (PLP) toolkit links.

All students beginning no later than 9th grade must have a PLP - a life plan including academic planning, career exploration, employment planning, college access. This site includes many links, including a sample PLP (7 pages long).

<https://education.mn.gov/MDE/dse/ccs/plp/index.htm>

Career and Technical Education (CTE) programs - Statewide Map

CTE classes are offered both as concurrent and PSEO classes on campus.

<https://education.mn.gov/Maps/CTE/>

Appendix VII: Center for School Change Table of Dual Credit Programs³⁸

The table below is an example of a format that could be useful to help explain create the general mechanism by which the most common dual credit programs in Minnesota operate. It needs to be updated, reformatted and kept current to offer high school students a tool to gain an understanding of dual credit options before they enroll in high school courses. Counselors could use this format to help students with their school education plans, now required by the State of Minnesota to be completed by 9th grade.

Understanding Minnesota's Dual Credit Programs					
	College in the Schools/Concurrent Enrollment**	Advanced Placement (AP)	Post Secondary Enrollment Options (PSEO)	International Baccalaureate (IB)	Project Lead the Way (PLTW)
Location	<ul style="list-style-type: none"> • Taught at some high schools 	<ul style="list-style-type: none"> • Taught at some high schools 	<ul style="list-style-type: none"> • Taught on many Mn college/university campuses or online 	<ul style="list-style-type: none"> • Taught at an IB-authorized high school 	<ul style="list-style-type: none"> • Taught at some high schools
Student eligibility	<ul style="list-style-type: none"> • Varies by high school; legislation allows 9th-12th grade participation, subject to qualifications set by high school and college/university 	<ul style="list-style-type: none"> • Varies; some high schools may enroll students beginning in 9th grade 	<ul style="list-style-type: none"> • 10th graders must have passed 8th grade reading MCA or equivalent test; additional 10th-12th grade entrance requirements may be set by college/university 	<ul style="list-style-type: none"> • Varies; some high schools may enroll students beginning in 9th grade 	<ul style="list-style-type: none"> • Varies by high school
Cost to student	<ul style="list-style-type: none"> • Free. The high school pays all costs of the courses 	<ul style="list-style-type: none"> • Course is free. • Final exam free for low-income students and a pro-rated amount for non-low-income students. Full fee is \$89 per exam. • Some schools charge an administrative fee to help cover final exam costs. 	<ul style="list-style-type: none"> • Free. No cost to student for tuition, books and fees • Transportation funds are available for low-income students 	<ul style="list-style-type: none"> • Course is free. • Final exam free for low-income students; Pro-rated amount for non-low-income students. Full fee is \$255 for first exam, \$104/student for each subsequent exam • Some schools charge fee to help cover final exam costs. 	<ul style="list-style-type: none"> • Free. The high school pays the annual cost of the program.
Type of course	<ul style="list-style-type: none"> • Post-secondary courses that are offered by a college/university and taught to HS students at their high school 	<ul style="list-style-type: none"> • College-level courses taught in high school to prepare students for AP exams 	<ul style="list-style-type: none"> • 10th graders may begin by taking one career/technical education course. If they earn a "C" or better, they can take additional courses • For 11th and 12th grade: Regular post-secondary courses taught on the college campus or online. • HS student enrolls directly with the college/university 	<ul style="list-style-type: none"> • High school courses taught using IB-approved curriculum to prepare students for IB exams 	<ul style="list-style-type: none"> • High school courses taught with PLTW approved curriculum, PLTW courses are offered in STEM (Science/technology, engineering/math) areas.
Taught by	<ul style="list-style-type: none"> • High school teachers who have been approved by the college 	<ul style="list-style-type: none"> • High school teachers selected by the high school 	<ul style="list-style-type: none"> • College faculty 	<ul style="list-style-type: none"> • High school teachers selected by the high school 	<ul style="list-style-type: none"> • High school teachers
Number of courses available	<ul style="list-style-type: none"> • Varies by high school • Students may take one, multiple, or a full-time load of courses 	<ul style="list-style-type: none"> • Varies by high school • Students may take one, multiple, or a full-time load of courses 	<ul style="list-style-type: none"> • Available at many Mn colleges/universities • Students may take 1 course, multiple, or a full-time load. 	<ul style="list-style-type: none"> • Varies by high school • Students may take one, multiple, or a full-time load of courses; Diploma program available at some schools 	<ul style="list-style-type: none"> • Varies by high school

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